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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

SALES BY AUCTION.

HIGHLY IMPORTANT SALE

of the Second Portion of the famous

PICKERING LODGE COLLECTION

OF

ESTABLISHED ORCHIDS.

Formed by the late George Hardy, Esq., and reputed to be the grandest lot of Plants in the North of England, having won the highest honours at Manchester and other leading shows.

By order of the Executors, without the slighest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, on the Premises, Pickering Lodge, Timperley, near Manchester, on WEDNESDAY and THURSDAY NEXT, July 11 and 12, at half-past 12 o'Clock precisely each day, the Second Portion of this far-famed Collection. The whole of the plants are in the best possible health, and are remarkable alike for their size and the grandeur of the varieties. For upwards of twenty years the late Mr. Hardy was an enthusiastic buyer and a keen judge, and made a practice of discarding from his collection all varieties that did not reach the highest standard of excellence. In order that intending buyers may judge for themselves of the beauty of the varieties, an effort will be made, as far as practicable, to offer everything in flower.

Amongst the numerous items to be offered in the Second Sale may be mentioned specimen plants of—

Cypripedium Stoneii, lævigatum, Sedenii candidulum, Selligerum majus caudatum; also C. bellatulum, vexillarium superbum, Barbatum Warnerii, Lawrencianum, Veitchii, Curtisii, Rothschildianum, Lowii, fine plants; C. Aylingii, C. bellatulum, hardy var.; First-class Certificate, Temple Show, 1894

Cattleya Mossiæ Hardyana

„ „ Hardyæ. This is a unique variety, and far superior to Reinechiana

„ Warnerii, several grand plants

„ Sanderiana, splendid specimens

„ Gaskelliana, several grand plants

„ „ alba, extra fine plant

„ crispa superba, enormous specimen

„ aurea, several fine plants

„ „ chrysotoxa, several fine plants

„ Rex, several fine plants

„ Aclandæ

„ Schilleriana

„ Mendelii Bluntii, fine plant [plant

„ labiata pallida, grand

Lælia grandis tenebrosa

„ purpurata, Boscowan's variety, the original and only plant

Lælia xanthina

„ elegans Morreniana, specimens

„ „ Stelynesiana, specimens

„ „ alba, specimens

„ „ atro-rubens, specimens

Lælio-Cattleya hybridum Arnoldiana, grand plant and variety

„ „ „ Canhamiana

Dendrobium Statterianum, strong plant

„ album, strong plant, very rare

Anguloa Ruckeriana, several plants

Cœlogyne Massangeana

Sobralia Lucasiana, immense specimen

„ xantholeuca, immense specimen

„ „ alba, fine plants

„ species

Odontoglossum crispum, several hundred

„ Pescatoreii, Polyxanthum, Halli, Harryanum, pulchellum majus

„ vexillarium rubellum

„ „ superbum, six fine plants

Vanda teres, several specimen plants

Thunia Marshalliana

Phalænopsis violacea.

The majority of the plants will be in flower, and every plant in the entire collection will be Sold by Auction, without reserve.

The plants may be inspected on Tuesday between 10 and 5 o'Clock. Catalogues may be had of the Head Gardener, Mr. HOLMES, on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

BY ORDER of MESSRS. LINDEN, BRUSSELS.

FRIDAY, JULY 13, NEXT.

MOST IMPORTANT SALE of a GRAND LOT of

CATTLEYA MENDELI,

Just arrived in magnificent order, including many large and superb masses. It being well known that this beautiful Cattleya is becoming very scarce, these plants have been collected at a great sacrifice, personally by our collector, Mr. Ed. Klaboch, who has informed us that a large number of magnificent varieties will be found among them.

CATASETUM BUNGEROTHI.

Messrs. LINDEN have just received another small but fine importation of this grand Orchid, including many large and most distinct pieces, much finer than they have had the pleasure of offering before.

LYCASTE ROSSIANA (R. A. Rolfe).

A splendid rare Lycaste, with golden-yellow flowers, fine established plants of the same.

Also a number of other choice ORCHIDS, including BIFRENARIA (LYCASTE), MYRIANTHINA, CYMBIDIUM EBURNEUM, COCHLIODA NOETZLIANA, in Flower, and others.

TO BE SOLD by AUCTION, by Messrs. PROTHEROE AND MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, July 13, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C., a fine PRIVATE COLLECTION of ORCHIDS, consisting of some remarkably well-grown specimens, and many extra good varieties (Cattleyas especially).

The whole will be offered for sale, without reserve, on TUESDAY, July 24th next, in consequence of the owner having sold his estate and removing from the neighbourhood.

July 17 and 18 Next.

THE CHOICE COLLECTION OF ESTABLISHED ORCHIDS,

formed by the late T. R. Watt, Esq., of Chislehurst.

By order of the Executors. Without the slightest reserve.

The Collection is rich in CYPRIPEDIUMS, and amongst the principal plants the following may be specially mentioned:—

Aërides Sanderiana

Anthurium Scherzerianum Parisiense (rare)

Cattleya gigas in variety

„ Percivalliana

„ Mossiæ varieties

„ Gaskelliana

„ Schroderæ

„ Labiata elegans (rare)

„ Wagnerii

Cypripedium vexillarium

„ Bartetii

„ Youngianum (Cookson's variety)

„ microchilum

3 „ grande

„ Argus Mœnsii

2 „ Morganiæ, seven and nine growths

2 „ Sallieri Hyeanum

„ Schroderæ

„ Niobe

2 „ Arthurianum

„ seedlings

„ calanthum

„ macropterum

„ Leeanum superbum

„ caudatum Wallisii

„ orphanum

„ Brownii

„ Masereelianum

Cœlogyne cristata alba

Disa grandiflora

Cephalotus follicularis

Dendrobium Cassiope

„ nobile nobilius

Dendrobium Cooksonii

„ „ Sanderianum

„ „ grandiflorum

10 „ Leechianum

„ rhodostonia

Eulophiella Elisabethæ

Lælia anceps Sanderiana

„ Stella

„ grandis tenebrosa

2 Lycaste Skinneri alba

Masdevallia Veitchii grandiflora

Miltonia Cobbianum

500 Odontoglossum Alexandræ, various sizes

2 „ nullus

„ Wattianum

„ Ruckerianum

„ Wilckeanum

„ Andersonianum

2 „ Uro-Skinneri

„ Bictonense album

„ excellens

2 „ Pollettianum

Peristeria elata

Phalænopsis Schilleriana

„ grandiflora

„ amabilis

„ Luddemanniana

„ Lowii

„ Stuartiana

„ Sanderiana alba

Sobralia xantholeuca

Vanda cœrulea

2 „ Sanderiana

MESSRS. PROTHEROE AND MORRIS will SELL the above COLLECTION by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY and WEDNESDAY, July 17 and 18, at half-past Twelve o'Clock each day.

On view mornings of Sale, and Catalogues had.

Caldy Manor, near West Kirby, Cheshire.

IMPORTANT SALE of a Large and Valuable Collection of STOVE and GREENHOUSE PLANTS, selection of ORCHIDS, GARDEN REQUISITES, TENT, SEATS, CHAIRS, VASES, Cellar of very choice old WINES, &c.

MESSRS. CHURTON, ELPHICK AND CO. have been favoured with instructions from the Executors of the late Mrs. Barton, to SELL by AUCTION, on WEDNESDAY and THURSDAY, July 11 and 12, commencing each day at 12 o'Clock noon punctually, the whole of the Valuable Collection of

STOVE AND GREENHOUSE PLANTS,

also a choice selection of ORCHIDS, comprising Dendrobiums, Cattleyas, Calanthes, Cœlogyne, Cymbidiums, Cypripediums, Epidendrums, Lælias, Lycastes, Maxillarias, Miltonias, Oncidiums, Pleiones, Phaius, &c., many being half specimen plants, and all in excellent health; also 13 GARDEN-SEATS, 18 ditto CHAIRS, 6 terra-cotta FLOWER-VASES, 600 FLOWER-POTS, TENT, TENNIS and CROQUET SETS; also cellar of very choice OLD WINES, including Port, vintages of 1834 and 1851; fine old Madeira, 1853, 1859, &c.; superior dessert and dinner Clarets.

Order of Sale:—First day, Stove and Greenhouse Plants and Orchids; Second day, Wines, &c.

The plants may be inspected any day during the week prior to the Sale.

N.B.—Catalogues may be obtained from Mr. NEISH, Gardener, Caldy Manor; the Dee Hotel, West Kirby; or the Auctioneers, Chester.

TO DUTCH BULB GROWERS AND ENGLISH BUYERS.

MESSRS. POPE AND SONS wish to call the attention of the above to their SALES of BULBS, which will be held every TUESDAY and THURSDAY, commencing THURSDAY, August 23.

FLORISTS, and others requiring large quantities of Bulbs, cannot do better than give these Sales a trial, as we are sure (from a life-long experience of the Trade) that the Bulbs usually sold are good, sound, and true to name, and at Prices that cannot be touched in the Trade.

To DUTCH BULB GROWERS.—We shall be open to receive Consignments of good sound Bulbs, true to name, for Sale by Auction, and shall always do the best possible for all Senders, and send Account of Sales and Cheques immediately after the Sale.

POPE AND SONS, Horticultural Auctioneers, 6, Phillips Street (adjoining the Market Hall), Birmingham.

Windlesham, near Bagshot.

VALUABLE FREEHOLD and LEASEHOLD NURSERIES.

FOR SALE, by order of the Executor, the several Inclosures of FREEHOLD GROUND, in all 22 acres 2 roods 39 poles, and the LEASEHOLD NURSERIES, in all 16 acres 0 rood 11 poles, being Richard Mason's Nurseries, Windlesham, and carried on so successfully for many years by the late Mr. Mason.

The purchaser will have the option of taking the Stock at a valuation in the usual way, or a portion could be sold by Auction. Arrangements for payment could be made to suit the convenience of purchasers.

Full particulars of Messrs. PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, E.C.

FLORISTS, SEED, and BULB BUSINESS for DISPOSAL, in high-class locality.—Low rent; good trade done. Price: Goodwill, Stock, Fixtures, Horse and Van, £100; worth double.—FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, a Small NURSERY and FLORIST BUSINESS.—Four Glasshouses and Propagation-house, heated by hotwater; near the main road.

Apply to W. H., The Nursery, Park Row, Greenwich.

FOR SALE, AT ONCE, through dissolving Partnership, a small FLORISTS' BUSINESS: four Greenhouses, well heated; nearly an Acre of Ground. No reasonable offer refused. Long Lease.—HEALEY, Florist, New Bushy.

FREEHOLD NURSERY, S.E., FOR SALE.—Five Greenhouses, fitted with heating apparatus, well-stocked. Dwelling-house, seven rooms, with every convenience, may be had on easy terms.—W. BROWN, Ramsey Villa, Weymouth Street, Watford.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO LET, a Small MARKET NURSERY, 10 miles from London.—410 feet of well-fitted Glasshouses, with Dwelling-house; tenant has erected part of Glass, and would sell. Apply to—

H. MILLER, Park Nursery, Chadwell Heath, Essex.

TO BE LET, a Small MARKET and GENERAL NURSERY.—Well situated in South of England, in full and profitable work; all modern glass; in splendid condition, and well heated; with comfortable Villa-dwelling. Stock at valuation or agreement (about £200); rent, £55, with option of purchasing freehold. For particulars, apply HORTUS, 45, Beauchamp Place, Chelsea, London, S.W.

CUT FLOWERS.—CUT FLOWERS.

We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.

POPE AND SONS, 6, Phillips Street, Birmingham.

GERANIUM.—Strong-rooted Cuttings, F. V. RASPAIL, 6*s.* per 100, or £2 10*s.* per 1000. Cash with order.—P. BOULTON, Beechenlea Nursery, Swanley.

TO EXCHANGE for small AZALEAS:—SEAFORTHIA ELEGANS, clean healthy plant; height 17 feet; ten leaves. Apply, the—

GARDENER, Brogyntyn, Oswestry, Salop.

LOVELS' YORKSHIRE STRAWBERRIES.

Rooted Runners of

Noble, Thury, Paxton, President, and others at 6*s.* 9*d.* per 100, carriage paid. Sample dozen, 1*s.* List free.

W. LOVEL AND SON, Strawberry Nurseries, Driffield.

VIOLA and FANCY PANSY SEED.—Sow now for next year's bloom. Viola Seed, from our superb collection of named varieties, 7*d.*, 1*s.*, and 2*s.* 6*d.* per packet, post free. Pansy Seed, saved from leading exhibition sorts, 1*s.* and 2*s.* 6*d.* per packet, post free.

DOBBIE AND CO., Florists to the Queen, Rothesay.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—

Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.

Price, 6*s.* per bushel, 1*s.* extra for package; or, 1*s.* per cake, free per Parcel Post.

WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

GERANIUM CUTTINGS.—F. V. Raspail, Belgian Queen, Madame Crousse (Ivy-leaf), very good, 15*s.* 6*d.* per 1000. Cash with order.

F. KNIGHT EAMES, Fulwell Nursery, Twickenham.

INSECTS on PLANTS and FRUIT TREES cheaply cleared by CALVERT'S CARBOLIC SOFT SOAP. The best preparation. Highly recommended by users. In 1 and 2 lb. Jars at 1*s.* and 2*s.* each; 4 and 7 lb. Tins at 3*s.* and 5*s.* each, at Chemists, &c., or Tins sent post-free for value.

F. C. CALVERT AND CO., Manchester.

DENDROBIUM HILDEBRANDTI,

(n. sp. Rolfe).

MESSRS. CHARLESWORTH, SHUTTLEWORTH, & CO., HEATON, BRADFORD,

Have great pleasure in offering this great Novelty, which will be a valuable addition to the charming group of Dendrobiums. The flowers are sulphur-yellow, a trifle darker towards the centre; 3 to 3½ inches diameter; lip of same colour, unusually large and open, with an orange-coloured blotch in the centre. The flowers are borne on short spikes. The plant is quite distinct in appearance, resembling slightly Dendrobium nobile; the bulbs, however, are flat, varying in size from 10 to 30 inches, and show an abundance of old flower-spikes, and we do not remember seeing a plant which shows such a freedom of flowers. It has been an expensive plant to import, coming from a remote and uninhabited district, as it is only from such places New Plants particularly Dendrobiums, can be found. The plants are in splendid condition, and we are prepared to replace any plant which should die within three, months from date of purchase.

PRICE, SIZE, and FULL PARTICULARS, ON APPLICATION to

MESSRS. CHARLESWORTH, SHUTTLEWORTH, & CO., Orchid Importers and Growers, **HEATON, BRADFORD, YORKS.**

INSPECTION CORDIALLY INVITED.

DROUGHT.



GARDEN ENGINES,

SYRINGES,

AND

WATER FITTINGS,

FROM

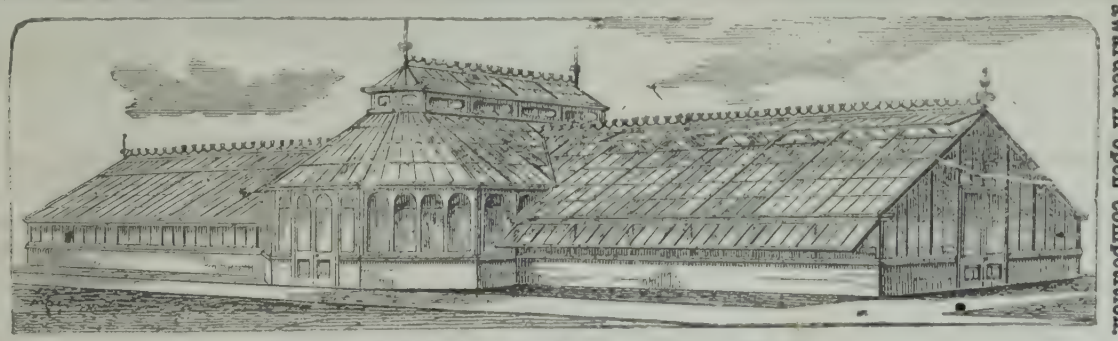
HAYWARD TYLER & CO.,

91-92, WHITECROSS STREET,

LONDON, E.C.

TELEGRAMS, "TYLEROX, LONDON."

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

CRIMSON PERPETUAL-FLOWERING CARNATION,

"URIAH PIKE."

Awarded Four First-class Certificates, besides the Silver-Gilt and Silver Medals of the R.H.S.

Come and see my magnificent stock of this noble flower, much the largest and best in existence. A veritable CARNATION FEAST. Thousands of Plants and Millions of Flowers ready for Sale.

Price:—48's, 5s. each, 50s. per dozen; 60's, 2s. 6d. each, 24s. per dozen.

Terms, cash with order. N.B.—COLOURED PLATE post-free on application.

Special Prices per 1,000 or 10,000.

GEORGE MAY, THE NURSERIES, UPPER TEDDINGTON, MIDDLESEX.

EXHIBITIONS.

NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW at Salterhebble, July 19, 1894. Schedules from JNO. E. BROOKS, 4, Savile Park Sq., Halifax.

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW.—Delapre Park, Northampton, August 6 and 7. £250 in PRIZES. For best twelve Plants—£15, £10, £5, £2 10s. Central Group for Conservatory Decoration—£9, £6, £2 10s. Collection of Fruit, eight varieties—£5, £3, £1 10s. Twenty-four Roses—£2, £1 10s., £1. Collection of Vegetables, twelve varieties, selected—£3, £2, £1. Table Decoration, £3, £2, £1. Entries close July 27.

Schedules and full particulars from—

Northampton, June 30, 1894. W. B. TROUP, Secretary.

To Nurserymen and Bulb Growers.

THE LONDON COUNTY COUNCIL is prepared to receive TENDERS for SUPPLY of BULBS for various Parks and Gardens. Persons desiring to submit tenders may obtain a copy of the specification, form of tender, and other particulars at the Parks Sub-Department, County Hall, Spring Gardens, S.W.

Tenders must be upon the official forms, and the printed instructions contained therein must be strictly complied with. Tenders are to be delivered at the County Hall, in a sealed cover, addressed to the Clerk of the London County Council, and marked, "Tender for Bulbs."

No Tender will be received after 10 o'Clock on Friday, July 13, 1894. Any tender which does not comply with the printed instructions for tender may be rejected.

The Council does not bind itself to accept the lowest or any tender.

H. DE LA HOOKE, Clerk of the Council.

Spring Gardens, S.W., June 28, 1894.

To Market Gardeners and Others.

WARE UNION RURAL SANITARY AUTHORITY.—The above Authority are prepared to receive offers of TENANCY, either yearly or for a term, from Michaelmas next, of their SEWAGE GARDEN and LAND, at Wormley, Herts, comprising 5½ acres or thereabouts. Part of the land is laid out for sewage irrigation, and receives the sewage of Wormley. The land adjoins the main line of the Great Eastern Railway, and is about 14 miles from London.

Further particulars will be furnished by the undersigned on application. Dated this June 21, 1894.

GEO. H. GISBY, Clerk to the Authority.

Union Offices, Ware, Herts.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

PEAFOWL.—Several Grand Peacocks and Hens, eighteen months old, 25s. the pair. SMITH, The Fishery, Maidenhead.

BEES — BEE-HIVES — BEE-KEEPING APPLIANCES.—CATALOGUE, 48 pages, gratis and post-free. Special edition Catalogue, 78 pages with Instructions and 100 illustrations, post-free, 3d.—T. B. BLOW, Welwyn, Herts.

GREEN SPHAGNUM MOSS.—Clean Picked and Squeezed, 70 lb., 5s. per bag. JOHN BYRNE, Cliff Brow, Kendal.

WOOD-WOOL.—WOOD-WOOL.

The Best Material for Packing every description of Goods.

CHAPMAN & CO., Ltd.,

CROWN WHARF, DEPTFORD, LONDON, S.E.

The Largest Manufacturers in the Kingdom.

Large Stock of Standard Qualities. Prompt Delivery.

Samples and Prices upon application.

GARDEN NETTING.

Best heavy, 2 yards by 100, or 4 by 50, 7s.; Garden Canes from 2s. per 100; Best Archangel Mats, 8s. per bundle of 10; St. Petersburg Mats, 6s.; Superior Packing Mats, 3s. 3d.; Seed Bags and Garden Sundries at bottom prices.

Special quotations for large quantities.

CAMERON & CO., 178, Charing Cross Road, London, W.C.

A STERLING NOVELTY.

NEW PERPETUAL CARNATION

"URIAH PIKE."

Awarded Certificate of Merit and Medal from the Royal Botanical Society.

This is undoubtedly the finest Carnation that has been offered to the Gardening World for many years, in fact a "March past" all other Carnations. It is a lovely crimson-maroon in colour, splendid habit, a vigorous grower, and most profuse bloomer, strong clove-scented, and throwing its perfect-formed flowers on long stems, which is an indispensable quality; the calyx does not split, and *resists disease*. This Carnation has been grown for several years (for cut bloom only) for all the leading Florists in the kingdom, and is acknowledged by them to be the finest Carnation for all Floral decorations, its lasting proclivities in a cut state being marvellous. It is now offered for the first time to those requiring a genuine Novelty.

Plants now ready at the following Prices:—

	Each.	Per doz.
3½-in. POTS	2/6	24/-
FLOWERING PLANTS, in 5-in. Pots...	5/-	50/-

TERMS CASH WITH ORDER.

Please Order early, as all Orders will be executed in strict rotation. For Trade Price and all particulars apply to –

JAMES PIKE,

PARK ROAD NURSERIES,
SOUTH ACTON, LONDON, W.

To the Trade.

CABBAGE SEEDS for AUTUMN SOWING.

H. AND F. SHARPE are now prepared to give Special Quotations for their extra-selected Stocks of CABBAGE SEEDS of 1893 growth, which comprise the following varieties, viz.:—

Early Nonpareil	Mein's No. 1
,, Enfield Market	Carter's Heartwell
,, Rainham	Daniel's Defiance
,, Offenham	Leeds Market
,, Wheeler's Imperial	Robinson's Champion Drumhead
,, Ellam	
,, Large York	Dwarf Flat Dutch Drumhead
,, Dwarf York	Dwarf Drumhead Selected

SEED-GROWING ESTABLISHMENT, WISBECH.

Special Cheap Offer.

WM. ICETON has a very Extensive Stock of the following Palms to offer the Trade, and others filling Conservatories, at special quotations:—

KENTIAS, F. & B., from 10 to 20 feet.
COCOS PLUMOSA, from 10 to 20 feet.
SEAFORTHIA E., from 6 to 18 feet.
ARECA BAUERII, from 7 to 10 feet.
ARECA LUTESCENS, from 6 to 10 feet.
LATANIA BORB., from 5 to 9 feet.
CHAMÆROPS E., from 5 to 12 feet.
RAPHIS FLAB., from 5 to 8 feet.
RAPHIS HUMILIS, from 4 to 6 feet.

W. I. has also some very fine collections of CALADIUMS of the newest kinds, at greatly Reduced Prices.

W. ICETON, Putney, S.W.

LILIUM HARRISII DIRECT FROM BERMUDA.

GOODS DELIVERED FREE ON BOARD.

5 to 7 in. circ., £5 per 1000. | 9 to 11 in. circ., £19 per 1000.
7 to 9 in. circ., £10 per 1000. | 11 to 16 in. circ., 1s. each.

Cash with order. All other bulbs at low prices.

Kindly note, being the Largest Grower of Bulbs for Export, I am in a position to offer the best bulbs at the lowest possible prices. Correspondence invited.

JOHN MEGSON, Rural Hill, Hamilton, Bermuda.

STRAWBERRIES. STRAWBERRIES.

JAMES VEITCH & SONS

BEG TO INTIMATE THAT THEY

Will shortly be in a position to Supply all the Leading Kinds of the above, either in Pots, or Prepared Runners.

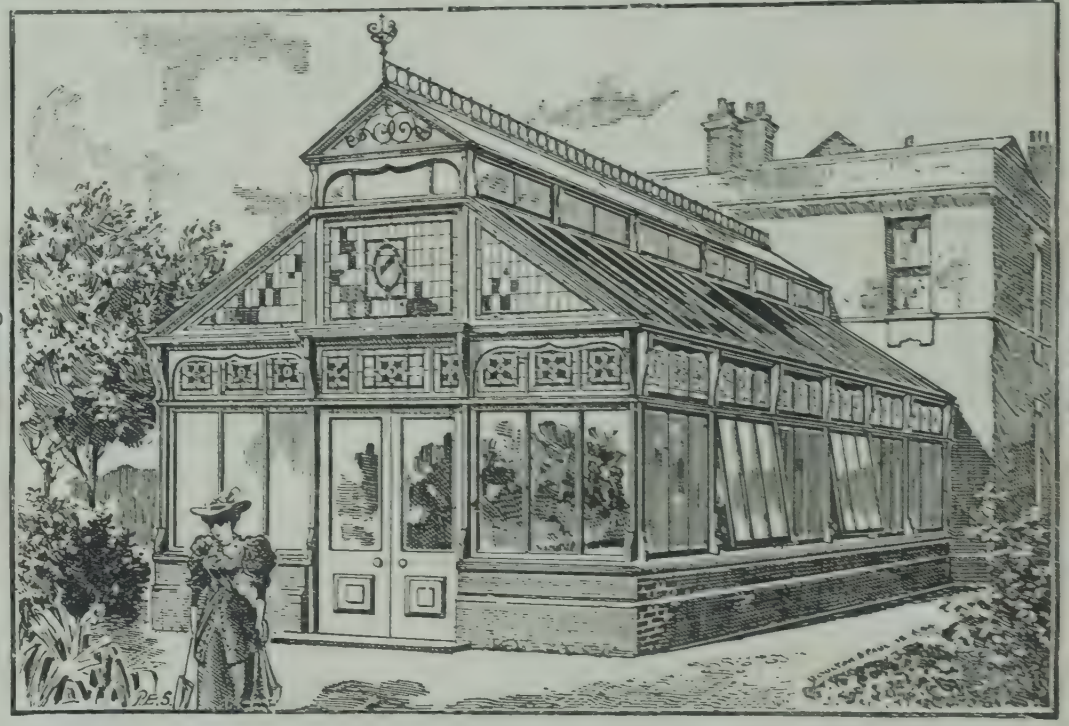
Special List, just published, can be had on application.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

CONSERVATORIES, FERNERIES, VINERIES, GREENHOUSES, &c., &c.

Conservatory as exhibited at the Royal Show, Cambridge.



Conservatory as exhibited at the Royal Show, Cambridge.

Surveys made in any part of the Country, Ladies and Gentlemen waited upon.

NEW ILLUSTRATED CATALOGUE, FREE ON APPLICATION.

FRIDAY NEXT, JULY 13.

MESSRS. PROTHEROE AND MORRIS

WILL SELL BY AUCTION,

At their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, LONDON, E.C., on FRIDAY NEXT, July 13, at half-past 12 o'Clock, by order of MESSRS. LINDEN, a Consignment of

MOST VALUABLE and DESIRABLE IMPORTED ORCHIDS

including a large number of superb masses and splendid plants of

Cattleya Mendeli, Catasetum Bungerothi, &c.

JUST IMPORTED IN THE MOST PERFECT CONDITION AND HEALTH.

ALSO, A MAGNIFICENT IMPORTATION OF **CATTLEYA AUREA**, JUST RECEIVED.

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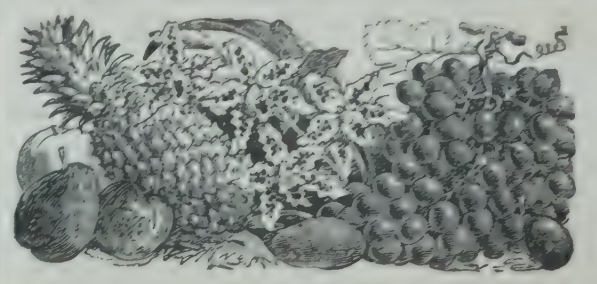
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THE

Gardeners' Chronicle.

SATURDAY, JULY 7, 1894.

THE FLOWER MARKET, COVENT GARDEN.*

(*See Illustration, p.* 17.)

"IT is only through such a channel as a public market offers, that the genuine stamp of popular approval can be obtained, and the business and commercial value of any fresh articles introduced for public supply can be truly tested. One thing is certain, and that is, that there is no advertisement in the world so powerful for a really good article as its exhibition on a grower's stand side by side with its rivals.

Perhaps I may be pardoned if I turn back and give a brief review of the history and growth of the market before speaking of its present flower supply.

THE HISTORY OF THE MARKET.

It may be interesting to know that in 1828, when the present regulating Act of Parliament under which the market is managed was passed, the area of the chartered market was divided into eight different sections for various purposes. These were named after the first eight letters of the alphabet, and varied much in size. Section H, the smallest and last, was the portion assigned for flowers; it contained twelve small stands, about equal to one-hundredth of the market area, and had no provision for shelves, or other method of exhibiting the goods, except the floor-space, which was uncovered. Such was considered sufficient provision for the wants of that time, and continued so for many years.

The growth of the public taste for flowers is a most marked illustration of the advance of the age in which we live. Doubtless, many causes have worked together contributing towards it, such as—

1. The increase in the wealth of the manufacturing and trading classes, enabling them to acquire and indulge in more refined taste.

2 The increase of London, by the retirement of its more prosperous citizens into suburban residences, with gardens and conservatories attached.

3. The public exhibitions, and the shows of the Royal Horticultural Society, doubtless stimulated and directed public taste.

4. The spread of education amongst the working classes, had a decided tendency to create amongst them a taste for the beautiful.

5. The migration into London of country folk, who regarded a window-plant as a connecting link between the new life in town and the green fields of happy memory left behind.

6, and lastly. The fashion of the times, which led people to beautify and adorn their tables and rooms with floral decorations; and also to express affection and regard for the living, and esteem and respect for the dead by floral offerings. Even the revival of ritualistic ceremony in religious worship has had its share in contributing to a general demand for flowers.

And how has this gradually-increasing trade been provided for? In 1848 it was found that the flower-stands, section H, was totally inadequate for the then trade. It had already begun to be patent to a

* From a paper read before the Horticultural Club by Mr. Assbee.

few pioneer growers, that a public want required to be met, and a rapid increase developed itself. No longer was it possible for the church porch, and the piazzas round the market square, to give shelter to the improving and increasing supply of plants.

Then arose the question of a flower market pure and simple. It happened that the leases of certain houses at the south-east corner of the market fell in at this time, and after an experiment the first flower market was built.

This increased facility for the trade soon had the effect of still further stimulating the public demand. As plants and flowers became better grown and better known, they became better appreciated, and the market gave still further signs of want of space. In fact, it was like a growing youth whose limbs had outgrown his clothes. Like a good father, his Grace resolved to buy the lad a new suit, and in 1886 the present market was completed. [Illustrations of the market were given in our columns for February 10, 1872, and July 18, 1885]. I must say the young man still continues to grow, and additional provision for his pressing wants will have some day to be made. At present, a portion of the overflow market, consisting of bedding-out plants for gardens and window-boxes, finds accommodation in the enclosed area between Tavistock Street and the market on the south side.

So much for the history of the rise and progress of the market. Now for a look at it as it is. I suppose most of us have visited Covent Garden Market during business hours. If any have not, I trust they will take an early opportunity of doing so. The practical gardener can here critically examine the various plants and flowers, and compare them with those of his own growing. The lover of plants and flowers will flit from stand to stand with a wondrous uncertainty regarding which is the most beautiful and deserving of the lot. The curious and inquisitive will ask all sorts of questions respecting how things are so grown, and the quantities brought, and where they come from, and where they go to; and if he is inclined to mathematics he will probably set himself sundry curious problems based upon data he receives.

The sentimental will probably float on some wild flowers, and in the search for Forget-me-Nots probably venture into the outer area, where rough-looking gipsy chaps dispose of moss, Ferns, and Water Lilies. On her return (I suppose the visitor to be a lady) she will possibly express a wonder that such rough, unwashed, and altogether disreputable-looking individuals should be associated with her pet flowers, and why flower-girls should be such a coarse, dirty, draggle-tailed lot, and why the duke or somebody else does not provide them with clean tall Normandy caps and picturesque gowns and aprons.

Of all visitors to Covent Garden a market-stroller is perhaps the being most objected to by business people. Here let me say that, though the market may be written of and spoken of, and is often visited as a flower show of the free-and-gratis order, it is primarily and essentially a place for the sale of goods, and not for exhibition. To those who visit it daily for business purposes its beauties cease to have the charm of novelty. In the business of a busy market there is little time for leisure or sentiment. Each trader goes for the particular plants and flowers he requires, bestowing scarcely a thought or glance on others, and it is to this business portion of the market I must now come.

The Dealers and Their Customers.

We will, if you please, consider ourselves strictly market people. Each and every morning all the year round we are there at the opening of the doors. Our wants vary with the seasons, and for these the grower must provide. Now, there are two classes of growers: one class regularly attends, and has always something to bring; the other class only attends at certain seasons, either because they are specialists, and grow only a certain class of stuff, or because they are fruit as well as flower-growers, and consequently only grow such flowers as suit their convenience. The former class is your true market flower-grower; he has to provide a succession of goods for every day of the year. Then, again, this growing business naturally divides itself into different sections:—1. There is the pot-plant trade, with its two great parts—(*a*) flowering plants, and (*b*) foliage and decorative plants; and, 2, the cut-flower trade.

Pot Plants.

The former requires great experience, great labour, and great judgment, with often but little profit. The rage for pots of flowers has somewhat gone out of late years. But only look at the market when full of them in their season—the size, so suitable to their purpose; the training, so admirable; the blooms, so near perfection. Take a few examples. Mignonette, six to eight giant trusses in one small pot; the Pelargoniums, a mass of bloom; the Fuchsias the same. Only try to grow them yourself, and then you will see to what extent the market-grower is a master of his art. Then take single stalks with heads of bloom, say, Hydrangeas, or Liliums, or Arums; or take the perfection to which Ericas are grown for market, to say nothing of the commoner flowers, such as Marguerites, Pelargoniums (especially Ivies), Calceolarias, and others, huge banks of which are daily to be seen. Then, again, in winter time and early spring, the pots of Lilies, Hyacinths, Tulips. These, with others, form a never-ending succession.

The foliage plants are also marvels of fitness for their purpose. Palms of any size, Ferns, Ficus, Crotons, and Dracænas are ever present, in quantities equal to any call upon the trade. Solanums form a special market feature in their season.

There has lately sprung up quite a new business field in foliage plants. I allude to small thumb pots of assorted goods, about a dozen or fifteen, each in small wooden boxes. These find great favour with purchasers who have cool greenhouses where they can grow them on to fair-sized plants. Nearly 1000 boxes a day, of fifteen pots in a box, have been sold by one grower. It is curious to know how many boxes are obtained — Tomato-boxes, Pine-boxes, Orange-boxes, old ones utilized for this purpose after the fruit is sold.

Before leaving the box-trade, I must speak of the early spring bedding-plants. Many thousand boxes of blue Lobelia, struck cuttings of Calceolarias, Fuchsias, seedling Asters, Stocks, Pansies, Mimulus, Musk, Nasturtiums, plants for edgings, plants for bedding, and taller-growing varieties for backing, both annuals and perennials, are daily sold. These are often grown by small jobbing gardeners under very primitive frames, and are brought in small loads and sold in the Area in Tavistock Row. This is really the cottagers' market.

Cut Flowers.

Now, for the cut flowers. Difficult as it is to convey any adequate notion of the pot-trade, the cut-flower trade is more difficult still. People do not replenish boxes of window-plants very often, or plant out their gardens every day. Many have no garden to plant, and do not keep window-boxes. But with cut flowers, it is quite another thing; with great care and attention they can rarely be kept fresh many days, and require constant renewal. Then they are used for so many purposes where pots could not serve. Everybody can find a place for cut-blooms: the table, the sideboard, the mantelpiece, the button-hole, wreaths, baskets, and bouquets. When you think what the daily consumption of cut flowers in London amounts to, and look at the number of florists' shops, and the barrow-loads of the street-hawker, and baskets of the flower-girls, you must think what Covent Garden cut-flower trade is. When we consider again that market-growers not only supply London, but send many hundreds of boxes of cut-bloom daily into the large provincial towns, you will get some notion of the importance of this branch of the business.

Now, this cut-flower trade is divided into two sections like the pot trade, viz., the regular daily flower-grower, and the occasional or season grower. In addition to these, we have the amateur or gentleman's gardener, who uses the market to dispose of his surplus. There are also distant senders who supply the market with goods, for cut flowers can be sent almost any distance. These distant and occasional senders have necessitated the commission-salesman as a stand-holder in the market. Another personage also finds employment in the cut-flower trade, viz, the "higgler" or middle-dealer. The London market in flowers, as in fruit, is practically open to receive any produce which can reach it in a saleable condition; and many thousand packages arrive from France, Italy, Holland, Belgium, Germany, the Channel Isles, Scilly Isles, and every nook and corner of the British Isles. These often arrive at a time when the flower-market is closed, and if in bulk are sold by auction, generally on the bye-day, to the higglers, who retail to buyers on market mornings.

Foreign Rivals.

This competition between the local home-grown and the distant and continental flowers, is becoming every year more pronounced, and is especially trying to certain growers. The advantages of climate enable the French and Riviera flower-growers to send blooms to this country, grown at little expense in the open air, which compete against similar goods forced here under glass.

It is a matter of opinion whether a certain amount of foreign trade, especially in blooming shrubs, such as the Acacia, and in Ferns, does not encourage the flower trade generally, and whether the earlier-produced continental flowers, does not to the same extent create a demand for the same flowers produced naturally in England later on.

Whatever view we take, one thing is certain, and that is, that the foreigner has felt the pulse of his English customer, and will be more and more a rival of the English producer.

One thing the foreign producer of flowers has not yet, and probably never will be able to do, and that is, to touch the best-grown and choicest varieties of market stuff. Take Tomatos and Grapes as samples in fruit particularly. What foreign goods of these kinds can equal the home-grown article? (I consider Guernsey goods home-grown). No out-of-door Grapes or Tomatos can ever equal English hothouse fruit, and for the foreigner to attempt house-cultivation, would place him on an equal footing with English growers, while his distance from the market would prevent any danger of his competition being ruinous to the home-grower. So with our best-grown English forced flowers, the Roses, Carnations, Scarlet Pelargoniums, Azaleas, Bouvardias, Tuberoses, Eucharis, Lilies, Gardenias, &c.; they need fear no rival from beyond the sea. The admirable manner in which they are grown, and the excellent condition in which they are marketed, defies competition.

There are so many features in our cut-flower trade, that I may, perhaps, be excused if I overlook some of them. Next to the wondrous succession of blooms, passing in gorgeous array, each in its time and season, like a revolving panorama, from the earliest flowers of spring to the latest Chrysanthemum of autumn, I am much struck with the excellent judgment displayed by the grower in timing his produce to suit the occasion, take Easter and Whitsuntide festivals for example; no matter when they fall, or how varied the season, there always seems an abundance of specially-grown white flowers to meet the occasion.

Perhaps I can best illustrate the growth of this cut-flower trade, within my own experience, when I say that ten years or so ago the flower-market was never opened during what we call the dull season, i.e., from August 1 to April 1, on the bye-days, Mondays, Wednesdays, and Fridays. What little cut-trade there was to do on those days during the winter months was done on the old market-stands, letter H. The inconvenience from want of space necessitated its removal: 1st, into a covered roadway adjoining the flower-market, and finally into a portion of the flower-market itself. The space

allotted to this business has had to be enlarged from time to time, till now about one-third of the market is used for it; and if it continues to grow, it is only a question of time how soon it may be desirable to open the whole flower-market daily for morning market all the year round.

In speaking of the cut-flower trade, I must not overlook the out-of-door farming flower-grower, whose acres of Wallflowers, Daffodils, Violets, Pinks, Stocks, Roses, Dahlias, and Chrysanthemums, are marketed at times in such abundance, often in the open general market. I have seen waggon-loads of these goods, sometimes packed in bundles, loose, often in large rounds or hampers, scenting the very air with their fragrance for yards around. These are not unworthy casts-off, but admirably grown blooms. I have known cartloads of Stocks, e.g., fine double-bloomed heads often fit for exhibition in a flower show. Double white Daffodils, this spring, I have known as many as 800 bushels, each containing four dozen bunches, sold by one man in a single morning before 9 o'clock, without fuss or bother. Violets in bunches, six small bunches in a market bunch. I have, a few years ago, known as much as £50 or £60 worth sold by one man on a single morning. These were grown under Apple trees. Roses are not so largely grown, but their cultivation is increasing. Moss Roses, Monthly Roses, General Jacqueminot, and Gloire de Dijon are the chief varieties. Bunches of mixed flowers, ready tied up, are greatly sold in the autumn, and amongst these the Dahlia is conspicuous.

New Varieties.

Perhaps nothing is more speculative and certainly nothing more profitable, than the introduction of a new and popular variety of flower, say Carnation, Chrysanthemum, or Rose. But the public are very exacting in these respects, and demand an attractive size, colour, or scent, while the grower requires it to possess a constitution, habit, and vitality sufficienty to stand the test of continued forcing without deterioration of quality. Perhaps one of the latest examples of success in this line is the Carnation Uriah Pike, one grower of which has at present a daily average cutting of 200 dozen blooms, which he hopes to increase.

I think I have rambled pretty well amongst the cut blooms. I see my friend Mr. Monro here, who without doubt, is the largest cut flower commission salesman in the world, and who probably could have given you a paper on this subject more interesting than myself. Certainly his knowledge of where they come from, and go to, is based on a very long and wide experience, and a list of the addresses to which he sends a weekly cheque would doubtless surprise us all. I suppose the effects of our cut flower and plant trade reaches even beyond the things themselves.

Look at the bulbs and seeds we grow and import—Holland, Germany, Japan, East and West Indies, the colonies, every quarter of the globe sends us roots and seeds. One little feature of our home trade must not be forgotten. I mean the humble moss, Fern, and ornamental foliage and grass so useful and increasingly sought for. Winter and summer, spring and autumn, each season sends us its representatives. The tinted sprigs from the early hedgerows, the Primroses, Ivies, and moss of woodland dells, the brown and yellow autumn-tinted leaves, the berries of Hawthorn and wild Dog Rose, nothing of beauty in Nature is too insignificant for London supply. I think I cannot better conclude my observations than by adding up a morning's items somewhat after the fashion of a market buyer or salesman.

One morning this May—item 268 large van-loads, 114 small loads or barrows of boxes, 370 stands, with every available shelf packed to overflowing; gangways blocked, corners used, out space crammed full; about 300 sellers. Here is a bill for the mathematical inquirer. How many buyers? How many horses and vehicles to take them away? What value? How many acres of glass? How many miles of houses? How many miles of piping? How many tons of fuel? How many casts of pots? How many hands employed to plant, tie, water, cut, and pack them? What capital invested in the trade of the producers only? Say nothing of the shops of the tradesman, or the living of the coster or flower girl who sells, verily the subject of our varied, continuous, and increasing Covent Garden flower supply is worthy the pen of a Thackeray or a Dickens."

Mr. Archer and Mr. G. Monro produced on the table specimens of plants and flowers kindly lent by market growers. These were selected from ordinary market produce on the morning, and not specially provided.

New or Noteworthy Plants.

Lælia tenebrosa var. Pittiana,

new var.

This beautiful novelty is, in its way, as distinct and as handsome as L. tenebrosa, Walton Grange variety, illustrated in the *Gardeners' Chronicle*, August 19, 1893, and for which a bid of 160 guineas was lately refused by its owner, W. Thompson, Esq.

The present variety has flowers 8 inches across the lower sepals, and is in every respect in form equal to the very best of the type. The sepals are shining greenish-yellow, tinged and veined on their face with purple. The petals are of the same colour, but tinged with purple on the reverse side, except a band of greenish-yellow up the middle. The lip white with bright crimson lines connected by a shade of mauve in the centre, the colour scarcely extending beyond the tube formed by the side lobes. Thus, the whole of the front of the lip to the extent of an inch and a half from the tip is white, with only a faint blush of colour where it joins the purple of the tube. The base of the lip is also white. The whole flower is beautiful, and quite novel in its variation. It flowered in the collection of H. T. Pitt, Esq., Rosslyn, Stoke Newington. *James O'Brien.*

Kew Notes.

Lathyrus splendens.—Flowers of this beautiful plant have lately been sent to Kew for determination by several English correspondents who were anxious to know its history. It was discovered in Southern California about seventeen years ago, and described by Dr. Kellogg in the *Proceedings of the Californian Academy of Science*, vol. vii. (1877) as a perennial climber, with quadrangular stems, 6 to 10 feet long, pinnate leaves, and stout axillary peduncles, bearing from seven to ten flowers, very large, scarlet-purple, the standard an inch across, the keel an inch long, and the wings a little shorter. Pods 3 inches long, flat, ten to twenty-seeded, brown, the seeds half as large as those of the common Pea. The stems creep over bushes, and when covered with a wealth of brilliantly gay scarlet-purple flowers, the plant looks like a grand flowering shrub a little distance off. The leaflets vary considerably even on the same plant, some being linear, whilst others are ovate. There is also some variety in the colour of the flowers, some being bright scarlet, others purple. A plant which produces stout racemes, bearing each nine flowers nearly as large as those of Erythrina crista-galli, and of the richest carmine-purple colour, is worth looking after. In America it is known as the Pride of California; and Mr. Orcutt, writing in *Garden and Forest*, says that it is "one of those plants which seem to be benefited by the ordeal of fire, which renders the Vine more prolific, and adds brilliancy to the blossoms." There is no Lathyrus in cultivation like it, all the large-flowered species having only two or three flowers on a raceme. I do not know enough about it to be able to say if it is likely to be hardy in England; but whatever treatment it may receive, it is eminently a plant to be looked after. *W. W.*

Plagianthus Lyallii.

This beautiful white-flowered New Zealand shrub is now flowering freely against a south-east wall at Kew, where it has stood for some years, and has not suffered in the slightest from cold in winter. It is one of the best of the New Zealand shrubs which thrive out-of-doors here. (See figure in *Gardeners' Chronicle*, August 25, 1888.)

Genista virgata

Is magnificent at Kew, bushes of enormous size being just now dense clouds of golden fragrant blossom. It thrives equally well amongst trees in a plantation, or in the rich soil of a border. Although an old plant, it is scarcely known in English horticulture. No Genista among the Kew plants is as effective, and none grow so freely. Along the path skirting the Old Deer Park, it is truly wonderful, some of the bushes being fully 12 feet high and wide. It was introduced from Madeira last century, and figured by Dr. Lindley under the name it now bears in his *Botanical Register* in 1844. It is also figured in the *Botanical Magazine*, t. 2265, under the name of Spartium virgatum. *W. W.*

Oxford Botanic Gardens.

These gardens looked remarkably fresh and bright on June 9 this year. Not having visited them for some years, it was pleasing to find them in such good condition, with visible signs of improvement in various directions, and good order and high-keeping everywhere apparent. A fine group of new and useful glasshouses recently finished, was well furnished with stove and greenhouse, and succulent plants. Ferns, Orchids, and aquatics were also well represented. The Victoria tank was chiefly furnished with a good collection of Nymphæas, several of which being in beautiful blossom, and other water plants, the side shelves being well furnished with Coleus, Hedychiums, Anthuriums, &c. The Palm-house was well-furnished, varied with Bananas, and flowering and variegated-leaved Begonias; among the latter it was pleasing to note several of the old Rex section. The Orchids were fringed with Panicum variegatum, Gloxinias, Dracænas, Tradescantia discolor, and skilfully mixed with Caladiums, Marantas, Anthuriums, Acalyphas, Rhododendron fragrans, Strobilanthes, &c.

This fine block of houses is connected with a lofty corridor running off one end of them, one side of which is formed by the wall, and the other by the ends and doors of the houses. This practical and handy disposition of houses and connecting corridor is a repeat of the arrangement employed in the Cambridge Botanic Garden. At Oxford the corridor is planted with climbers, the narrow border on either side being fronted with a row of Streptocarpus seedlings in great variety, which have a striking effect. Between these and the climbers on each side an occasional plant of the more choice variegated Coleus adds greatly to the effect. There is also inserted between the proper climbers a thin sprinkling of Fuchsias, which will add considerably to the grace and glow of this corridor as time passes over them. *D. T. F.*

Orchid Notes and Gleanings.

Miltonia spectabilis.

These plants require to be grown at the cool end of the East Indian-house, and should be placed in hanging baskets, so that they may be well exposed to the full light; they require to be shaded from the sun during the hotter part of the day, but only a thin shading material should be provided. They require during the summer season an abundant supply of water, and the atmosphere must also be kept well charged with moisture, but after they have finished their growth, and the flowering season is past, they should be removed to the Cattleya-house or to some position where they may be cooler, and kept comparatively dry. For soil use good brown peat-fibre, from which all the fine portion has been beaten, mixed with about an equal part of sphagnum moss, surfacing with the fresh picked living points, which grow and make a nice appearance and a soft bed for

the young roots to work into. The best time to re-surface or to re-pot them is in the early spring, just as the plants show signs of starting into fresh growth. *Orchid Album*, vol. xi., part 123.

MAXILLARIA VENUSTA.

This is a strong-growing but dwarf plant, producing stout bright green leaves, and flowers of a large size, which frequently measure some 5 or 6 inches across; these are thick and fleshy in texture, of the purest white, saving the lip, which is yellow, blotched with dark purplish crimson. Its usual flowering season is during the autumn and winter months, but it will continue flowering during the whole summer, when the plant becomes thoroughly established, bearing a score or more of its pure milky-white flowers, and presenting, as some of our patrons have reported to us, a noble appearance. The plant comes from an altitude of 5,000 or 6,000 feet, and consequently requires to be grown in the coolest house, kept in a moist position, and in the shade. It enjoys an abundant supply of water, therefore it should be well and carefully drained. We like pot-culture for this plant best, and we find that it likes firm potting, using for soil good brown upland peat-fibre mixed with some chopped sphagnum moss. It likes to be kept moist all the year through, and a larger supply of water should be given during the summer; do not, however, by any means stop the supply even in the winter season, but let it have enough to keep bulbs and leaves in a healthy condition. *Orchid Album*, vol. xi., part 123.

DENDROBIUM DEVONIANUM.

That this fine Orchid is capable of producing pseudobulbs, 4 feet long, I had an opportunity of witnessing at Mr. Bolton's, near Newchurch, Yorkshire. The plant was growing in a basket amongst a miscellaneous collection of plants suspended from the glass, evidently enjoying the moist warmth which suits tropical plants. It had been grown from a comparatively small imported piece, and the past season's growth had exceeded the previous one by at least 18 inches in length of pseudobulb. An extraordinary profusion of large flowers adorned the plants on one or two stems, there being eighty-four flowers. *A.*

WELLHEAD, HALIFAX.

WELLHEAD, the residence of Mrs. Doherty Waterhouse, has been for fully fifty years a place well-known for good plant culture. The late John Waterhouse, the former proprietor, was a collector of choice herbaceous and exotic plants of all kinds, and for many years Halifax was noted for the excellent stove and greenhouse plants grown and exhibited in the district.

Against the back wall of a large lean-to stove at Wellhead there is a plant of the night-blooming Cactus, Cereus grandiflorus, occupying a space 18 feet long by 10 feet in width, which blooms freely every year, and is just now producing a good quantity of flowers. It is planted out in a shallow bed in a raised position at 3 feet from the floor, and but for the fact that its roots are confined to the space mentioned the whole of the back wall would have been covered by its stems long since, for it has been nearly fifty years in its present position. By its side is a plant of Monstera deliciosa, about as old, which is 15 feet high. It has long since reached the top of the wall, and has now to be confined to the space which it has occupied for these many years past. In this large stove a superb lot of fine specimen Pancratiums of a large size are flowering freely.

In the large Camellia-house on the shady side are five extra large glass cases devoted to filmy Ferns, including a fine Todea superba, in perfect health, 3 feet through; vigorous masses of Hymenophyllum radicans and H. Tunbridgense.

A long narrow lean-to house, 60 feet long, sunk in the ground, and formerly devoted to Cucumber and Melon growing, is now used as a Fig-house, with sixteen large plants in pots, the other four planted out, and these have been cultivated here for many years. These in pots are partially sunk in the raised bed, and all are in luxuriant health, closely pruned and tied in, and have not been repotted for five years, but are kept well fed, and each shoot is stopped at the fifth leaf, and the plants are bearing profusely. A better lot of Figs it would not be easy to find, and the entire house is devoted to them.

Gardening in Halifax is carried on in the face of very great difficulties, as everyone acquainted with Halifax knows; for instance, the only variety of Strawberry which will exist in the Wellhead Gardens is the old Cuthill's Black Prince, and this does best when allowed to grow in a mass. Rhododendrons of the hardiest kinds are the principal evergreen shrubs grown in Halifax, and these do well; but any with a tender breed in them soon succumb.

Mr. George Wheatley, for seventeen years gardener here, and for as many years previously at the Hope Hall Gardens, has for the whole of that period enjoyed the well-earned reputation of a good practical gardener and first-class plant-grower, and in the old exhibition days was a very formidable competitor. Two span-roofed stoves in the Wellhead Gardens are alone worth seeing. Around each side and in the centre are stages on which the stone flags, so plentiful in this district, were placed, and on this a surface of ground sandstone was placed, on which various variegated and other stove plants were placed, and are replaced as necessary; and the green and variegated Panicum, planted in the sandstone along the edge throughout the house, and the smaller-growing Marantas and other plants, also planted amongst the Panicum, the latter forming a luxuriant fringe, falling almost to the floor, and making a filling amongst the plants. I have never seen two more exquisitely-arranged stoves, and with Coleus, Crotons, and various stove plants in flower, masses of Selaginella and other small-growing subjects, the arrangement showed how simply and effectively a stove may be made beautiful, and so easily kept up; and Stephanotis, Gloriosa superba, Allamandas, and other creepers were growing over the roof. *W. W.*

FLORISTS' FLOWERS.

THE GLOXINIA.

It may be difficult to determine which of these very popular greenhouse plants, the Gloxinia and Begonia, have, in the process of evolution, made the most rapid strides in improvement, but it may at least be said of both that, though a little outside of the range of ordinarily accepted florists' flowers, yet with each the development from inferior forms to almost ideal ones has been rapid beyond all precedent; whilst the Gloxinia has perhaps, so far, the nearest approach to the florists' ideal in colours, markings, and in outlines. How few are the years after all that have elapsed since the comparatively small and commonly drooping flowered forms were the best, and then held in high esteem! Not the most sanguine of florists could then have realised what would be the form and colouring of the flowers of to-day. The pendulous habit—very graceful it was, no doubt—has disappeared; every flower is now boldly erect, not that this boldness is a fault, far from it, for by it we have seen the conversion from semi-flattened flowers, with extended line, into those of the greatest size, most perfect roundity, and even lace or margin and colouring so varied, so beautiful, as to defy description literally. A well-grown Gloxinia to-day, carrying from twenty to thirty fully-expanded blooms, each one of the most perfect contour, standing erect on stout stems, and set in a nest of almost noble leafage is indeed a beautiful object, and such objects are now common enough in nurseries and gardens everywhere. Whilst some tastes favour the pure whites or the brilliant crimsons, others like the bold broad-edged flowers, some the not less striking blotched ones, and others again those that are so exquisitely netted or speckled. The true lover of flowers, however, who has no fads, loves and appreciates them all, for all are indeed lovely. It is only those who gardened half-a-century since, who can fully realise the immense wealth in floral beauty gardeners now enjoy in the possession of the glorious Gloxinia. *A. P.*

CHISWICK NOTES.

PINKS AT THE ROYAL HORTICULTURAL SOCIETY'S GARDEN.—The collection of Pinks forming the trials of this fragrant flower grown at Chiswick were inspected by the Floral Committee on the 29th ult., and despite the intense heat and dryness of the atmosphere there was a remarkably good head of bloom. All the varieties examined, and they included many of the florists' laced varieties, were judged simply from the point of view as effective border flowers. Compact in growth, erect, free-flowering, and displaying their flowers to the best advantage: it may be stated that a considerable proportion of the florists' laced varieties make good border flowers, but by reason of their size and the fulness of the blossoms, and their producing several on a stem, the latter is borne down by the weight, and the flowers lay prostrate on the ground, unless tied up. This is a fate which also befalls some of the large-flowered border varieties, and it is inevitable, from the wealth of bloom the plants yield.

To the following laced varieties three marks were given, equivalent to an Award of Merit:—Beauty, a red-laced variety, good in quality, very free and effective on a border; Rosy Morn, red disked, purple laced, a large, full, and showy variety; and Empress of India, one of the best of the dark laced Pinks, and a good exhibition variety. The award made to Modesty, one of the earliest of the border varieties to flower, and remarkably free, and also to Mrs. Dark, in previous years, were confirmed.

As it is sometimes stated, the laced varieties are deficient in constitutional vigour, it should be remarked that at Chiswick, as well as elsewhere, the laced Pinks show as great degree of hardihood as the border varieties. When laced Pinks were propagated as pipings on warm dung-beds under hand-lights, they did for a time—that is, until they were rooted, have the advantage of glass, but now that layering is resorted to as a method of propagation they are wholly grown in the open, and at Slough, Bath, Birmingham, Cardiff, and other places, they are exposed to all the rigours of winter, and stand exposure with immunity from injury; and as this is the general experience of cultivators, the fact should be stated. It should also be borne in mind that those who grow Pinks for exhibition, plant them in the autumn in beds in the open air, as this is a necessary condition of having large, full, well-laced flowers; and it may be added that, despite the great heat and dryness, such fine laced Pinks as Bouard, Bertram, Device, and others, produced fine-coloured and laced blooms, although the plants were unshaded.

The border varieties, as growing at Chiswick, need arranging into two groups—one represented by the dense-habited, small-flowered, early varieties, which produce enormous quantities of blossoms, mainly one flower on a stem, which are generally dwarf and compact in growth, with stiff erect foot-stalks; and the later, large-flowered varieties, such as Her Majesty, Snowflake, Ernest Ladhams, &c. The latter do not form such dense masses of foliage, nor do they produce a number of flowers on a stem; they are also later in flowering.

Of the first section, which mainly consists of the Bedford seedlings, three marks were given to Charmer (Dean), pale pink, with slight rose centre; Rosamond (Dean), pale pink, with bright crimson centre; Juno (Dean), white, with deep rose centre; Beauty (Dean), white, with bright rose centre; Annie Bolton (Dean), white, with maroon centre, perhaps the finest of all; and Rosy Circle (Dean), deep pink, or pale rose with a deep rose centre. All the foregoing early varieties have fringed edges, the flowers are full though small, they rarely burst their "pod," and they are invaluable for cutting and bunching. They serve another purpose, during

winter the plants form dense masses of shoots, in this respect resembling the Alpine types, and it is this characteristic which makes them so floriferous.

Of the later and larger-flowered varieties, three marks were awarded to Cowley White (Lakin), a very good white indeed, with concave smooth-edged petals, dwarf, and very free, a good companion to Mrs. Lakin, by the same raiser, which was also remarked in excellent character; to Ernest Ladhams (Ladhams), of a soft pink tint, with a dark centre, compact habit, erect, and very free; and to Souvenir de Sale, pale pink, very free, and excellent for cutting. Her Majesty may be noted as the finest of the white Pinks of the Mrs. Sinkin's type; and Snowflake, with its large smooth white petals, is also very good. *R. D.*

is the commencement of a new type which will in time lead to a wonderful and great addition to the many varieties already in cultivation.

ANTS AS GARDENERS.

The *Annales Agronomiques* for May 25 gives an account by M. Alf. Moeller of the gardening operations of certain species of South American ants. The author says:—"That ants should cultivate plants for the sake of gaining nourishment seems truly impossible, and except for the names of responsible writers and of the author, himself experienced in subjects connected with the Tropics, I should not venture to say a single word in this paper on so astonishing a subject. It has long been known that ants, those excellent architects, are often, as Huber said, herdsmen, and raise carefully in their ant-hills, or in the neighbourhood, aphides, which furnish them with a sugary liquid, of which they are very fond. 'The aphis is the cow of the ant,' says the careful Linnæus. It now appears that the wonderful picture of ant-life was incomplete.

"In a well-known work, *The Naturalist in Nicaragua*, Thomas Belt, to whom science owes the discovery of myrmecophilous plants, has described the life and habits of leaf-cutting ants, well-known to all who travel in Tropical America, which move in innumerable troops, each individual bearing a scrap of leaf towards the nests, where they disappear with their spoil. He was not able to prove by ocular experience the use that these interesting creatures make of the pieces of leaf, but having destroyed a certain number of nests, he was able to offer a hypothesis which was not at first very well received in the scientific world—that ants cultivate on the leaves a fungus on which they feed.

"M. Moeller, who lived in South Brazil for three years, tried to verify Belt's hypothesis; not only did he succeed in confirming the truth of the facts observed, but he was so fortunate as to make various new discoveries. He observed at Santa Catharina four different species of leaf-cutting ants—Atta discifera, hystrix, coronata, and also a new species which he distinguished by the name of Atta IV. We have not time to follow these insects cutting the leaves and bearing them along the roads made for the purpose, and maintained with the greatest care by workmen charged with that office. It is interesting, from a philosophical point of view, to note that the little republic fares well, as each individual does his duty without interfering with that of his neighbour. The ants are not capable of intelligently uniting their efforts on any given task.

"Already had Belt shown that leaf-cutting ants affect certain species of plants; that is not all. They ravage now this, then that one, often neglecting those which would be most easily accessible to them. It might be said that they seek to combine for their fungi a special substratum, which varies from time to time. Occasionally the nests of Atta are openly constructed on the ground of the forest, and then covered with a thick layer of dried leaves and twigs; they are oftener found in holes sunk in the earth, or in the trunks of rotten trees. The cells of which they are composed contain small heaps of a substance coarsely porous like sponge, in the middle of which



Fig. 1.—CLEMATIS, COUNTESS OF ONSLOW = C. STAR OF INDIA × C. COCCINEA.

CLEMATIS, COUNTESS OF ONSLOW.

This remarkable and pretty cross-bred Clematis was shown by Messrs. George Jackman & Son, Woking, at the last meeting of the Royal Horticultural Society. In a communication received from the exhibitors they say that it is quite a new departure from anything previously introduced, and has been obtained by crossing C. Star of India and C. coccinea, the former being the parent-plant; the flowers are trumpet-shaped, and very rich reddish-purple in colour, the foliage resembling C. coccinea in size and form; it is a strong grower, very hardy, and a free bloomer.

We feel sure there is a great future before it, on account of its distinctiveness and good qualities, and

the ants congregate in great numbers with their eggs, larvæ, and cocoons. These masses are the 'gardens;' this garden never touches the partitions nor the ceilings of the cells, from which a space the breadth of a finger always separates them.

"The garden generally consists of two distinct parts; one, the more recent, blackish-blue in colour; the other, older, is red-orange. The first is the more precious, doubtless, for if the nest is destroyed, the ants work first of all to place this in safety. When more closely examined, it is seen that the garden is composed of small grains about a fiftieth of an inch (half a millimètre) thick, at first green, which after turn darker, nearly black, and finally orange. We see how these little masses have been prepared with leaves. The whole garden is traversed in every direction by the threads of fungi, and on these the small tubercular excrescences, which the author jestingly calls 'Kohl-rabi,' are raised.

"The 'Kohl-rabi' in question is the principal if not exclusive nourishment of the Atta. There is no more in the old parts of the garden. It is the result simply of a spherical swelling at the extremity of the threads, and full of a frothy protoplasm. Upon emptying the contents of a nest, inhabitants included, into a glass jar, the ants are at once seen to recommence making their garden; all the materials strange to the garden are heaped along the sides of the jar, which becomes in consequence opaque; in the centre the spongy mass, typical of the garden, is soon seen to appear. On the succeeding days the walls increase in thickness, while the garden diminishes in width, and finally disappears; then the ants are seen to run anxiously about in this empty space, and to perish at the end of eight or fifteen days. While the garden remains, the death of an ant is a rare occurrence. The author had the idea of leaving the ants to fast, giving them only Rose-leaves, which, as a rule, they did not touch; then he offered them fragments of a garden emptied of its inhabitants. After a little practice he was able to directly feed the ants on 'Kohl-rabi,' but on that which had been raised by other species of Atta. The same ants rejected, on the contrary, the 'Kohl-rabi' raised by other genera of ants, of which several exist, as well as all other fungi. It was seen at the same time how ants set to work to prepare the garden. Not only the fragments of leaves brought are again cut up, but are so triturated that all the cells are torn.

"All gardens cultivated by Atta which have been noted contain only one and the same fungus—that which produces the 'Kohl-rabi.' Never while the ants have it does the mycelium appear in the open air; never does it develop any form of fructification. Two conidian forms are easily obtained when the ants are removed. The mycelium has a tendency to form swellings, the vesicular processes very distinct one from the other; the one of these productions, the result of cultivation, is the "Kohl-rabi." The author was able to obtain this by artificial cultivation in the midst of a nutritive solution, and this artificial Kohl-rabi was willingly accepted by the ants. He also discovered the fruit of the fungus, which is an Agaric, and which he calls Rozites gongylophora; it has a cap covered with red or black-purple scales, with brown spores, and a double volva." *Vesque.*

A TRAVELLER'S NOTES.

(*Continued from vol. xv., p.* 781.)

Adelaide, S. Australia, *April* 11.—The Museum of Economic Botany next claims attention. It has the reputation of being one of the best in Australasia. Oblong in shape, it is constructed of freestone, at a cost of £3,000. The approach, by open lawns, on which are isolated specimens of the various Agaves, Phœnix, Chamærops, that handsomest of Pines, P. longifolia, Juniperus bermudiana, and a gigantic South Australian native tree, Eucalyptus rostrata, with a trunk 7 feet in diameter, is good. To the right is an avenue of Araucaria Cunninghami and A. excelsa, alternately planted, good regular specimens 25 to 30 feet high. At one end is the largest specimen of Pinus halepensis in the garden, a noble specimen, some 90 feet high (unfortunately with a divided trunk); behind it a row of Pinus insignis forms a fine solid belt.

The centre of the Museum is occupied by long glass cases; jutting out from the walls are high narrow ones, others filling the recesses thus formed. A collection of fruits, made from a composition of *papier maché* and plaster of Paris, by a German firm, in many instances most life-like, is comprehensive, whilst one made in the Colony shows the extraordinary size and colour obtainable from South Australian soil. Mr. Holtze assures me they are not at all exaggerated, and from what I have seen I do not doubt it. Grapes, represented by bunches of 9 to 10 and occasionally 13 lb., Zante Currant bunches, 1 to 1½ lb., Apples as large as any we obtain in England, and Pomegranates, again as large as these, are included in this fine collection. Cherries, Plums, Figs, &c., are good, the weakest point being Tomatos. That the specimens copied were selected for their size is possible, nevertheless it is a sure testimony to the capabilities of the Colony in this direction.

Mr. Holtze finds, as I have generally done, that the flavour of colonial-grown fruit is wanting when compared with European produce, probably due to the quickness of growth.

One of the best items in the Museum is a collection sent by the Japanese Government in the Jubilee Year, of seeds, oils, starches, dyes, vegetable and animal manures, fodder and agricultural products generally, &c. A case of fifty varieties of Maize, including two husk Maizes, a red and white, each seed being completely developed in a dry coriaceous husk; a case of cones, one of pitchers, a series of thirty-seven trays, illustrating the various stages in the manufacture of Wheat-flour; six cases of fibres obtained from all portions of the globe; a carpological collection, consisting of thousands of specimens; various cases of Rice and other cereals, food spices, gums, oils, barks, poison-plants, silks, the products of the Olive, Barley, and Wheat; models of fungi, Flax, tobaccos, cottons, and cocoa and chocolate in its various stages of manufacture, are among the most notable items.

Amongst the exhibits are also a piece of Oak wood "which formed part of a bridge, erected by Julius Cæsar fifty-six years before Christ, across the Rhine between Weissenthurm and Neuwied;" and paper made from Pine-wood, which when reduced to pulp, known as paper pulp, replaces rags in the manufacture of this important article.

At one end of the museum, a compartment has been specially arranged for the herbarium, containing some 18,000 specimens. Mr. Holtze hopes, however, shortly to transfer them elsewhere.

But a few yards from the museum is the Victoria Regia-house. The plant in a central tank occupying the greater portion of the low house is in good condition. Its largest leaf this season was 6 6 feet in diameter, and it has so far borne thirty flowers. In the tank, a smaller one, 12 by 8 feet, and 5 feet deep, half filled with stones, part with soil, contains the plant, the water being kept between 80° and 87°, and the necessary movement obtained by a slight stream from an overhead jet. Specimens of Acrostichum aureum, Colocasia Devonsayana, Alocasia Van Houttei and A. Portei stand round with the base of their pots in the water. The side stages are occupied by Anthuriums, Caladiums, Philodendrons, Aspidistras, and Palms, the iron pillars covered with Tree Fern roots, support Pothos aurea, the more general species of Ferns, and a few Orchids, whilst such creepers as Vanilla, have roots 10 feet long dangling in the water. Cissus discolor, Combretum grandiflorum, Clerodendrons, Hoya carnosa and H. Cumingiana, Allamanda Hendersonii, and A. Chelsonii, Aristolochia ridicula and Calonyction sanguineum are trained on the roof. In the tank containing 6 feet of water, Nymphæa capensis, scutifolia, ampla, and the very beautiful zanzibarensis are thoroughly at home.

Beyond a belt of deciduous trees containing a fine variegated Elm, and but a short distance from the museum and Victoria Regia-house is the Rose garden, extremely neat and pretty. At either end tower two Pinus insignis, conical and compact, relics of an avenue planted some thirty years since. One side is sheltered from the destructive hot winds by a belt of the same Pine, the others being equally fortunate as far as shelter goes. Noticeable at this time is the magnificent Stenocarpus sinuatus (Cunninghami), a native of East Australia. Its heads of scarlet flowers, not unlike, and certainly as large as an Ixora, render it most conspicuous. A good tree faces the Rose garden. Two large beds of China Roses, masses of flower, occupy the centre. On either side are six narrow beds, each containing a row of standards or half-standards, as occasion may require, the six rows on both sides sloping towards the centre. Festoons of Clematis, Solanums, Antigonon, &c., connect the outer row, the beds being filled with Balsams, Verbenas, Pansies, Pelargoniums, Phlox, Zinnias, &c., flowering well and freely. Tea Roses are naturally in the best condition though H.P.'s are largely represented.

At the extreme limit of the garden in this direction lies the experimental ground, now chiefly used as a nursery. I noted Tuberoses very fine. The main walk here is lined by a fine avenue of Ficus macrophylla, its chief fault as a garden plant being its enormous spread of root. Recently M. Holtze found some in the Victoria Regia tank, 60 feet from the tree, and there 2 inches in diameter. Doubtless they had been attracted by the heat and moisture.

On either side, and parallel with the avenue, are rows of Ailanthus glandulosus, Robinia, Elm, Acer, and other deciduous trees. Avenues of American Ash and Sterculia diversifolia shade other paths beyond, both of which it is necessary to cross to reach that section of the garden set apart for the natural orders. This portion consists of a series of broad circles, the beds divided by narrow strips of grass, each bed thus formed being devoted to an order. Unquestionably, this is the weak point of the garden.

Adjoining this is an arboretum, of limited extent. Pines, including ponderosa, Sabinianæ, tenuifolia from Guatemala, mitis, and muricata; Frenela Macleayana, many Oaks, including Q. ambigua, Ashes, Elms, Maples, &c., are represented by moderate-sized specimens.

A fine avenue of the Queensland Tristania conferta leads from the old exhibition-ground, past the Palm-house, a domed structure, on a broad embankment raised 7 feet above the surrounding levels. Handsome stone steps form the ascent, from the summit of which a pretty view of the grounds is obtainable. The Willows before referred to lay to the left, facing a Cedrus Deodara, Araucaria Bidwilli, and Yucca Gaiesbreghtii (guatemalensis) in flower, all good specimens. Diamond and other shaped beds form a continuous line round the top of the embankment, gay with bedding plants, amongst which is particularly striking the decorative effect of Capsicum racemigerum, the yellow, red and orange varieties, the countless quantity of narrow, long, stiff fruit, keeping in condition for months, and not attaining a greater height than 8 to 12 inches, makes it a favourite in the Adelaide Botanic Gardens.

The Palm-house, constructed by a Bremen firm, at a cost of £4000, is an oblong building, with high straight sides and a low dome, which, by-the-by, it is intended to raise. The centre is occupied by a Livistona chinensis, with a stem 42 feet high, six of which are sunk in the border. Many fine specimens of the same Palm may also be seen in the house. Alsophila excelsa, Cyathea medullaris, Hemitelia Smithii, Alsophila Cooperi, Seaforthia robusta (touching the roof), an unusually fine Pritchardia pacifica, a Kentia Forsteriana, with sixteen leaves, in addition to one unfurled, certainly not less than 25 feet to the point of highest leaf; a few Chamædorea and Phœnix form the chief contents of this house. The specimens are good, but the variety is not great. A pretty waterfall, decorated with Ferns and Asparagus, occupies one end.

Directing one's steps towards the houses in the private enclosure, a good Eucalyptus maculata, with a stem 6 feet in diameter, is passed. Unfortunately, the head is but small and irregular.

In the enclosure are ten glass-houses and three shade-houses. This is naturally to a large degree the nursery for the remaining portion of the garden. Strips of "hessian," nailed somewhat loosely on the rafters, Mr. Holtze considers the best method of shading, the movement caused by the wind resulting in a current of air beneath. Chrysanthemums from cuttings, struck the latter end of October, look well; as do seedling Cyclamen in one of the shade-houses, and Pelargoniums, Cinerarias, Primulas, Camellias, and a large batch of Poinsettias in the others. Cool Orchids, those from the Andes, Mexico, &c., are grown in a glass case, itself in one of the shade-houses. One side consists of a piece of canvas kept saturated by water from a perforated pipe running along the top; the reduction in temperature thus obtained varies from 15° to 20°. Odontoglossums, Maxillarias, Zygopetalums, Masdevallias, Lycastes, and Oncidium macranthum (the latter in particularly good condition) are thus treated.

The collection of Cacti is very complete, and contains about 500 specimens; they are grown under glass, as the cold rains have been found to harm them. The fernery contains chiefly small specimens in good condition; but the palm of excellence must certainly be given to the Orchids, a hobby of the foreman, Mr. Macdonald, on whom they reflect the greatest credit. Lælias and Cattleyas are, in general, in splendid condition, L. superbiens, elegans, and guttata, Cattleya crispa, and the commoner species being all repre-

sented by good moderate-sized specimens. The collection of Dendrobiums is equally varied and up to the mark; and amongst the Cypripediums are several large specimens of purpuratum, politum, Swanianum, Leeanum superbum, Druryi, &c. Angræcum sesquipedale has sixteen pairs of leaves, the lowest resting on the pot. A. eburneum has eleven pairs, Arachnanthe Lowii, eight; Ansellia africana, and Grammatophyllum speciosum are all that can be desired. The Phalænopsis are above the average for size, and certainly so in quality. P. Luddemanniana, P. rosea, P. Stuartiana, P. Schilleriana and P. amabilis (grandiflora) are in perfect condition.

The labels most preferred are flat, galvanised iron, painted black. The name being in white, will last three or four years when varnished. Wood labels from "Jarrah" (Eucalyptus marginata), are also in use, but difficult to get of sufficient width, this wood being very prone to warp. Deal is preferred, as it takes both the paint and the written name easier, though the label only last two years, whereas those from "Jarrah" are practically indestructible. *James H. Veitch.*

(To be continued.)

THE LAKE IN THE VICTORIA PARK, BATH.

This park has considerable historical interest, having been opened by our present Queen, when Princess Victoria, on her first and only visit to Bath in October, 1830. The site is at once charming and commanding, the soil tested by this most practical test, the free healthy growth of the rich collection of trees and shrubs the park contains, is of the very best. The park is also laid out, furnished, and kept with great judgment and taste. A good many of the trees are also legibly labelled, with their botanical and common names, their native countries, and the year of their introduction; this might be carried much further with evident advantage, alike in the park and the Botanic Gardens associated with and attached to it at one end. Not a few of the labels in the latter have become illegible; more from being of small size, and written on wood, are difficult to decipher; some are misplaced. As this garden is mostly the gift of private beneficence—the family of the late Mr. Broome, F.L.S., having given 2000 botanical specimens towards its furnishing, hence, the local name, the Broome Botanic Garden—might I suggest to the benefactors and botanists of Bath the desirability of re-labelling their valuable collection of plants with Stratford Imperishable Labels. These gardens have been so fortunate, and so much enriched by private benefactions in the past, and also in being laid out by Mr. Morris, F.L.S, with so much taste, that doubtless this much-needed improvement of re-labelling will soon be attended to. Were any further stimulus to this good, needful work necessary, it may be found in the fact that during a few hours' note-taking in the gardens on May 26, I was asked more questions about names by total strangers than at any previous period of my life. It was also most interesting as well as amusing to see and hear the Bath-chairmen doing their best to read and pronounce and explain the names to their invalid fares.

The lake is within a short distance of the Botanic Gardens, and forms a sheltered curve or semi-recess in the park. Originally it is said to have been an old quarry. The surface-springs were collected and gathered together into a pond, the transformation being chiefly, if not wholly, affected through the taste and genius of Mr. Edward Davis, the whole affording a favourable example of what may be effected in the way of landscape gardening. The lake and its surroundings, though not large, is a veritable tit bit among scenery, and surroundings of exceptional richness and beauty. Its environments are the park, with its fine lawns, trees, shrubs, roads, walks, the Botanic Gardens, meads, playfield for Bath children, &c. Water in motion, as well as at rest, can also be heard and seen. True, water at perfect rest—repose—is, as it ever ought to be, the prevailing feature in lake scenery. But the source of supply is not attempted to be hidden, but dashes down some "rocky shallows" at one end, near to the rustic bridge. Possibly these waters in motion might be extended alike in volume and area, with enhanced artistic effect.

The lake itself, smooth as a mirror, with its curved lines of beauty, sweeping in and out at every turn—here hugging the green grass, and there bathing the thirsty roots of the shrubs into a deeper verdure and higher beauty, seem to have caught and fixed the very spirit of repose in landscapes. Doubtless, a good deal of this complacent satisfaction arose from the softness and grace of the curved lines. Following these in their chaste and soothing course, one could but rest and be thankful, while recalling the following lines:—

> "Straight is the line of duty,
> Curved is the line of beauty;
> Follow the first and thou shalt see
> The line of beauty follow thee."

The chief structural drawback to the perfection of the lake is the rim of stones intervening between the water and the turf or groups of shrubs. Were the turf and the shrubs to kiss the water all round, the softness of the curves, and the skill displayed in grouping the furnishing trees and shrubs, would complete one's admiration of the lake and its surroundings.

Not only are the water and shrubs tastefully disposed, but skilfully balanced, and well proportioned one to the other. Seldom either in Nature or Art does one find such a perfect blend of silver and verdure as is here afforded by the lake and its clothing fringe of vegetation.

The overpowering grace of the specially fine Weeping Willows, the huge masses of Golden Elder, and a fine Copper Beech, and other trees, form a rich massive background, while telling groups of Berberis dulcis, specially fine Weigela rosea, Pyrus japonica, golden Geum, yellow Genistas, sweet Bays, variegated Euonymus, Yuccas, and common Gueldres Roses, are skilfully massed in the foreground of the Lake, and on the fully furnished Island. Great skill is shown in the posting and relative sizes of these groups. Seldom or never have such fine Weeping Willows been seen as several of the drooping giants found around this Lake, while the Weigelas, close to the water, with their roots possibly dipping into the lake, are pictures of health, and smothered with blossom, their long branchlets drooping down towards the silvery surface of the Lake. *D. T. F.*

THE HERBACEOUS BORDER.

SAXIFRAGA COCHLEARIS.

Among the many beautiful Saxifrages now in flower, the above I consider to be the most charming. Happily, too, it is very easy of cultivation, and extremely free in its flowering. It is a variety of S. ligulata, consequently belongs to the crustaceous section of this family. The plant is disposed in tufted rosettes of spatulate leaves, the rosettes being very closely packed together. The snow-white flowers are produced in graceful and slender panicles, and display themselves to much advantage against the purple-red of the branches and peduncles. Though deserving of general cultivation by reason of its exceptional qualities, I fear it is as yet not well known. When once obtained, however, it can soon be increased, as it grows, flowers and seeds freely. According to the *Dictionary of Gardening*, it was introduced from the Maritime Alps in 1883, but I have grown the plant for more than twenty years. Despite the heavy and almost incessant rain, it was in full beauty on June 11. The plant can be well grown in such a compost as would be good for a Fuchsia. Planted freely on a rockery the results would be charming. *J.*

Veronica apicaula.

This is a charming variety of the Speedwell family, and is a conspicuous plant in the present month in herbaceous borders. The numerous flower-spikes it produces are of a feathery kind, and pale blue in colour, about 1½ feet high. The plant is increased by division of the roots, and cuttings in early spring. The plant does well in light, fertile soil, in spots distant from the shade of trees, &c. *W. W.*

Erigeron philadelphicus.

The above species is regarded by many persons as a most useful one for producing flowers from the month of May onwards till August, for these flowers have many uses for indoors decoration, looking well when associated with grasses and flowers of shades of colour different from its own. The habit of growth is somewhat like that of a miniature Aster, in height from 1 to 1½ feet, the several growths being surmounted by beautiful pink flowers about ¾ of an inch in diameter, and finely divided florets, with a bold yellow disc. The plant grows best in light, moist, but well-drained soil, and it is easily propagated by dividing the roots in the spring. *W.*

Betonica grandiflora.

The above is an attractive plant in the borders in May and June, and the blooms are very effective when cut. The spikes consist of closely-set flowers of a deep violet colour. The plant has freedom of growth and flowering, flourishing in any light and fairly fertile soil in a situation that is open. The average height is 1½ foot. It is increased by division of the roots early in the spring. Everybody having a patch of border or front garden should grow this plant. *H. W. Ward.*

The Creeping Forget me-Not, Omphalodes verna.

The above plant is one of the most lovely of the flowers of spring, the flowers a deep and clear blue colour with white in the throat. On our light soil at Lythe Hill, Haslemere, we have nothing else so good for shady borders or for naturalisation in the woods under trees; beneath Rhododendrons, &c., in such places it seems quite at home. When grown on the fringe of a grassy lawn and contrasted with the common Primrose, it is excellent; but the best effect I have observed was large masses of Valeriana Phu aurea, edged with a broad margin of Omphalodes, 18 inches in width. The Valeriana is much the brightest plant, having yellow foliage, for spring gardening; and it is indispensable in the rock garden, and in shady and out-of-the-way places where other things usually fail to give satisfaction. *A. Evans, Lythe Hill.*

THE NEW PARK AT CARDIFF.

Cardiff is one of the most progressive of provincial towns, and it would have been surprising had its Council allowed anything but success to attend the conversion of about 120 acres of land at Roath, in the eastern end of the town into a public park for the enjoyment and education of the people.

Previous to 1887 a desire to secure land for the purpose of a park in this rapidly-extending suburb had been felt, and in 1882 a committee of the Council entered into negociations with Lord Tredegar with a view to acquiring about 40 acres, which it was then thought would be required; but the scheme fell through as the Council felt themselves not justified in spending so much as £18,500, the sum asked. Overtures were then made to Lord Bute, and it appeared as if these also would be unsuccessful, when, in 1887, an offer was made to the Council, that, providing Lord Tredegar and other owners of small pieces of land embraced in the scheme, would give the same to the town free of cost, it was Lord Bute's intention to make arrangements with his trustees to purchase the necessary Bute lands—about 80 acres—and present them to the town as a site for a park for the people. The offer was gladly taken up, and no difficulty was experienced in obtaining from the owners the land that bisected the gift of the Marquis. The first sod was cut in August, 1887, by the Marchioness of Bute, amid general rejoicings, and the park was formally opened to the public by the Earl of Dumfries about a fortnight ago.

The conversion of the land has entailed an un-

usual amount of work in road-making, draining, and levelling. This has been carried out by contractors, under the superintendence of the Borough Engineer, and many difficulties presented by the physical character of the situation have been mastered in a praiseworthy manner. The face of the park, however, has been produced, and all the horticultural work done by labour employed by the Council, and under the direction of Mr. W. W. Pettigrew, Superintendent of the Parks and Open Spaces, and son of Mr. Andrew Pettigrew, the excellent gardener at Cardiff Castle. The total cost of making the park was about £55,000, and the area measures 120 acres, but the peculiar shape of the site is such that its length is nearly 2 miles. The land is intersected by roads, which divide the park into five sections, and it has been found convenient to keep the recreation grounds in this manner quite separate from other portions, the botanic garden, and other divisions being treated similarly.

A small watercourse, known as the Roath brook, runs through the site, and although it has caused a great deal of trouble to the contractors through its liability to excessive flooding — a habit especially common to the brooks and rivers in Wales—it has, nevertheless, afforded the means which have been used to produce several of the finest features in the park. By the construction of a dam, a magnificent lake has been formed about half a mile long, varying in width from 140 to 225 yards. The area of the water surface is 30 acres, being about equal to the Serpentine in Hyde Park.

The next section adjoining that containing the lake has been laid out as a botanical garden, and one of the interesting features of this will be the bog-garden. The section next to the botanical garden on the town side is devoted to pleasure-ground, and the brook, which runs through all the sections, has here been divided for the purpose of forming several small islands. At points also the brook has been widened to prevent liability of flooding. The recreation-ground follows, and in this section the stream has been diverted and all the space possible will be devoted to summer and winter games. About 13 acres lying furthest from the town, and intended as an additional pleasure-ground site, have not yet been taken in hand.

At present, only one greenhouse has been built, and that merely for raising and keeping plants for the botanic and flower gardens; but from what we know of the ambition and of the progressive spirit of Cardiff, we shall expect to see a good winter garden and a thorough educational botanic garden find a home in the park at Roath at a future time. Should this desirable consummation be realised, the Council have in Mr. Pettigrew a man well suited to develop and maintain the educational facilities such an institution is the means of affording. The position of the park in regard to the town is a good one, remembering that this district is becoming more and more built upon, and the largest of the other open spaces is in the opposite end of the town. Cardiff is now very well off in respect to pleasure ground and park provision, and its energies in this way must now be devoted to improving the park at Roath by making the additions above suggested.

The Apiary.

ANTS IN HIVES.

Complaints are frequently made of ants getting into hives, and although these little insects can scarcely be classed in the list of enemies of bees, it is best to take measures to get rid of them. Bees will wage war on ants if they persist in keeping them company, but may not be able to exterminate them, through their ability, on account of their smaller size, to take up their abode in parts of the hive to which the bees have not access, as, for instance, between double walls or about the hive coverings. It has been thought by some that ants are attracted to hives by the honey and wax, and the prospect of having a well-filled larder always at hand; but as a fact it has been observed that they have exercised a preference for hives with colonies of bees in them over those standing by the side, and containing only combs filled with honey. This would seem to show that it is the warmth from the bees that they most appreciate. Ants can be prevented from entering hives by standing the hive legs on stones placed in pans of water; and if they are already located therein they can soon be made to take their departure by inserting a few pieces of naphthaline, the smell of which they dislike. If ants' nests exist about the apiary, the ants may be made to forsake them, and go elsewhere by sprinkling powdered borax about the hills.

Toads.

Toads are now on the look-out for bees, and may frequently be found underneath alighting-boards on the watch for their unsuspecting prey. Needless to say, they should be got rid of, and the ground about the hives kept clear, so that there is no harbour for them. In places where toads are numerous, it will be advisable to stand hives so that the alighting-boards are 1 foot or 18 inches from the ground, as otherwise they will be able to get on to them, and will sometimes be found comfortably seated at the hive entrance.

Self Hivers.

A trial of self-hivers this year of different designs, on half-a-dozen hives, has caused the writer to come to the conclusion that these apparatus may really be used to prevent swarming. The reason appears to be that self-hivers act as drone-traps, and as it is not natural for a colony to send forth swarms without drones to fertilise the young queens, swarming may not be expected to take place. Therefore, if swarms are to be intercepted by self-hivers, they must not be put on the hives until the bees have got the swarming fever, and started queen cells; and on the other hand, if the problem of the prevention of swarming is solved by the self-hiver, it will be a highly useful development. *Expert.*

PLANT PORTRAITS.

Aconitum uncinatum, L., *Meehan's Monthly*, June.

Adiantum Claesianum, *Journal of Horticulture*, May 31.

Campanula (Platycodon) Mariesi, *Garden*, June 2; *Gard. Chron.*, August 5, 1893.

Cattleya Eldorado var. Oweni and var. Lindeni, *Lindenia*, t. 409.

Cattleya Rex, *Revue Horticole*, May 16.

Cochlioda Noezliana, *Gartenflora*, t. 1403.

Cypripedium callosum Sanderæ, *Journal of Horticulture*, May 31.

Cypripedium Dallemagnei ×, out of Spicerianum, by Lowianum, *Lindenia* t. 411.

Cypripedium insigne var. montanum, *Lindenia*, t. 414.

Greyia Sutherlandi, *Revue Horticole*, June 1; *Gard. Chron.*, May 19, 1883, p. 625.

Lælio-Cattleya elegans var. leucotata.— A pure white variety, the lip even being destitute of colour, except in some cases a feeble trace of pale rose. *Lindenia*, t. 413.

Lælia juvenilis ×, Bleu.—A hybrid from L. Perrini, by pollen of L. pumila. *Lindenia*, t. 415.

Lycaste Imschootiana ×, a cross out of Lycaste Skinneri by Maxillaria nigrescens, *Lindenia*, t. 410; *Gard. Chron.*, December 23, 1893, fig. 119.

The Week's Work.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HARDY HEATHS.—Beds and specimens of these on lawns or in shrubberies, where required to be kept of low stature, as is the case generally when planted in beds or scrolls, may, as soon as the flowering period is over, be cut to a uniform level with the hedging-shears; and in the case of specimens, doing the needful pruning with the knife, that is cutting out straggling shoots, so as to give the plant a somewhat regular although not formal shape. The propagation of the hardy species of Heaths is usually effected by division in the spring or autumn, yet where it is contemplated to plant beds, and especially those of a set design, plants raised from cuttings will be found to be best for the purpose. The present is a good time for striking them. In taking cuttings choose the firmest young growths, and with a slight heel attached. The best compost in which to strike them is a mixture of hard peat, fine charcoal, and sufficient sand to prevent any chance of souring or adhesiveness; as cutting-pots, 6-inch ones will be found well suited, and in filling them, one-half in depth at least should be given up to drainage. Over the crocks put a layer of roughish peat, then sufficient of the compost given above, passed through a $\frac{3}{8}$-inch sieve, and as will reach to within $\frac{3}{4}$ of an inch of the rim, the remainder consisting of clean silver-sand. Press the material firmly, and water, after which the cuttings may be dibbled-in, care being taken that the leaves of the cuttings rest on the soil, and are made firm down to the bottom of the hole. They should then receive a sprinkling through a fine rose-can, placed under bell-glasses or in a close frame, and shaded from the sun.

PANSIES AND VIOLAS.—Cuttings may now be taken to furnish plants for next year's spring bedding. Choose stout short-jointed shoots without flowers if possible, and of about $2\frac{1}{2}$ inches in length, carefully labelling the different varieties. A shady border will suit them, if plenty of sand, leaf soil, and spent mushroom-bed manure be used in preparing the soil if it be heavy. If hand lights can be spared to place over them the cuttings will strike all the sooner, and failing these, good attention must be given them to try and prevent their flagging too much; keep all flowers pinched off them till well rooted.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PROTECTING THE FRUIT OF THE GOOSEBERRY.—The bushes should now be netted without delay, and where a good proportion of Red Warrington and other late varieties are grown, any labour which may be incurred in this way will be well repaid, these fruits being much appreciated for dessert after other varieties are passed away. Simply to throw the nets over bushes of Gooseberries causes much annoyance when gathering the fruit, and ruins the nets; and if the nets have had much wear, it is almost impossible to extricate them from the bushes without tearing them to pieces and injuring the bushes. If the bushes are growing all together in a plantation, stout posts may be placed about 9 feet apart at the ends of the rows, and if the rows are too long to allow of stretching the supporting wires sufficiently tight, poles should be placed at 15 feet apart, and the wire fixed to the top of them with wire staples, thus preventing sagging of the nets. The wire having been strained tightly, the netting may be placed on them, and secured at the end and sides to the ground, or, better still, to a line of boards on edge. Trained Gooseberries on trellises or walls may have the strong shoots pruned back to three or four leaves previous to netting them, but they should not be robbed of too much growth before the fruit is quite ripe, as by doing this the flavour will be impaired. Where a wide border with an oaken fence or brick wall from 6 to 8 feet high exists, this affords a perfect place for growing Gooseberries, and especially the dessert varieties, as with wires permanently fixed on the fence and to Oak or iron posts placed firmly along the edge of the walk, there is a great saving of labour in netting them. The dessert Gooseberries in these gardens are grown and protected in this way, the border being 24 feet wide, and the wall 7 feet high.

RASPBERRIES.—Where starlings take to eating the Raspberries, it is of no use expecting to save the crop without netting them, which is a difficult matter in the case of strong-growing sorts, like Prince of Wales, the newer Superlative, and especially where it is the practice to let the canes stand perpendicularly. It must, however, be undertaken, and unless they are growing in a single row, strained wires for supporting the netting should be carried out in the same way as that recommended for Gooseberries. For a single row trained to a trellis, and where the posts for straining the wires are of wood, a stout T-piece of wood firmly fixed to the straining-posts, and 18 inches long at the top, thus projecting 9 inches on each side, will carry the wires to support the net above the canes; and poles should be placed in the same way as for Gooseberries to support the wires, which will make a sufficiently stable structure. The nets should be stretched out at the bottom, so as to admit of ready access to the fruit.

WATERING THE PLUM-TREES.—Up to the time of writing, all the Plum-trees that I have noticed are unusually healthy, free from aphis, and bearing heavily. This making it conclusive that the dripping time we had for several weeks prior to the 20th ult., exactly suited these fruits; but should the hot weather we are now experiencing continue, thorough root waterings must be afforded, at least once in a fortnight, and good washings with the hose, garden-engine, or syringe once a week at the least. Sufficient mulching should be placed over the roots, to prevent too rapid evaporation of moisture from the land. These syringings apply more particularly to trained trees on walls, but with a plentiful supply of water and appliances for its distribution, all trees would be benefited by being syringed overhead.

SWEET CHERRIES.—Bigarreau Napoleon and other late sorts, the fruit of which it is desired to keep hanging for some time, and at the same time quite free from aphis, must be made thoroughly clean, by dipping the tips of the shoots in insecticide, and then syringing the trees with the same, following this dressing with a heavy washing with clean water, the nets being of course removed whilst these jobs are being carried out. Trees cleared of their fruit, if infested with black aphis, should be similarly treated, unless it is known that the insecticide is non-injurious, when it need not be washed off, thus helping to guard the trees against further infestation.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

THE ODONTOGLOSSUM-HOUSE.—Some of the plants in this house will require re-potting or fresh surfacing, the more important of these being Maxillaria Sanderiana, M. Hübschi, M. præstans, and M. americana, which are varieties best cultivated in baskets, their flowers appearing frequently in a downward direction, like those of Stanhopeas. Maxillaria Turneri and the rarer M. fuscata are cultivated very well in an ordinary flower-pot or shallow pan. Maxillarias make roots and grow freely when planted in a compost that consists of three parts of sphagnum-moss, one of peat, mixed with a good number of small clean crocks. Odontoglossum pulchellum may also be repotted at this season; and although O. Rossii, O. madrense, O. Cervantesi, O. Humeanum, O. aspersum, and O. Galeottianum are starting into growth, their natural complement of roots are not generally made till about August, therefore I cannot recommend their being disturbed in this manner before that time. Mesospinidium vulcanicum, M. sanguineum, are cool Orchids, which do best when suspended well up to the light in shallow pans, and kept plentifully supplied with water, especially in the summer; the only exception being for a period of a few weeks after growth is made, when moisture should be slightly diminished, but immediately the flower-spikes appear increasing the quantity. The charming new Cochlioda Noetzliana grows easily under similar treatment. The latter plant and the Mesospinidiums ought now to be repotted, using absolutely good drainage and a mixture of peat and sphagnum-moss in equal ratios, pressing this moderately firm around the plants. Aphides are particularly partial to the young growths of these plants, but the usual means employed will destroy them.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

VINES IN POTS.—Those Vines which it is intended to fruit next year should now have strong canes beginning to assume the brown colour of maturity. The laterals should be removed from them, and all possible light and air afforded to get the wood thoroughly well matured; failing this, complete success cannot be expected. The roots must not be allowed to get dry. Vines struck late in the season from "eyes," which are growing in 6 or 8-inch pots for making cut-backs next spring, should be supplied with manure-water, and the house closed early in the afternoon, a good amount of atmospheric moisture being supplied during the day. The points of the shoots may be stopped when the latter are of the required length, and the laterals should be pinched back.

TOMATOS for late fruiting may be potted into 10-inch pots, good attention being paid to watering and airing. A batch of cuttings, or a sowing of seed for mid-winter supply, ought now be made; and any plants cropping heavily should be abundantly supplied with liquid-manure, those planted out in beds about once a week, those in pots every day, and sometimes twice. A free circulation of air should at all times be afforded, and the laterals removed.

PINE-APPLES.—The genial weather will have caused Pines to make good progress, and fill the pots with roots. Necessarily, careful attention must be paid to the watering, especially the early fruiters of next season, so as to obtain strong foliage; but carefully avoid making the soil too wet, or keeping the air of the house too damp by damping-down and syringing, the effect of which will be soft thin leaves and premature fruiting. A free circulation of air so far as the weather conditions will allow, should be afforded, but of course, never admitting cold currents, or unduly lowering the temperature. Ventilate early in the day, and gradually increase the amount as the day advances; and in the case of young stock, reducing the amount on sunny days in the same manner, so that the plants may have a steady uniform temperature. A damping overhead with a fine rose water-pot, may be indulged in on fine days, but not in sufficient quantity to cause the water to accumulate at the base of the leaves. It is not advisable in the northern parts of the kingdom to allow the hot-water pipes in the Pine-pits to get cold even at this season, but a little warmth is given to keep the atmosphere in a wholesome genial condition. See that the bottom-heat keeps steady, at about 85°; the day warmth of the houses will depend in a great measure on the amount of sunshine, but it should range from 80° to 90°, and that of the night from 70° to 75°. In dung-heated pits the renewing and turning of the linings should be attended to, and the bottom-heat kept as steady as may be. Suckers from early-fruited Queens or other varieties may now be potted into 6 and 7-inch pots as soon as taken off the parent plant, placing them in a bottom-heat of 85°, shading and withholding water till roots a few inches long are formed, but maintaining a moist air by damping down. Suckers for growing on should not be taken from plants that have not fruited. Fruiters with fruits swelling will benefit from doses of manure-water once a week. The night warmth for these should be 75°, and that of the day 80° to 90°, but if they are required to come on quickly, an increase of 10° over these figures may be allowed at closing time, with, of course, an abundance of moisture in the house. Ripe fruits should be removed to a cool-house or the fruit-room, where they will keep for a considerable time in a nice condition.

THE KITCHEN GARDEN

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

WHAT THE VARIOUS CROPS NOW NEED.—Since writing, a much-required change has taken place in the state of the weather, and the intense heat is parching the soil. The change has allowed the hoe to be freely used in the destruction of weeds, which had become very plentiful, and mulching crops and fleet hoeing will now demand attention, Peas and Beans having the first care, so as to conserve as much as possible the latent moisture in the land. Where the soil is light, watering should be done before signs of distress are noticed, the watering being always thorough, and, when practicable, afforded in the afternoon or early morning. Neither liquid nor any artificial manures may be applied to a soil in a parched condition, but having well watered it at night, apply the manurial aids in the morning or the following evening.

MUSHROOM BEDS.—Manure that has been prepared by occasional turnings, to dissipate rank steam and prevent excessive fermentation, will be ready for forming into ridges, which may be of any desired length, 3 feet wide at the base, 3 feet in height, and 9 inches wide at the top. In building these, put the materials firmly and closely together, trampling them layer by layer, and beating the sides with the dung fork. The ridge should have ventilating holes made in them at a distance of 1 foot apart along the top, and reaching to the bottom of the ridge. When the temperature after rising has declined to about 80°, place pieces of the spawn in shallow holes along the sides, 8 or 9 inches apart. It is important that the spawn be firmly pressed into the manure and slightly covered. A slight covering of litter should be scattered over the ridge to check evaporation. In a few days the mycelium in the spawn will begin to "run," and the ridge may be cased over with loamy soil. This soil should be sufficiently moist to adhere to the ridge, and to take a smooth surface when beaten with the back of a spade; still, it should not be so wet as to crack after drying a little, as this would act injuriously on the spawn. Should the temperature of the bed decline too fast, the amount of covering may be increased.

CHICORY AND CARDOONS.—Thin the crops of these without further delay, the former 8 or 10 inches apart and the latter to one plant in a clump. Afford them water before the soil becomes very dry, and if the land is of a hungry nature occasional applications of liquid-manure.

CAULIFLOWERS.—Draw some few of the leaves over those heads that are nearly large enough for use, and tie them together, this being better than the usual practice of breaking them, excluding light and the sun's rays very effectually. A mulch of rotted manure may be put around the plants, and water afforded three times a week. Succession plants must be kept moving, or premature heads—"buttons"—will form.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

HINTS ON THE REPOTTING OF PLANTS.—Following on the directions given in last week's Calendar, comes the repotting for such as need it—a matter which should have due consideration, the season being now too far advanced to admit of much pot-room being afforded, except in some few cases, and pots of one size larger will usually be sufficiently large. Those needing repotting should be selected and classed, so that a suitable kind of potting compost may be used for each class. I would direct attention in the first instance to the division of which Caladiums form a part. The novelties bought in this season will have become inured to their fresh quarters, and will now bear repotting into fresh soil and larger pots. The time that will have elapsed will have afforded the gardener time in which to study the character of these plants, which, when young, exhibit many forms and a variety of colours, especially recent introductions. In carrying out the repotting, the roots should not be disturbed, but the root mass dropped into a well-drained pot, one size larger, the soil made use of being that previously recommended for Caladiums. If this is in a suitable state as regards moisture, it will not need to be watered for at least twenty-four hours afterwards, the moist air of the house sufficing for that length of time. Amongst the prettiest new varieties are Ibis Rouge, l'Insolite, Baronne Clara de Hirsh, Baron Adolphe de Rothschild, Lillie Burke, Marie Freeman, Martha Laforge, and Georges Berger. The Crotons will next require to be overhauled. Strong growers like Queen Victoria, Evansianus, Disraeli, and Thomsoni may have pots two sizes larger, and loam be chiefly used in the re-potting. The narrow-leaved section of Crotons, represented by chelsonii, superbum, Countess, angustifolius, gracilis, and Lord Chelmsford, should have a rather smaller shift, and as soil, loam freely mixed with fibrous peat and charcoal. Ixoras should be re-potted in fibrous peat, sand, and charcoal, and the pots half plunged in a partly-spent tan-bed, a brisk moist heat being maintained in the house or pit.

The mixed plant stove, from the many different species it contains, gives more trouble. Take Anthuriums first, then Allamandas, Bougainvilleas, and Clerodendrons, which besides being in want of repotting, will, in most cases when not in flower, be benefited by the removal of the old ties and sticks, and a thorough cleaning. Whilst the pot-plants are being repotted, trained, &c., the roof-climbers, if in pots, and in need of repotting, should have their wants attended to without removing them from the house. Those which are not repotted may need top-dressing. All worn out and unsightly plants should be destroyed by burning. Cuttings of any plant, the stock of which is small, may be put in to strike, viz., the tops of Dracænas, Crotons, Acalyphas, &c., also leaves of foliage Begonias may be laid flat on a bed of sand in a warm house, the main ribs being first cut in various places, so as to favour the emission of roots. From these leaves, plants of a useful size may be obtained by the autumn.

TEMPERATURES.—Except in the warmest stove the Croton and Caladium-houses, fire-heat may be dispensed with, the tropical heat we are now having sufficing for the inmates of the other houses. Watering and damping down are operations that must be attended to with regularity.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JULY 10 — Royal Hort. Soc. Committees, Drill Hall, James Street, Westminster.
WEDNESDAY, JULY 11—East Anglian Hort. Club.

SHOWS.

SATURDAY, JULY 7—National Rose at the Crystal Palace.
TUESDAY, JULY 10 — Wolverhampton Great Show (three days). Rose Show at Gloucester.
WEDNESDAY, JULY 11 — Royal Caledonian Hort. Soc., Edinburgh (two days). Rose Shows, Hitchin and Ulverston.
THURSDAY, JULY 12 — Bath Rose and Begonia. Rose and Horticultural Shows at Harlesden, Woodbridge, and Worksop.

SALES.

WEDNESDAY, JULY 11. — Highly important sale of the second portion of the famous Pickering Lodge Collection of established Orchids, formed by the late George Hardy, Esq., at 12 (two days).
FRIDAY, JULY 13. — Orchids, at Messrs. Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.3.

A Gardeners' Guild.

FOLLOWING up what has been done at Birmingham, Tunbridge Wells, and other localities, and in harmony with Mr. BURBIDGE'S proposals as formulated in our columns on May 19, Mr. ELLIOTT spoke at Bournemouth on this subject on March 6. The report of his paper is only now before us, so that it is no fault of ours if we have not allotted Mr. ELLIOTT the benefit of priority. That, however, is a small point, to which Mr. ELLIOTT himself pays little heed. Schemes of this kind, differing in detail but substantially the same in principle, have been floating through the minds of those interested in the welfare of gardeners so long as we can remember; but nothing comes of them, either because the gardeners themselves do not as a body respond to the efforts that are made, or because they begin at the wrong end and immediately raise a cry for increased wages. This in itself is justifiable enough, but should come after. The competent gardener is, as a rule, greatly underpaid in comparison with craftsmen of other kinds. No one doubts this. Every one who knows, regrets it. But the way to amend it is not to clamour, still less to strike, or adopt the evil practices which bring disrepute upon some trades-unions. The evil must be attacked at its source. Entry to the practice of the art and craft of gardening should be made more difficult than it now is, and more sharp distinction drawn between a labourer, a handy-man, and a skilled gardener. Some guarantee should be exacted that the youth, before entering the garden, is of good character, fair ability, good health, and reasonable promise. At intervals during the early part of his career, he should be examined as to the amount of knowledge he has attained. In the later part of his service as an under-gardener, a report should be made by his employers or superiors as to his skill and as to his power of turning to practical account the knowledge he has attained. The object is not to make the youth a chemist, or a botanist, or a geologist, but to secure that he shall have such an amount of knowledge of botany and other subjects, as shall best enable him to turn his practical skill and experience to the best advantage. Skill can only be obtained by constant practice, but the means of utilising that skill are furnished by those branches of knowledge which some people still think lightly of as "theory," forgetful of the fact that without the knowledge that theory implies there would be no such thing as progress, and that we should still be destitute of steam engines and electric telegraphs.

A prolonged education and a practical training of the kind we have indicated, tested by competent and impartial authorities, would "rogue out" the idle and the incompetent, whilst it would encourage and give confidence to the industrious and the able. The one would remain hewers of wood and drawers of water, or would adopt some other mode of livelihood; the others would merit, and would be in a position to secure, that higher remuneration to which they would be fairly entitled.

Another means of advancing the end we all have in view is co-operation. Gardeners are notoriously like the scattered branches which have individually but little strength, but which combined can give resistance to a sea-wall, and prevent its annihilation by the waves. And yet gardeners do meet sometimes, and very pleasant their meetings are. Is there any reason why they should not be profitable also? We have, and do constantly point out, the deplorable waste of energy in connection with flower shows, especially provincial ones. Everything seems sacrificed to the competitive spirit which results in the transfer of a few shillings or a few pounds from one pocket to someone else's, without as a rule any proportionate benefit being observable in the progress of horticulture.

Surely these assemblies might be turned to account for public meetings to discuss topics of interest to gardeners, to devise schemes for the improvement of the craft, to diffuse knowledge, to further the cause of the gardening charities sorely in need of help, and generally to promote the welfare of horticulture and its practitioners. The local or district societies should federate into the county societies, and these, again, should amalgamate with the central society, the Royal Horticultural Society, where a special committee should be told off exclusively to deal with these matters; or, if it should be found that the Royal Horticultural Society, tied as it is by charters and precedents, cannot fulfil the duties, then a central committee must be formed to work independently. And here we cannot help commenting on some remarks of Mr. ELLIOTT'S to the effect that the Royal Horticultural Society has "never in any way been in sympathy with the rank and file of the gardeners throughout the country." This is a very serious indictment, but we fear it is one which is generally held among provincial gardeners, who at present have not the means, or do not use them, of ascertaining for themselves, what is the real state of affairs. Nevertheless, from long observation and experience, we must say that for what little truth there may be in such statements, the fault lies, not with the society, but with the gardeners. Have they ever taken means to make their wishes known? Have they ever even taken the trouble to suggest the election of a member of council in whom they would have confidence? Have they ever taken part in the annual meetings where their grievances could be discussed? In the terrible crisis through which the Society passed in the latter years of its existence at South Kensington, in the vigorous struggles to get free, to adopt a new and a reformed programme, based on horticultural considerations only—struggles which have so far been eminently successful — how much help and sympathy was afforded by the "rank and file," how much co-operation, or even moral support was given by local horticultural associations and district societies? We think we may say none at all! Some other statements made by Mr. ELLIOTT, as to the council and its members, we, who are not of them, may characterise as absurd, and likely to be mischievous.

If the Royal Horticultural Society does not do all that it might do in the interests of the rank and file of gardeners, that is very largely the fault of the members of that body. They are numerous enough and powerful enough to be, as they are not now, adequately represented on its council and its committees. Moreover, they are quite strong enough, if they combined, to shape the policy of the Society, but they will not do so by standing aloof and grumbling. It is such an attitude that makes one doubt the success of any guild, such as is proposed, though we are in the fullest sympathy with its objects, and shall gladly do what we can to promote them.

GREVILLEA BANKSII. — The subject of our illustration (fig. 2, p. 15) is a very handsome plant, both in flower and foliage, and is quite one of the best of the strong-growing Grevilleas. Like most of the species, it can be grown without difficulty, and probably there is no other more easily grown than this. It requires nothing more than ordinary greenhouse treatment, using by preference a loamy substantial soil, and not forgetting the good drainage which is more or less necessary for the whole of the Proteaceæ. The specimen here illustrated was cut from a robust young tree, growing in the temperate-house of the Botanic Gardens at Cambridge. It is not quite 5 feet in height, and has been grown from seed received from Brisbane about seven years ago. No doubt it could have grown to a greater height in the time, but the cutting back to which it has been subjected shows that it will bear the process and still flower freely. Grevillea Banksii is described by Meisner as an elegant tree, and the term is evidently correct. The young stems are covered with a thin brownish felt; the somewhat Lomatia-like leaves are from 10 inches to a foot long, pinnately divided into about five pairs of narrowly lanceolate divisions, above deep green, and below quite white, with fine adpressed hairs. The flowers are produced in dense terminal racemes, or in the case of stronger branches, several of these racemes gather in a panicle, each raceme in either case being 4 or 5 inches long. The cylindrical calyx is not quite three-quarters of an inch long, but with the long red style the flower attains nearly 2 inches in length. The outside of the calyx is covered with white hairs, the effect of which is to tone the scarlet, or red, of the rest of the flower. The flowers produce a quantity of nectar, which must

provide a plenteous food for certain birds, or whatever the agent may be that performs the office of cross-pollenation. Judging from the meagre information in Müller's *Fertilisation of Flowers*, our Australian friends, and others who have the opportunity of observing the Proteaceæ, would do good service by recording the agents and methods of cross-pollenation in the order. In this particular case, some agent has, perhaps, been at work by which there are now a number of green fruit. They are compressed, ovate, and turned to one side, still bearing the style, which evidently intends to persist as a beak. These fruits are covered with short white secreting hairs, which cause slight viscidity. *R. J. L.*



FIG. 2.—GREVILLEA BANKSII: GREENHOUSE SHRUB, FLOWERS ROSE COLOURED.

THE ROYAL HORTICULTURAL SOCIETY.— At the next meeting, which will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, July 10, will be displayed collections of Hardy Perennials and Cactaceous Plants, for which special prizes are offered. At 3 P.M. a lecture on "Cactaceæ" will be given by Mr. JOHN W. SINGER. After the show, a luncheon will take place at the Windsor Hotel, when the propriety of forming a Cactus Society will be brought forward by Mr. H. CANNELL.

OUR FRUIT-CROP REPORT.— Owing to the fact that our reports have hitherto been published at too early a date to be quite satisfactory as guides to the dealers and others, we intend to publish our report this year in our number for August 4.

THE ROYAL GARDENERS' ORPHAN FUND.— The committee met at the Horticultural Club, Hotel Windsor, on the 29th ult., Mr. W. MARSHALL in the chair. Among the special donations was one of a guinea from Lady FREDERICK FITZROY; and from Mr. F. MILLER, Northdown, Margate, a most efficient worker and helper, £3 10*s*. The quarter's allowance of 5*s*. per week to sixty-one children, amounting to £198 5*s*., was ordered to be paid, and the fact that this number of orphan children of gardeners is receiving benefit from the fund, should induce many more of the profession to subscribe to this most deserving fund. Another enthusiastic and successful helper, Mr. G. W. CUMMINS, The Grange Gardens, Carshalton, announced that he had arranged, in accordance with his annual practice, a Rose Fair on behalf of the fund, in connection with the exhibition of the Croydon Horticultural Society, which took place on the 4th ult.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the general committee took place at Anderton's Hotel, Fleet Street, on the 2nd inst., Mr. R. BALLANTINE presiding over a good attendance. A letter was read from Mr. R. J. HAMILL, resigning his seat upon the general committee, owing to absence in America; and Mr. H. BRISCOE-IRONSIDE, formerly a member of that body, was elected in his place. The Hon. Secretary brought

up certain amendments to the rules, which were passed, and will be proposed for adoption at the annual general meeting next year. Messrs. T. Bevan, H. J. Jones, and Geo. Stevens, were appointed judges of Chrysanthemums at the early show at the Royal Aquarium on September 6 next. The recent special general meeting of members having referred back to the general committee for further consideration, with a view of giving effect to the suggestions contained therein, a special sub-committee was appointed, consisting of Messrs. W. Herbert Fowler, E. Beckett, Norman Davis, Chas. Gibson, Geo. Gordon, H. J. Jones, and E. Molyneux, with the officers of the Society *ex officio*, to draw up rules for judging Chrysanthemums, but with the proviso that these rules were to be acted upon only when absolutely necessary, having regard to the limited time at the disposal of the judges. Various other matters engaged the attention of the committee. Eight new members were admitted to affiliation; and the Newcastle-on-Tyne Chrysanthemum Society were admitted to affilation. The proceedings closed with the usual vote of thanks to the chairman.

—— The annual picnic and outing will take place on Monday, July 23. The members will travel to Windsor by the G.W.R., embark on two steam-launches at Thames Side, Windsor Bridge, proceed up the river to Bourne End, and dine at the Quarry Hotel (on the river-bank). After dinner, the launches will steam up the river as far as possible, returning to the Quarry Hotel to tea, and thence to Windsor. Ladies are, as usual, specially invited. The charge for the day, including the return fare from Paddington to Windsor and back—boat, dinner, and tea—will be 9*s.* 6*d.* to members, and 10*s.* 6*d.* to non-members. Members joining the party at Windsor or Maidenhead will pay 7*s.* 6*d.* and non-members, 8*s.* 6*d.* As this is sure to be a popular trip, early application must be made for tickets, so that all the necessary arrangements may be made, to Richard Dean, Hon. Sec., Ealing, W. Friday evening, July 20, is the latest time at which tickets will be obtainable.

"Hooker's Icones Plantarum."—The last part of this publication, which is of special value to botanists, contains twenty-five plates illustrative of new and interesting plants in the Kew herbarium. Among them are Polygala butyracea, Heckel, a native of west tropical Africa, and whose seeds contain a fatty substance of excellent quality and agreeable taste. It is cultivated by the natives, and should receive attention at the hands of those interested in tropical agriculture. Iris Thoroldi is a species from central Tibet. Dizygotheca Nilssoni is an interesting Araliad from New Caledonia, introduced by M. Linden. Several Indian Orchids are described by Sir Joseph Hooker, but they are mostly not of horticultural interest.

Reigate Cottage Garden and Rose Show.—The committee of the above Society beg to state, that owing to the very sad and unlooked-for death of their President (R. C. Baxter, Esq), which took place on Sunday, July 1, 1894, the show will be held in a meadow adjoining Wray Common, Reigate (by kind permission of F. C. Pawle, Esq.), instead of at Stone House.

M. Van Eekhaute.—We learn that in consequence of the new arrangements necessitated by the change of owners, M. Van Eekhaute, after fifty years' service in the famous establishment of Van Houtte, père, at Ghent, has now left that establishment. M. Van Eekhaute, in his long career, has secured the respect of all who knew him.

Arum dracunculus.—A recent post brought us more than one specimen of this quaint Arum, which, with its glossy and deeply divided leaves and rich purple spathe is always attractive, but never have we seen so fine a specimen as that sent us from Taplow, by Mr. Sargent, the measurements of which are:—Leaf-stalk, 17 inches; blade, 9 by 19½ inches; spathe, 21 inches by 9 at the broadest part; spadix, about 3 inches shorter than the spathe.

The Forest Trees of Mysore and Coorg.—Mr. John Cameron, the Superintendent of the Mysore Government Botanical Gardens, has issued a third edition of his very useful list of the Forest Trees of Mysore. Under the head of each species information is given concerning the name, literature, history, description, utility, and mode of cultivation. Thus, we find a dozen pages assigned to the Casuarina equisetifolia, which though not a native tree, bids fair to surpass all others in Southern India. Near Bangalore, and on the Madras coast, the plantations of this tree have altered the landscape within the last few years, and have materially dried up the soil. The work is quite indispensable to forest officers in the district, and is printed at the Mysore Government Press, Bangalore.

Oil Engines.—A Cambridge correspondent tells us that one of the features of the Royal Agricultural Show in that town was the display of oil engines. The cost of working, it is alleged, was as 5*d.* compared to 1*s.* in coal for producing steam, other things being equal. The perfume, however, was not agreeable.

Warminster Rose Show.—The twenty-sixth annual exhibition of the Warminster Amateur Rose Club was held in conjunction with a two days' lawn tennis tournament by permission of Lady Pelly and Mr. J. Doel in a field adjoining St. John's Lodge, on Wednesday afternoon, June 27. The weather was fine, and the show was largely attended. Owing to the backwardness of the season, the show was the smallest yet held; the blooms, however, were remarkably good.

The New Horticultural Society.—There was a good attendance of members of the Brighton and Sussex New Horticultural and Mutual Improvement Society at the monthly meeting held at the Imperial Hotel, Queen's Road, on Thursday evening, June 28. Mr. Balchin presided. Mr. Spottiswoode read an instructive paper on Strawberry forcing. A discussion followed, and later in the evening Mr. Miller said a few words on the cultivation of outdoor Strawberries. Several of the members exhibited baskets of the fruit for competition for prizes given by the Society. Mr. G. Hard won the 1st prize with some splendid specimens of the James Veitch variety. The annual outing of the Society was fixed to take place at Kew on July 17.

Kew Gardeners, Past and Present.—Owing to an informality in regard to the arrangements for the cricket-match mentioned by us last week, we are now informed that it will not be held as announced.

"Flora of Edinburgh."—Mr. C. O. Sonntag has published a very handy *Pocket Flora of Edinburgh* and the surrounding district, embracing, roughly, the country on both banks of the Firth of Forth to the north, the Tweed to the south, on the east from North Berwick to Melrose, and on the west from Airth to Lanark or thereabouts, the area dealt with being 36 to 40 miles in diameter. Keys to the orders and genera are given, but not to the species. Seeing how variable species are, and how misleading to the inexperienced student such keys are, we think the author has exercised a wise discretion in omitting them. In fact, they should be used as hints and suggestions to the experienced, not as gospel by the uninitiated. We do not understand on what principle the author has printed all the specific names in capital letters, nor why varieties should not be distinguished from species—e.g., Quercus Robur and Q. sessiliflora, Salisbury, are treated in the same manner, although Salisbury's plant is stated to be a variety of Robur. The method of indicating synonyms is also peculiar, and the use of the words "class" and "sub-class" to distinguish sections of a genus, as in Carex, is very objectionable. Cultivated species, like the Laburnum, should have been printed in different type. The true value of such a book can only be tested by experience in the field, but we can say that the plan of the book is good and convenient, and that it is well printed, and compact. A few misprints have come under notice in turning the leaves, such as, p. 210, Diuruscula for duriuscula; p. 227, Masileaceæ for Marsileaceæ; but, on the whole, we may congratulate the Edinburgh botanists on the publication of so convenient an aid to their studies. Messrs. Williams & Norgate are the publishers.

Protection against Cold in Conifers.—In a recent number of the *Revue Horticole*, Dr. E. Bailly gives an interesting account, accompanied by illustrations, of the way in which the leaves of Pines and other Conifers are twisted or compacted together, so as to enable them to resist frost. In other cases, the leaves have a power of movement, so that they can spread out or close up against the branches, according to the atmospheric conditions. The way in which the buds are protected receives special attention at the hands of Dr. Bailly.

Field and Garden Crops.—Mr. Duthie, the Director of the Botanical Department of Northern India, has published the third part of his useful series of descriptions and illustrations of agricultural plants cultivated in Oudh and the North-West Provinces of India. The plants are arranged under the headings of food crops, including cereals, pulses, roots, leaves, Gourds, food adjuncts, medicinal plants, narcotics, oil plants, fibres, dyes, and fodders. Of each plant mentioned, a description is given, together with the technical and vernacular names, the method of cultivation, and the purpose for which grown. Professor Church's analyses of cereals and pulse are collected in tabular form. Numerous references to works of authority, and characteristic lithographic representations, combine to render the work a text-book on the subjects on which it treats.

The Carnation and Picotee Union.—Mr. Medhurst requests us to give publicity to the fact that the annual exhibition of the above will be held in Stanley Road, Oxford, on Tuesday, July 31; and that particulars as to membership, entries, and schedule of prizes can be obtained free on application to him at that address.

Torquay Rose Day.—We extract from the *Western Morning News* of June 28, that brilliant summer weather favoured the first of the Torquay Rose days, commencing on June 27, organised by Messrs. Curtis, Sandford & Co, on behalf of the Gardeners' Relief Fund, and their efforts were rewarded with great success. There was a magnificent display of plants and blooms from gardens in Torquay and neighbourhood, and crowds of visitors were present throughout the afternoon and evening. One of the features of the exhibition were the cut Roses staged by Curtis, Sandford & Co. At the luncheon, Mr. W. Ainslie, in giving the toast, "Prosperity to the Torquay District Gardeners' Relief Fund," said that it had done much good during its career. They were indebted to Messrs. Curtis & Sandford for originating the fund which had been carried on under the presidency of Dr. Ramsey, with the assistance of Captain Fane Tucker, and had afforded relief to many gardeners and the widows of gardeners. Mr. A. Chandler, in reply, said the net income last year was £90 17*s.* 4*d.*, including £28 as the result of last year's show. The committee had met once a month, and had made thirty-four grants to sick gardeners, and widows of gardeners, amounting to £55 10*s.* The balance now in the bank was £19 5*s.* 4*d.*, the smallest amount they had yet had there. During the seven years the Rose-days on behalf of the fund had been held, the committee had received from collecting-boxes at the Rose-shows and from special donations, the net sum of £313. The committee had made 190 grants, amounting to £293 17*s.* The fund was used for temporary assistance only, and every known case of sickness amongst gardeners in the district had received relief according to the needs of the case.

New Publications.—*Report on the Phenological Observations for* 1893, by Ed. Mawley.—*Les Orchidées Exotiques et leur Culture en Europe*, by Lucien Linden, with 141 woodcuts. A magnificent contri-

bution to the knowledge of Orchids, of which we shall have to speak at length on another occasion; as also of the new edition of B. S. Williams' *Orchid Manual*, whose value is attested by its now appearing in a seventh edition!—*The Silva of North America*, by C. S. Sargent, vol. vi. (Ebenaceæ to Polygonaceæ), is a monumental work, which will require further notice later on.

TOBACCO AND SUGAR IN HAVANA.

The cultivation of these plants, and the preparation of the products for market, seem to be carried on in a very enlightened manner, judging by a recent report to the Consul-general to the Foreign Office. Pinar del Rio, the western province of Cuba, is stated to be almost entirely devoted to the cultivation of Tobacco. The plantations are scattered about in all directions, generally a mile or two apart. They consist of a number of small fields, known as "Vegas," of about 10 acres each, selected wherever the land is richest; the rest of the land is entirely uncultivated. The Tobacco-seed is sown in nurseries, about 10 lb. being used per acre. In October and November the young plants, when about 3 inches high, are planted out in the Tobacco-fields, in furrows 2 feet apart. During the three months the plants take to reach their full size, the greatest care is taken of them. Each plant is constantly examined, the green Tobacco-caterpillars killed, and the furrows kept perfectly clean with the plough. When the plant has grown its big leaves, generally about ten in number, all the small leaves are picked off the stalk, and on reaching its full height, the head of the plant is also picked off; this allows the leaves to expand and spread out in the sun. The female [?] plant gives the best leaves for the outside wrappers of cigars, as the leaves are larger and stronger. The colour of the leaf is bright green until ready for picking, when it begins to turn yellow and spotty. They are then gathered by cutting the stalk in such a manner that two leaves remain on each piece of stalk. The leaves are then strung over thin poles in the drying-houses, one leaf each side of the pole, and left to dry for about five weeks. The drying-houses are large airy barns, thatched with Palm leaves, the inside being arranged with rows of poles one above another. On being taken down, the leaves are put together in bundles of about 100 leaves, which are made into bales of usually eighty bundles, and wrapped up in Palm leaves. The bales are then ready for sale, and are taken in this state to the storing rooms of the cigar manufactories in Havana, of which there are 119 of the first class. Many of the large manufactories employ upwards of 400 men. No women are employed in cigar-rolling, although a few wash and prepare the leaves. The wages are according to skill. A good roller of cigars can earn upwards of £1 per day.

Sugar.

Of Sugar plantations in Cuba there are 577, and a large number of them are splendidly fitted up, no expense being spared in the machinery employed, and the electric light is used in all parts of the premises, so that work can be carried on continuously by day and night. The machinery has reached such a state of perfection that labour is reduced to a minimum, the few men employed at the furnaces, cooling-tanks, and centrifugal machines being usually Chinese, who are better able to withstand the extreme heat, with, of course, skilled overseers to superintend the work. The cane, owing to the natural qualities of the soil, needs but little care, and the same plants can be cut down from five to seven years in succession without renewal. Nearly all the plantations have railways connecting them with one or other of the main lines running to the different ports.

The cane, having been roughly cut down in the fields by men and women with long knives, called machetes, is brought to the factory by railway or bullock-carts. It is then thrown on to a platform, which is moved by machinery, and carries it to the crushing rollers, usually three in succession, whence the juice drips down into troughs, and is carried off to the boilers. The spent or crushed cane, which under recent improvements in the machinery used now provides sufficient fuel for the whole operation of Sugar-making, is taken by another rolling platform to the furnaces. From the boilers the juice is run into tanks to cool off. It is then passed through the triple effect and centrifugal machines, and comes from the latter in its completed form of sugar ready for exportation, and is at once put into sacks, and sent down to the ports. The molasses is transferred in barrels to the wine and alcohol distilleries. Very little sugar is at present refined in Cuba. The proposed removal of the duty on refined Sugar in the United States would make an important change in this respect, and, consequently, much anxiety is felt on the subject. If the duty were taken off, it is probable that refineries would be put up in all parts of the island, although the doubtful duration of the reform might prevent many from going to so great an expense.

HOME CORRESPONDENCE.

THE MARTIN FLOWER-RACK.—We are indebted to Mr. James Martin, of Messrs. Sutton & Sons, Reading, for this ingenious and useful invention. It is made of some white metal, and consists of two flat racks formed into small squares fixed to uprights, and so capable, when filled with flowers, of being placed in a vessel of water of a size sufficiently large to take it. Most floral decorators, as well as others, have experienced the difficulty of arranging a few flowers with taste in a wide-mouthed vessel of water, but these racks afford means by which every flower can be placed in an erect position, and that position maintained. These racks are made of varying dimensions, from 1½ inches in diameter to 6 inches, the price, which in all cases is moderate, varying with the size. This useful invention can be obtained from any dealer in horticultural sundries. *R. D.* [Figured in our columns Sept. 30, 1893, p. 407. Ed.]

THE CRYSTAL PALACE ROYAL HORTICULTURAL SOCIETY'S FRUIT SHOW.—I am sorry to learn from the horticultural press that the date of what used to be decidedly the best fruit show of the season has been altered from the first Friday and Saturday in September to the last Saturday in that month, and extending over Sunday (the 30th), and the following Monday and Tuesday, October 1 and 2. What an oversight! In the first place, the date is too late, as Peaches, Nectarines, Apricots, Figs, and Plums generally, will, in all probability, be over at least a week before the dates fixed for the show at Sydenham; and, secondly, the show, in my opinion, should not be extended over Sunday, thereby putting exhibitors to additional and unnecessary expense in having to remain in or about London on the Sunday, and rendering the fruit (excepting Apples and Pears) staged for four days in a hot and more or less dusty hall partly unsaleable. Gardeners studying their own and employers' interests are not likely to be exhibitors of fruit at the Crystal Palace under the conditions indicated. I should like to know what advantages the committee of management of the Royal Horticultural Society expect to gain by holding the show at such a late date, and by choosing the days so that Sunday should intervene? If they wanted a "three-days' show," and wished to include Saturday, why not conclude the show on that day? beginning the show on Thursday, and extending it over the two following days. It is not yet too late for the Royal Horticultural Society to re-consider the question of date and days. It does seem strange that the Royal Horticultural Society, in its laudable effort to hold a fruit show which should be worthy of its name, should choose a date (September 29 and three following days, including a Sunday) at which Peaches, Nectarines, Apricots, Figs, and Plums

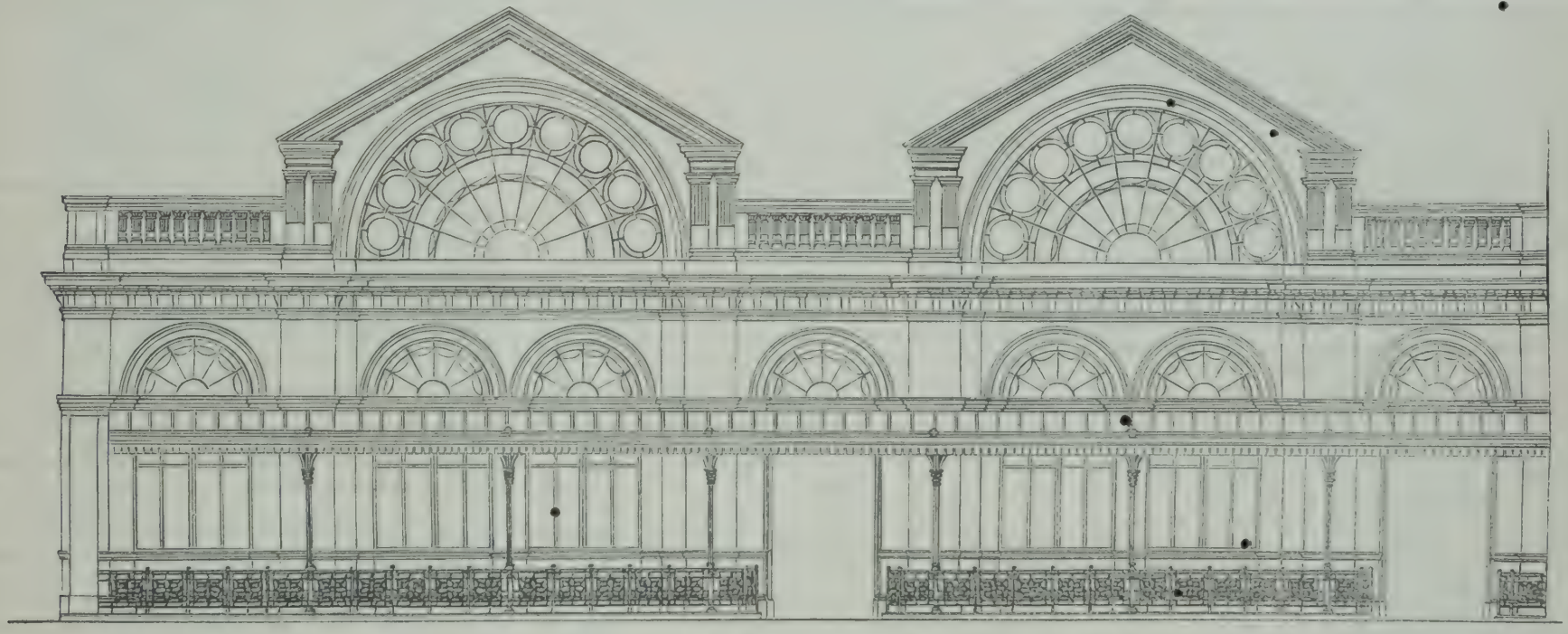


Fig. 3.—Flower Market, Covent Garden: elevation next Tavistock Street. (see p. 5.)

generally are likely to be conspicuous by their absence—simply a show of Grapes, Apples, and Pears (principally Apples and Pears), with perhaps a few Pine-apples and Melons added. In conclusion, I may add that I am a well-wisher and supporter of the Royal Horticultural Society, including the undertaking forming the subject for the above remarks, and which are penned with the best intentions by *F.R.H.S.*

—— Now that we know definitely the dates fixed for this important fruit show, it is rather unpleasant to find that the first day falls in the same week as that in which the one conference for the year at Chiswick is also fixed. The later fixture would therefore kill the former. Cannot the Chiswick gathering be held on September 11, letting the Floral Committee sit at the Palace on the 29th? or otherwise its members will have nothing to do. If, as should be, the fruit judges are selected from the Fruit Committee chiefly, that body will certainly find ample occupation. *D.*

THE POTATO DISEASE.—I have found in the Jersey Kidney Potatos, now sold in large quantities in the shops, that a large portion are diseased, probably 20 per cent. That the public have found it out is certain enough, and this fact should help our home growers to secure a good price and large demand so soon as they can put Hebrons, Puritans, Ashleafs, Early Regents, &c., into the market. At the first, the Jersey Kidneys were excellent, but this later development is doubtless due to the heavy rains which fell so abundantly but a short time since. That the disease is prevalent in the Channel Islands shows that we, too, here may suffer from it should the weather later take a cold wet turn. We may well hope the present magnificent weather will continue for some time, as under its influence Potatos are not only making rapid growth but the now heated soil is helping to swell the tubers. But for the May frosts we should now be finding early Potatos plentiful. Very few early breadths escaped, and were thus thrown back fully a month. There seems to be ample evidence that we shall have second early or midseason and late Potatos in great plenty, for the breadths now look in splendid form. But if the rains come again in July, then we must be prepared for the disease, and it will be somewhat to the discredit of gardeners, at least, if they do not now seek to combat the fungus with Bordeaux Mixture. Sprayers are not expensive, and sulphate of copper and lime cost mere songs. The time for application has to be governed by circumstances, but whether the weather keeps dry or turns wet, it is probable that a first dressing about the middle of July will be found of great good. *A. D.*

—— I am sorry to have to chronicle the first sign of the Potato disease, which I detected on June 23 in a plot of Myatt's Ashleaf growing on a south border. Since that date the malady has spread rapidly. On making inquiries in my neighbourhood I learn that the haulm is injured in a number of cottagers' gardens. In coming thus early in the season the prospects of a heavy crop of tubers is not a bright one, although a period of dry warm weather in place of the damp sultry weather which we have been having of late would afford a check to the spread of the disease to the late varieties. *R. Milner, Penrice Castle, Swansea.*

GROWTHS AND HEIGHTS OF SOME TREES.—Looking amongst some of our Cupressus Lawsoniana, I am struck with their extraordinary abundant fructification, that I thought well to gather and send you a few sprays [very remarkable]. In the parcel sent you will find about two sprays of each, cut from about a score of trees. C. Lawsoniana we have in great abundance, and these were planted more than thirty years ago on the top of a spoil-bank, which was in the first place planted with Rhododendrons, which did no good, so the C. Lawsoniana, which were about a foot high when planted amongst the Rhododendrons, were allowed to grow at will. They are now so handsomely developed in every way as to form a remarkable feature of this place. Their extraordinary growth has not been confined to the spoil-bank alone, but everywhere else in the neighbourhood, on the ordinary formation of soil, the growth of the tree has been remarkable. I can likewise speak favourably of some of our specimens of Sequoia gigantea (Wellingtonia); but so far as my experience of them goes, both here and elsewhere, where I have seen them, it is my opinion that their best days are gone by in this country. A far more satisfactory avenue could be formed of Abies Nordmanniana. A few of this species which are growing here, are splendid well-furnished specimens, straight of stem, and beautifully furnished with graceful branches all the way down to the ground. Abies Pinsapo does well here, and of these, an avenue exists of no mean length, besides numerous nicely-developed trees dotted about the pleasure-grounds. Abies cephalonica, although growing high enough, is not a success; the stem does not grow straight, for which the occasional nibbling of squirrels may have had something to do. Cedrus atlantica does well, and is a tree deserving of more general planting either as specimens or forming avenues, when there is sufficient space. It is second only to C. Libani, the grandest yet by far of all Conifers. It is unfortunate that many of the finest trees of the latter were spoiled when young, by allowing several leaders to go away, and which subsequently became rivals, and liable to be split off and the tree left little better than a wreck. Of the number of Lawsoniana seedlings at Coombe Abbey, no two are quite alike, and you will observe the same dissimilarity maintained throughout the seeding. We have no pinetum, but in the pleasure grounds of near upon 50 acres the trees have plenty of room in which to fully develop. I send herewith the height and girth of a few trees, planted about thirty and thirty-two years ago. The measurements are as under:—

Abies Nordmanniana, height, 39 ft. 6 in.; girth, 3 ft.
Thuiopsis borealis, height, 32 ft. 6 in.; girth, 3 ft.
Abies Pinsapo, height, 36 feet; girth, 3 ft. 6 in.
,, cephalonica (older tree), height, 54 ft. 6 in.; girth, 4 ft. 9in.
Pinus, height, 46 ft.; girth. 4 ft. 3 in.
Sequoia gigantea (Wellingtonia), planted by Lord Coventry, height, 44 ft. 11 in.; girth, 12 ft. 11 in.
Libocedrus decurrens, height, 35 ft. 6 in.; girth, 5 ft. 4 in.
Pseudotsuga Douglasii, height, 51 ft. 6 in.; girth, 5 ft.
Cupressus Lawsoniana, height, 42 ft. 6 in.; girth, 3 ft. 8 in.

The circumference in yards of the extended branches of a T. borealis is 17; A. Pinsapo, 32; C. Lawsoniana, 18. *W. Miller.*

ABNORMAL ROSES.—We send you a sample of our Roses to show how badly they are doing this season, and to ask if you or any of your numerous readers can suggest a cause and a remedy. You will note some of the buds are rotten at the top of the stem, and in many cases the stem also is dead. Some seem unable to open, being almost suitable for bullets, so hard are they; others have opened partially, or almost singly, like Dog-Roses. Roses on these trees were a picture last season. This spring (in April) they were well manured, and they are doing fairly well as regards growth of wood and foliage. The Teas are much better than the H. P.'s, but are affected in many instances. The soil is stiff and retentive, with a gravelly subsoil. Now, is this due to the late severe frost at the end of May, or to blight, or is it both? [both]. and would syringing help them? and if so, what liquid compound would be best to use. [Of no use now.] *D. & Co.*

RELATIVE VALUE OF GRAPES IN COMPETITION.—The comparative value of Grapes in the following list is computed on the general excellence of the varieties, all points or properties being considered. At the top of the list is Muscat of Alexandria. This Grape is unique in possessing all the qualities desired in the highest degree, and no one will grudge it the position of pre-eminence which it occupies here. For distinction and convenience it may be classed "A 1," and allowed the highest relative value—9·10ths of a point, three points being maximum allowance for cultural value. The remaining twenty-four varieties, which represent the best for exhibition, are divided into classes 1st, 2nd, and 3rd, to which is accorded relative value, ·8, ·7, and ·6, respectively:—

A 1 Class, Muscat of Alexandria, Value ·9.

1st Class Black Grapes.		*1st Class White Grapes.*	
Black Hamburgh Madresfield Court Mrs. Pince Muscat Hamburgh	·8	Canon Hall Muscat Duke of Buccleuch Golden Champion Mrs. Pearson	·8

2nd Class Black and White Grapes.

Alicante Gros Colmar Gros Guillaume Lady Downes' Seedling	·7	Buckland Sweetwater Foster's Seedling Golden Queen Tokay	·7

3rd Class Black and White Grapes.

Alnwick Seedling Black Prince Cooper's Black Gros Maroc	·6	Raisin de Calabre Syrian Trebbiano White Nice	·6

It will be noted that flavour is the predominating element of the varieties occupying the 1st class, which, with the exception of Black Hamburgh, Duke of Buccleuch, and Golden Champion, all partake more or less of the Muscat flavour. The three last-mentioned gain what they lack in this respect by their appearance and other excellent qualities. Madresfield Court, Mrs. Pince and Muscat Hamburgh, are all handsome Grapes of the highest excellence. Canon Hall Muscat is a Grape very little behind Muscat of Alexandria in quality or appearance; while Mrs. Pearson, a comparatively new Grape, has medium-sized berries, but of excellent colour and flavour. It is liable to rust, which spoils it; but when successfully treated and grown alongside Muscat of Alexandria, it forms a strong rival, remaining plump and fresh after that variety begins to shrivel. The black varieties in the 2nd class are handsome in appearance, take on a good colour and bloom; and the last three in this class, when grown and ripened in suitable temperature, are very little inferior to the Black Hamburgh in quality. The white varieties in this class are also pretty evenly balanced, Foster's Seedling being, if anything, the weakest variety among them. Some of the black varieties in the 3rd class might have, without much hesitation, been put in the 2nd class. It is not an easy matter with some of them to give the exact point where the higher value should end and the lower begin, but the line must be drawn somewhere. The white varieties, however, are all inferior to those named in the 2nd class. Trebbiano is the only one that may be considered a shade above those of the same colour placed along with it in the 3rd class. Referring to February 10, p. 177, showing the relative value of different kinds in a collection of fruit, it will be observed that a third-rate variety of Grapes is put on the same terms relatively as a good variety of Melon, or dish of Peaches—a station that I have no doubt will be generally appreciated. *W. W.*

MANURE FOR, AND ASH OF, CHRYSANTHEMUMS.—In the *Gard. Chron.* for June 23, p. 778, an article appeared giving the food requirements of the Chrysanthemum. To know what the ash of a plant contains is to give a basis to work upon in the selection and application of any artificial manure we may wish to apply. One item was lacking—that was, the quantity of ash from a given quantity of stem, leaves, &c.; for if we knew how much minerals was required to form an average-sized plant, we should know better what quantities to give to the plant. The artificial manure recommended by the writer of the above-mentioned article is not quite in accordance with the ash from the plant. Take, for instance, the potash and magnesia in the recommended artificial manure. We are told to apply one part of potash to two parts of magnesia; why should we give more magnesia than potash, when the analyses point to more than 6 per cent. more potash than magnesia, viz., potash, 16·23; magnesia, 10·22? The sulphate of iron seems quite out of place in a manure, for enough iron is present in all soils for the healthy development of plants. Again, the superphosphate contains more sulphuric acid than lime, and yet in the analysis the lime predominates 21·63 per cent. The phosphoric acid present in the phosphate of soda and superphosphate is also in excess, there being 6·4 parts of phosphoric acid to every one part of potash, or six times more phosphoric acid than potash, the analysis showing potash 16·23, and phosphoric acid 19·52. Perhaps the writer will tell us why, in applying this artificial manure, we give so much superphosphate and magnesia in proportion to the small quantity of potassic manure. *W. Dyke, Turnford, Herts.*

EARLY POTATOS.—Mr. Gilbert, writing in a recent issue of the *Gardeners' Chronicle*, seems, I think, to have made a mistake in the date of lifting early Potatos, and if he will kindly refer to the *Gardeners' Chronicle* of June 9, he will see the date mentioned is April 28, and not May 24, so that will bring Lincolnshire nearly one month behind Sussex. Of course, there is nothing new in planting Potatos at the foot of south walls but I thought the date of digging was, and that was the reason of my recording it. *A. Gooden, Shopwkye House.*

ROSA LAXA AS A STOCK.—Amongst the numerous consignments of trees and shrubs which for the last two or three years have been imported from Holland, and sold at one of the leading horticultural auction rooms in Birmingham, several scores of standard Roses have created some amount of speculation as to the identity of a certain Briar stock, possessing a very spindly and distorted habit of growth; the shoots, however, of the Roses with which they were budded appeared to thrive, as evidenced by their vigorous growth. The stocks do not commend themselves to the eye of the rosarian, so dissimilar in appearance are they to the ordinary

Briar as to impress one with the idea that they are not Briars at all, especially as all the spines had been carefully trimmed off. I understand its specific name is Rosa laxa, indicating a spreading habit, and, according to Sweet, it is a native of North America. It would be interesting to learn further information as to its attributes and cultivation in this country. *W. Gardiner, Birmingham.*

POSITION OF KITCHEN GARDENS.—In former years, before mechanical appliances were so numerous, one of the chief considerations when selecting a site for a kitchen garden was that of the supply of water, and for this reason the lowest-lying places were invariably chosen, so that there might not be any difficulty in getting a constant supply. Whether it was then understood that such places were more subject to cold currents, and therefore not so well suited for fruit and vegetable culture, it is difficult to know. One thing, however, is certain, there were not the same facilities for recording the differences in temperatures in various localities as there are at the present time. It would still be more interesting if those supplying this information would state the elevation the thermometer is above the sea level, and the chief features in the surrounding country. My immediate neighbourhood is hilly; our kitchen garden, however, is in a valley, with a stream running close to it, and though 15 miles from the sea, it is not more than 100 feet above its level. The cold current sweeps along the valley to such an extent that the soil becomes quite frozen, while half-a-mile away higher up the hill there is no frost at all. On April 16 the thermometer went down to 26° Fahr., and on the 17th to 22°; on each of these two days it rose to 50° in the shade. On the 18th it again fell to 22°, and on the 19th to 25°. The sun, however, was very bright on both of the latter days, so that it rose to 54° and 56° respectively, thus showing the great difference between the night and day. The rainfall, too, in the valleys is considerably less than on the hills, the average here for the last fifty years being 29·90 inches a year. No doubt the soil in these low places is much richer than in more elevated positions, plants grow much later in the autumn, and are therefore more tender and less able to resist frost. In choosing a site for a kitchen garden, these things ought to be taken into consideration, even though it be necessary to have it half-a-mile or more from the dwelling-house. Could those responsible for fixing the situation of a kitchen garden know the anxious hours a gardener is caused, owing to it being so unfavourably placed, doubtless more pains would be taken to select better sites. Those having to work such places are put to great disadvantage in many respects. They are unable to plant or sow very early in spring, and frost comes much sooner in the autumn, cutting things off, whilst their neighbours' are left untouched. We have often had Potatos and French Beans cut off here in June, although we are so far south, and invariably all tender plants are cut down by frost in the valley here quite a month sooner than they are a few miles off, where the elevation is something like 600 feet more. These matters should be taken into consideration by those who are thinking of planting fruit trees or making kitchen gardens, if they would avoid the worries attendant upon early and late frosts. *H. C. Prinsep.*

ROYAL INSTITUTION.

Mr. Ludwig Mond, F.R.S., is about to convey to the Managers of the Royal Institution of Great Britain the freehold of No. 20, Albemarle Street, to be held by them for the purpose of a laboratory to be named "The Davy-Faraday Research Laboratory of the Royal Institution," and for the purpose of providing increased accommodation for the Institution.

"I have felt," says Mr. Mond, "that the need for such a laboratory has become greater and greater since the work of the scientific investigator has become more and more subtle and exact, and, in consequence, requires instruments of precision, and a variety of facilities which a private laboratory can only very rarely command; and surely this need exists nowhere to a greater extent than in England, and nowhere can such a laboratory be expected to bear more abundant fruit than in this country, which possesses such an unrivalled record of great scientific researches, which have emanated from private laboratories not connected with teaching institutions, and amongst which the laboratory of the Royal Institution stands foremost, and has kept up its reputation for nearly a hundred years.

"It has been my desire for many years to found a public laboratory, which is to give to the devotees of pure science, anxious and willing to follow in the footsteps of the illustrious men who have built up the proud edifice of modern science, the facilities necessary for research in chemistry, and more particularly in that branch of the science called physical chemistry.

"As only want of space prevented the Royal Institution undertaking this task fifty years ago, I took the opportunity which offered itself last year of acquiring the premises, No. 20, Albemarle Street, adjoining the Institution. This property I found

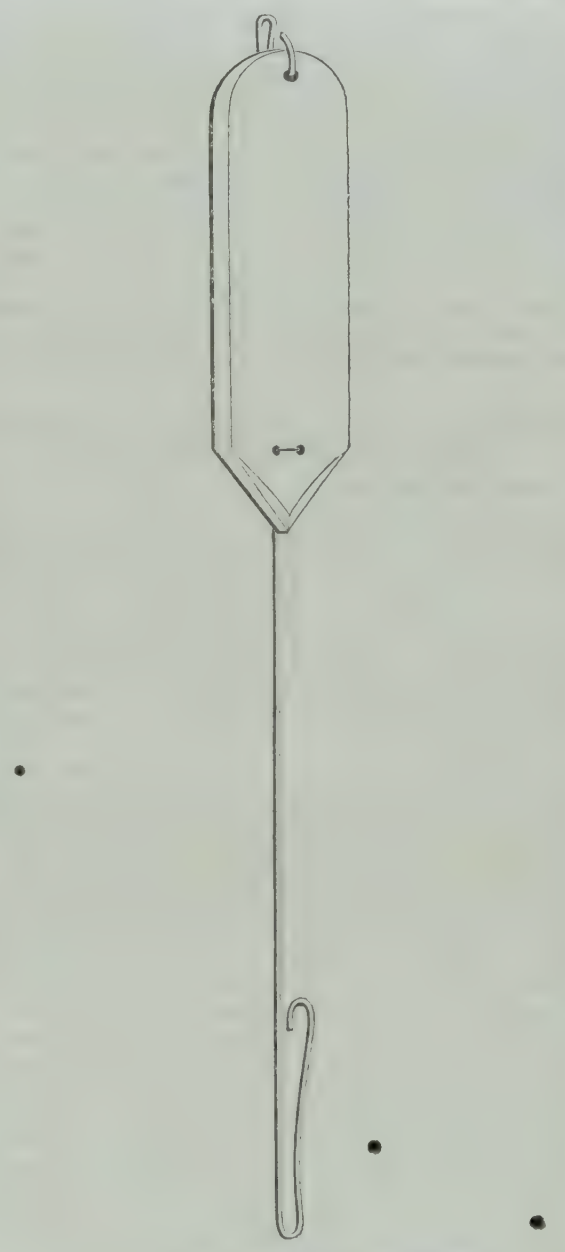


Fig. 4.—A NEW FORM OF GARDEN LABEL.

very suitable for the purposes of such a laboratory, and large enough to afford, besides, facilities to the Royal Institution for a much-needed enlargement of its present laboratory and its libraries and reception rooms, which I should with great pleasure put at the disposal of the Institution, to be held by them for the purpose of a laboratory, to be named 'The Davy-Faraday Research Laboratory of the Royal Institution,' and also for the purpose of providing increased accommodation for the general purposes of the Royal Institution, as far as the available space will allow, after providing for the requirements of the research laboratory.

"I also offer to make, at my own expense, all structural alterations necessary to fit the premises for these purposes, and to equip the Davy-Faraday Research Laboratory with the necessary apparatus, appliances, &c., and to make such further adequate provision as will hold the Royal Institution free from all expense in connection with the premises and the working of the said laboratory. . . .

"I am aware that my offer will not provide for the third object of the scheme of 1843, viz., to enable the professors to work out their problems by the aid of many qualified hands; but I trust that if the laboratory which I offer to found proves successful, others will come forward who will supply the means for attaining this end, by the foundation of scholarships and bursaries to qualified persons willing to devote themselves to scientific work, and not in a position to do so without assistance."

A NEW FORM OF GARDEN LABEL.

We do not suppose that any form of label for garden purposes is new, in the strict sense of the word; still, we accept the term in its usual application, notwithstanding an Egyptian, Chinese, or Jewish gardener may have anticipated the maker of the present label by several thousands of years.

Mr. James Ritchie, gardener, Devenlich, Strathtay, who kindly sent several specimens of labels suited for various purposes, states truly that it is cheap, simple, and durable, and one was not in the least the worse for wear after hanging for four years on an Apricot tree in the open air. Another had been for two years in use as an address label on boxes of flowers sent weekly to the town residence of the family. The illustration (fig. 4) is self-explanatory, and all that is required is strong galvanised iron wire, some red deal, white lead paint, and varnish, and any handy man can make the labels. The wire is bent at the end, so that the position of the label may not be altered by the action of the wind, as it always is where one straight iron support only is used.

CALIFORNIAN PLANTS.

Some Showy Species of Diplacus.—There are four species of this beautiful genus now (May 9) flowering in the Botanic Garden of the University of California: the commonest species—D. glutinosus—has not yet commenced to bloom, being, with us, always a later-flowering plant.

In the *Genera Plantarum*, Mr. Bentham's genera, Diplacus and Eunanus are reduced to the rank of sub-genera under Mimulus; Professor Greene, however, has since restored them (*vide Bull. Calif. Acad.*, i., 94 and 96) on the ground—in the case of the first-named genus—of the formation and peculiar dehiscence of the capsule, the uniform shrubbiness or suffrutescence of the species (which does not occur in Mimuli, as far as I am aware), the vernation, pubescence, and—last but not least—the almost indescribable but very marked "generic cut" of the corolla. It is unnecessary to repeat here Professor Greene's comprehensive defence for the retention of the genus; it may be found in full in the *Bulletin of the California Academy of Sciences*, vol. i., pp. 94 and 96; and in *Pittonia*, vol. ii., pp. 151—157; but as the species most commonly cultivated appears to fruit but rarely, if ever, in Europe, it may be of interest to note the peculiar dehiscence of the capsule; as Professor Greene remarks, the firm valves, parting at first only by the upper suture, lie open like a boat-shaped follicle, each bearing its own distinct placenta, and that with a broad, thin, spreading margin which almost conceals the seeds. This pod, at first boat-shaped by a partial dehiscence, is held in this shape by a tubercular enlargement of the base of the style. With us these boat-shaped capsules are persistent on the plant until the following flowering season commences.

D. glutinosus, Nutt.—This plant, so well-known in English greenhouses, and the commonest species, is abundant among the foothills around Berkeley. The last of those species under cultivation here, to commence flowering, it continues in bloom until December. I am unacquainted with the varieties stellatus and latifolius.

D. puniceus, Nutt., has the closest affinity with glutinosus, but differs from it in the smaller and blood-red corolla, with narrower lobes, and the narrower leaves with very revolute margins. The calyx-teeth are slenderly acuminate. At Berkeley it comes into flower in April. It is a native of San Diego Co., Southern California, where it is said to be very common. Seed of this and the next species has been sent to the Botanic Gardens at Kew and St. Petersburg, and it is hoped that an attempt will be made to grow them there.

D. parviflorus, Greene, *Pittonia*, i., 36 (1887), is related to the last, but is very distinct; the corolla-tube is much longer and less funnel-form—in fact, almost tubular—slightly constricted at the throat, with a bright yellow band 1 line wide running down its whole length outside; the lobes are scarcely at all spreading, and the mouth of the corolla only measures about half an inch across. In colour, the whole corolla is brighter than that of D. puniceus, the blood-red tint appearing to contain more orange. The leaves are much broader, and scarcely revolute. This species is endemic to Santa Cruz Island, off the coast of Southern California.

D. longiflorus, Nutt.—Perhaps the most handsome species of the genus, the bright but lighter-tinted buff corollas being more than twice the size of those of glutinosus. The corolla-lobes are about 9 lines long, and their apices somewhat deeply emarginate and erose, those of the upper being obliquely emarginate. The calyx and growing parts are more or less soft, and even cobwebby-tomentose. The whole length of the flower, including calyx-tube, is about 2½ inches, and the mouth measures 21 lines in length and breadth.

D. speciosus, Mihi (*vide* Erythea, June, 1894).—Suffrutescent, 2—2½ feet high; new shoots virgate, very erect from the now somewhat decumbent growth of last year; flowers primrose-scented; corolla, 1½ inch long, 1¼ inch broad, buff-yellow, with lines of clear white and of orange down the throat within; lobes sub-equal, regularly and almost rotate-spreading, sub-cuneate, quadrate; anthers, orange-coloured. In habit, foliage, pubescence, and size of corolla, this species is near to longiflorus, from which it is very distinct, however. The latter plant exhibits a tendency to greater elongation of its parts, especially the internodes, leaves, calyx-teeth, and corolla lobes, but the most striking and characteristic difference between the two, lies in the cut of the corolla. As regards general outline, the corolla of D. longiflorus is more clearly bi-labiate, though the slender side-lobes of the lower lip are widely divergent, and slightly curved outwards.

D. speciosus is a native of Humboldt co., in California, and the specimens from which the description in Erythea is drawn, have been flowering at Berkeley for two seasons.

All the above-mentioned species are hardy under cultivation with us, readily reproduce themselves from self-sown seed; but the red-flowered kinds appear to be rather short-lived. D. speciosus is the only scented plant of the genus with which I am acquainted. *J. Burtt Davy, University of California, Department of Botany, Berkeley, U.S.A.*

SOCIETIES.

CANTERBURY AND KENT ROSE.

JUNE 28.—This show being confined to the district, except in two classes for nurserymen and one open class, together with the clashing of several Rose shows of note, accounted for the somewhat empty appearance the tables presented. A wise arrangement is that of compelling the winner of the chief first prize in one of the lower sections, to compete a section higher in future seasons, and prevents that complete sweeping of the board too often seen at shows confined to a locality. Upon this occasion we noted that S. H. Dean, Esq. took all three 1sts in section B. All honour is due to this gentleman, but it is certainly more encouraging to the others that he is not eligible to compete for this cup the following year.

Amateurs: section A.—Eighteen singles, Cooper Wacher, Esq, 1st, with Maurice Bernardin, Marie Baumann, A. K. Williams, Dupuy Jamain, and Fisher Holmes as his best blooms. This prize is a cup, presented by the vice-president, and it was only just missed by Col. Pitt, 2nd, who ran his rival very close. For twelve singles, Col. Pitt was a good 1st, the Rev. H. B. Biron and Captain Christy following in the order of their names. Nine Tea or Noisette Roses produced some close competition, Mr. R. L. Knight, Mr. Cooper Wacher, and Col. Pitt winning in the order given. For six trebles, Col. Pitt, Rev. J. R. Buchanan, and Rev. H. B. Biron were successful.

Section B.—As already noted, Mr. S. H. Dean took 1st in all classes, that for twelve singles, being a cup by the Mayor of Canterbury; Mr. Honeyball and Mr. R. Smith were 2nd and 3rd. For 6 Tea or Noisette varieties, Mr. P. Selby and Miss Hawksworth were successful after Mr. Dean. Mr. R. Smith and Miss Hawksworth occupying similar positions for 4 trebles.

Section C.—9 singles, 1st, Canon Holland; 2nd, F. Knight, Esq.; this position being changed in the following class for 6 singles, Canon Holland also winning for 6 Teas or Noisettes.

Section D.—6 singles, 1st, Lieut.-Col. Poole; 2nd, Mrs. H. G. Deeds. 3 singles, J. McMaster, Esq, 1st; W. Saunders, 2nd. The same exhibitors won in the class for three Teas or Noisettes. J. Stonely, Esq., was 1st for six of any H.P., and Cooper Wacher, Esq., 1st for six Teas or Noisettes.

Mr. Mount did not find any rival in the classes for nurserymen, but Colonel Pitt made a fair fight in the open class for twelve Teas or Noisettes.

THE PEOPLE'S PALACE AND EAST LONDON HORTICULTURAL.

JUNE 28, 29, 30.—The first exhibition of this society was held at the People's Palace, Mile End Road, on the above dates, and a very good start indeed was made. The schedule of prizes contained just over forty classes, and though some of them brought no competitors, which was to be regretted, this being the first attempt, there was yet enough of exhibits to promise well for another year. It is satisfactory to know that the society is in a good financial position, and accessions are constantly being made to the list of members. All round the sides of the Great Hall and in the centre were contributions, not for competition, from various persons who are interested in the society's work. In the centre was a large and imposing collection of ornamental foliage and flowering plants from Her Majesty the Queen, lent by Mr. Thomas, from Frogmore; a large table of a similar character from his Grace the Duke of Fife, President of the Society; and a bold group of Palms, &c., from Mr. Holmes, Frampton Park Nurseries, Hackney. Other contributions of this character included an extremely attractive collection of plants and flowers from S. B. Boulton, Esq, Totteridge; Messrs. W. Cutbush & Sons, Highgate; Mr. H. J. Jones, Ryecroft Nursery, Lewisham; Mr. H. Selfe Leonard, Hitherbury, Guildford; Lord Rothschild, Gunnersbury Park, Acton; The Royal Botanic Society, Regent's Park; Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, &c.; and floral decorations from Mrs. Butchart, St. Swithen's Lane, E.C.; and three charming epergnes from Miss L. Hudson, The Gardens, Gunnersbury House, Acton.

Most of the subjects competing came from the Tower Hamlets, grown by working men; among them Fuchsias, decorative and zonal Pelargoniums, Cannas, Begonias, Lilies, Ferns, Aspidistras, &c. Two remarkable fan-shaped Fuchsias, *bonâ fide* window-grown plants, were shown by G. Haydon, Longfellow Road, Mile End, grown in the window of a room inhabited by him and his wife; and to one of these, in addition to the 1st prize awarded to it in its class, it received the Silver Banksian Medal of the Royal Horticultural Society. Cannas, some of the Ferns, a tuberous-rooted Begonia or two, a fine Plumbago capensis, Aspidistras, and a capital plant of La France Rose were particularly good.

Prizes were offered for the best-kept forecourt or back garden within the Tower Hamlets, which includes Shoreditch, Bethnal Green, Old Ford, Hackney, and Bow; and the judges visited these gardens on the day previous to the show, and they were surprised at the success which attended the efforts of some of the fourteen competitors. The best was that of H. Nicholls, 27, Lichfield Road, E., who is engaged in the City for ten hours a day. It was a delightful back garden, with a small greenhouse or two, admirably kept, Ferns and flowering plants alike in rude health. This garden afforded an admirable illustration of what enthusiasm and attention can develop in a somewhat crowded locality; probably a good deal of the success is due to the care bestowed on the garden by the competitor's wife during his absence in the city.

TUNBRIDGE WELLS HORTICULTURAL.

JULY 4.—The 36th annual exhibition of the above society was held in the Great Hall and Calverley Hotel Grounds. For some series of years the shows have been unfortunate as regards the weather, but this year there could be no complaint. Most of the classes were well contested, and the following is a list of the principal prize-winners. We cannot append a full report of the whole 86 classes, so many other meetings demanding attention.

Open to all England, four stove and greenhouse plants, Orchids excluded:—1st, Mr. T. Portnell, gr. to Sir A. Lamb, Bart., Battle; 2nd, Mr. J. Mason, gr. to H. J. Wood, Esq., Southborough.

For four ornamental foliage plants:—Mr. S. Pope, gr. to J. J. Barrow, Esq., was a splendid 1st (having grand plants of Cycas revoluta and Crotons; and Mr. T. Portnell, 2nd.

Four exotic Ferns saw Mr. Pope well in front again, and Mr. Portnell 2nd.

Groups of plants were numerous, and effectively arranged. These are a feature at this show, five prizes being offered for those occupying a space of 10 feet by 6 feet. The name of the three first are given in their order of merit:—Mr. J. Howes, gr. to Walter Cobb, Esq., Tunbridge Wells; Mr. J. Mason, gr. to H. J. Wood, Esq., Southborough; and Mr. L. Dupond, gr. to C. B. Powell, Esq., Langton. There were eight competitors.

Cut Flowers.—Twenty-four distinct species of herbaceous flowers.—1st, Mr. J. Charlton, with a splendid and varied collection; 2nd, Mr. H. Ware, gr. to Rev. J. Tillard.

Three stands for table decoration saw a spirited competition between Mr. A. Hatton, Sevenoaks, and Mr. Sidney Cook, gr. to B. Crawshay, Esq., of the same town; the result being in the above order.

1st and 2nd for a single stand went to Mrs. A. Hatton and Miss Eva Simpson respectively.

A collection of cut flowers (stove and greenhouse), eighteen varieties, were well shown by Mr. T. Portnell, who gained 1st honours.

Wreaths, wedding-bouquets, sprays, and buttonholes, are always numerous here, the chief winners being Mr. G. Newman, Mr. C. Earl, and Mr. John Charlton.

Six plants for table decoration: 1st, Mr. L. Dupond, gr. to C. B. Powell, Esq.; 2nd, Mr. F. Earley.

Six Caladiums: 1st, Mr. J. Allan, The Gardens, Ashurst Park; 2nd, Mr. H. Ware, Penshurst.

Six distinct Fuchsias: 1st, Mr. Wakeford, with beautifully-feathered specimens; Mr. G. Elmes being 2nd.

Pelargoniums were a great feature, Mr. H. Wickens, gr. to J. Wheelwright, Esq.; Mr. J. Allan, gr. to G. H. Field, Esq; and Mr. M. Wakeford being the most successful exhibitors.

Roses, Open Classes.—For forty-eight varieties, single blooms, Mr. G. Mount, nurseries, Canterbury, was 1st, his best blooms being Duchess of Bedford, Fisher Holmes, Duke of Connaught, General Jacqueminot, Eugène Forestier, and Mrs. J. Laing. Mr. Young was 2nd, and had good flowers of Fisher Holmes, Xavier Olibo, Duke of Teck, and La Rosière.

Twelve Teas or Noisettes: 1st, Mr. Mount; Mr T. Durrant Young, Eastbourne, 2nd.

Amateurs and Gentlemen's Gardeners.—For twenty-four single blooms, Mr. H. Foster, Ashford, was a good 1st, F. Freeman Thomas, Esq., being 2nd.

Six Teas and Noisettes: 1st, R. Buston, Esq.; 2nd, Rev. J. Tillard. In the above four classes the National Rose Society gave a Bronze Medal for the best bloom, which was won by a good example of Mrs. John Laing, in the stand from Mr. Mount.

Fruit.—For three bunches of Black Hamburgh Grapes, Mr. C. Earl, gr. to Sir J. Goldsmid, was 1st; and a very close 2nd in Mr. Thomas Palmer, Southborough.

Three bunches of any other variety (black) was secured by Mr. Earl, with Madresfield Court.

A similar number of white Grapes found Mr. Harvey, gr. to Mrs. Tennant, in front of Mr. Earl.

Collections of fruit were good, Mr. Earl being 1st for nine dishes.

Vegetables—For a brace of Cucumbers, Mr. G. Denton was 1st; 2nd Mr. H. Ware.

For a collection of vegetables, nine distinct kinds, Mr. A. Henderson was 1st, with a grand lot.

For the best box or basket from single-handed gardeners, six distinct kinds, the 1st prize went to Mr. T. Furze, gr. to the Rev. J. Mather, Rusthall. A special prize, presented by Messrs. Sutton & Sons, for the best collection of six kinds, was won by Mr. J. R. Booth, gr. to J. C. Drew, Esq. A similar prize for nine varieties, given by Mr. J. Charlton, seedsman, Tunbridge Wells, went to Mr. J. Friend, gr. to the Hon. P. C. Glyn, Godstone.

Plants from Local Growers.—This division contained some good specimens, the 1st and 2nd prizes going in the order given after each class.

Six stove and greenhouse plants in bloom: 1st, Mr. S. Pope; 2nd, Mr. J. Mason, gr. to H. J. Wood, Esq. Four ditto: 1st, Mr. S. Pope; 2nd, Mr. J. Mason.

Six ornamental foliage plants: 1st, Mr. S. Pope; 2nd, Mr. J. Mason. These two exhibitors had well-grown plants.

Roses.—Twelve varieties (single blooms): Mr. G. Elmes, gr. to C. R. Fletcher Lutwidge, Esq, and Mr. C. McCarter, gr. to Freeman Thomas, Esq., Eastbourne.

Six varieties: 1st, The Rev. J. Tillard, and J. C. Drew, Esq., 2nd.

Six of any one variety: R. Buston, Esq., Hurstleigh, 1st, with Marie Beaumann; Mr. Elmes being 2nd, with the same variety.

Nine singles for residents within the local act district of Tunbridge Wells: 1st, Roger Buston, Esq.; 2nd, Mr. G. Elmes, gr. to C. R. Fletcher Lutwidge, Esq.

The National Rose Society's Bronze Medal, for the best bloom in the above four classes, was not awarded, the judges failing to discover a flower worthy of this honour.

Cottagers' Division.—Collection of cut flowers, 1st, Mrs. Stevens.

Collection of Roses, 1st, Mr. J. King.

Box of fruit, six varieties, Mrs. Markwick, who was also 1st for a box or basket of four varieties.

Basket of vegetables, nine varieties: Mr. T. Morris, Groombridge, 1st; and Mr. J. Crowhurst 2nd.

Basket of vegetables, five varieties: 1st, Mr. H. Skinner, Groombridge; Mr. J. Crowhurst again being 2nd.

A large marquee was filled with cottagers' productions, and the vegetables were particularly good.

Non competitive.—The chief exhibits not for competition were a large collection of herbaceous flowers from Mr. J. Charlton, which was one of the finest we have seen this season, and occupied a space of over 30 feet; W. Cutbush & Son, Highgate, staged a bank of their Malmaison and other Carnations; Mr. C. Earl, gr. to Sir Julian Goldsmid, Bart., M.P., also had a collection of cut Malmaisons.

New Invention

A NEW PATENTED WATERING-MACHINE.

We were enabled a few days ago to inspect a very ingenious invention for watering lawns and low-growing crops, the outcome of Mr. A. J. Protheroe's endeavour to lessen the attention always required by lawn-sprinklers. The invention (patented May, 1893) has for its object to provide means whereby the sprinkler can be caused to move from place to place without an attendant. The sprinkler is mounted upon a carriage, upon which is also mounted a small turbine driven by a part of the water passing to the distributor. This water-motor is connected by gearing with the wheels or axles of the carriage in such a manner that the passage of water through the water-motor to the distributor causes the carriage to travel in a direction straight backwards, but the direction may be regulated by means of a steering-wheel fixed upon the carriage.

The water is distributed through nozzles fixed at about 2 feet apart, on ¾-inch iron tubing, and having slits for openings, so as to distribute the water in flat sheets. The iron tubing in front is connected with the turbine or power-box, by two short lengths of similar tubing, and can be made to cover a space of 40 feet in width. The actual length of the piece in use at the Temple Gardens, where the sprinkler was inspected, was about 20 feet. The apparatus travels backward on level land at an uniform rate of 6 inches per minute, thus allowing of sufficient time to thoroughly moisten the soil to some 2 inches or more in depth, according to its texture. The handles of the machine support a coil of 200 feet of ⅝-inch india-rubber tubing connected with a hydrant, having a pressure of 45 lb. to the square inch, but a somewhat greater pressure would be desirable, and ¾-inch tubing instead of the ⅝; then the quantity of water thrown would be greater, and the speed a little accelerated. The machine is of great use wherever a sufficient head of water can be obtained, and the land is fairly level; and as the water falls like a shower, there are no streaks left on the turf such as a machine would leave that did not deliver the water as a shower of small drops, a matter of considerable moment on cricket-pitches, where a lot of parallel lines would prove of great annoyance to the bowlers.

When the 200 feet of hose is paid out, the machine must be moved to another part of the lawn in need of water, and the hose coiled up again. It would be excellent for watering large seed-beds, such as those of summer-sown Turnips and Spinach, plants of Celery, Leeks, saladings, Cranberries, Strawberries after the fruit is gathered, lawn grass-seeds, &c. The inventor is a son of the well-known horticultural auctioneer.

Obituary.

Hugh Austin.—The death occurred on Saturday at Cathcart, N.B., of Mr. Hugh Austin, of the firm of Messrs. Austin & M'Aslan, a man who was in the very prime of life, and whose name, and that of his father, has been so long and so well known over the West of Scotland. The firm of which he was a member began business in 1717, and has continued a successful career to the present day. Since 1873 the deceased has had control of the nursery department. He was 45 years of age, and unmarried.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending June 30.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1894.	Accumulated. Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1894.	Rainfall. Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	123	0	+ 167	— 56	7 —	115	17·3	41	35
1	3 +	116	0	— 8	+ 8	6 —	115	17·8	41	36
2	1 +	111	0	+ 58	— 51	4 —	105	12·5	47	33
3	0 aver	120	0	+ 99	— 100	5 —	95	11·5	56	37
4	3 +	135	0	+ 110	— 79	5 —	99	11·6	53	34
5	2 +	139	0	+ 116	— 119	5 —	93	12·1	67	38
6	4 +	129	0	+ 52	— 69	7 —	117	27·0	44	33
7	3 +	132	0	+ 144	— 122	4 —	111	16·9	51	34
8	3 +	135	0	+ 137	— 81	6 —	107	17·9	60	39
9	4 +	129	0	+ 37	— 33	4 —	120	20·5	43	31
10	4 +	137	0	+ 122	— 67	6 —	114	20·7	43	34
*	2 +	132	0	+ 221	— 18	5 —	109	14·5	64	44

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending June 30, is furnished from the Meteorological Office:—

"The *weather* during this week was warm, dry, and very fine over almost the whole of the Kingdom; slight rain fell, however, at many of our western stations during the first day or two, and dense fog was experienced on our eastern coasts during the latter part of the period.

"The *temperature* was above the mean in all districts excepting 'England, E.,' the excess ranging from 6° in 'Scotland, N.,' to 2° in 'England, S. and the Channel Islands,' and to 1° in 'England, N.E.' The highest of the maxima were registered on the last day of the period, when the thermometer rose to 86° in the 'Midland Counties and Scotland, N.,' to 84° in 'England, S. and E.,' and to between 81° and 83° in most other districts. The lowest of the minima were recorded during the earlier days of the week, and ranged from 38° in 'Scotland, E.,' and 40° in 'Scotland, N.,' to 49° in 'England, N.W.,' and to 50° in the 'Channel Islands.'

"The *rainfall* was much below the mean. Over nearly all our southern and eastern districts there was an entire absence of rain throughout the period.

"The *bright sunshine* was much more prevalent than of late, and exceeded the mean in all districts. The percentage of the possible duration ranged from 41 in 'Scotland, N. and E.,' and 43 over 'Ireland,' to 60 in 'England, S.W.,' 64 in the 'Channel Islands,' and 67 in 'England, S.'"

Markets.

COVENT GARDEN, July 7.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl....	2 0	3 0	Orchids:—		
Bouvardias, per bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 0	3 0	Odontoglossum crispum, 12 blms.	2 0	4 0
— doz. bun. ...	2 0	4 0	Pelargoniums, scarlet, p. 12 bun.	3 0	6 0
Cornflowers, 12 bun.	1 0	2 0	— 12 sprays ...	0 4	0 8
Eucharis, per dozen	2 0	4 0	Pinks, doz. bun. ...	1 6	4 0
Gardenias, per dozen	1 0	3 0	Pyrethrums, 12 bun.	2 0	6 0
Gladiolus, doz bun.	3 0	6 0	Roses, Tea, per dozen	0 6	2 0
Iris, dozen blooms ...	0 6	1 0	— coloured, p. doz.	2 0	4 0
Lilium Harrisii, doz.	2 0	4 0	— yellow (Maréchals), per doz.	1 6	6 0
— candidum, 12 blooms ...	0 3	0 6	— red, per dozen ...	0 6	1 0
— candidum, 12 bunches ...	12 0	18 0	— Moss, French, doz. bun. ...	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0	— outdoor, doz. bun.	3 0	9 0
Marguerites, 12 bun.	1 6	3 0	Spiræas, 12 bunches	4 0	6 0
Mignonette, 12 bun.	3 0	6 0	Stephanotis, dozen sprays	1 6	2 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0	Sweet Sultan, 12 bu.	2 0	3 0
Pæonies, doz. bun....	6 0	9 0	Tuberoses, 12 blms.	0 4	0 6
Pansies, 12 bun. ...	1 0	2 0			

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ivy Geraniums, p. dz.	3 0	6 0
Aspidistra, per doz.	12 0	30 0	Lilium Harrisii, per dozen ...	12 0	24 0
— specimen, each	7 6	21 0	— lancifolium, pr. dozen ...	9 0	18 0
Calceolarias, per doz.	3 0	6 0	Lobelias, per dozen...	3 0	4 0
Crassulas, per dozen	9 0	24 0	— small, per doz.	1 0	2 0
Cyperus, per dozen...	4 0	10 0	Marguerites, p. doz.	6 0	12 0
Dracæna, each ...	1 0	5 0	Mignonette, per doz.	4 0	8 0
Ericas, various, p. dz.	9 0	24 0	Musk, per dozen ...	2 0	4 0
Evergreen Shrubs, in var., per dozen ...	6 0	24 0	Nasturtiums, p. doz.	2 0	6 0
Ferns, various, doz.	4 0	12 0	Palms, various, each	2 0	10 0
— small, per 100	4 0	8 0	— specimens, each	10 6	84 0
Ficus elastica, each	1 0	7 6	Pelargoniums, p. doz.	8 0	12 0
Foliage plants, doz.	9 0	24 0	— scarlets, p. doz.	3 0	6 0
Fuchsias, per dozen	4 0	6 0	— scarlets, small, per dozen ...	1 6	2 0
Heliotropes, per doz.	4 0	8 0	Spiræas, per dozen	6 0	12 0
Hydrangeas, per doz.	9 0	18 0			
— specimens, each	2 0	3 6			

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, French, lb. ...	0 6		Mushrooms, per lb.	0 9	1 0
Cauliflowers, p. doz.	1 0	2 0	Peas, per bushel ...	2 6	3 6
Cucumbers, per doz.	2 0	3 0	Tomatos, per lb. ...	0 5	0 6

New Potatos.

Jersey Kidneys, 10*s.* to 11*s.* English, new, in bushels, 6*s.* to 7*s.*

Old Potatos.

Old; slow trade, 60*s.* to 70*s.*

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cherries, half-sieve	4 0- 8 0	Grapes, Muscat, 2nd quality, per lb.	1 0- 1 6
Figs, per dozen ...	1 0- 2 0	Melons, each ...	1 6- 2 6
Grapes, 1st quality, black English, per lb.	2 6- 3 0	Peaches, large, p. doz.	6 0-10 0
,, Guernsey, per lb.	1 0- 1 3	,, small, per doz. ...	1 0- 2 0
,, English, 2nd quality, p. lb.	1 0- ...	Pine-apples, St. Michael, each ...	2 6 5 0
,, Muscat, per lb....	2 0- 3 0	Strawberries, outdoor, per doz. lbs...	9 0-12 0

SEEDS.

LONDON: *July* 4.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market was very thinly attended, with scarcely any business doing. No attention is yet given to either Clover seed or Trifolium. Neither Mustard or Rape seed show any alteration. As regards Canary seed, the market keeps very strong at the recent great advance in values. For Hemp seed prices are firm. Peas and Haricots continue steady. Other articles in the absence of transactions are without feature.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *July* 3.—Quotations:—Cabbages, 9*d.* to 2*s.* 6*d.* per tally; Turnips, 2*s.* 3*d.*; Parsley, 1*s.* 6*d.* to 2*s.* per dozen bunches; Onions, Egyptian, 5*s.* 6*d.* to 6*s.* per cwt.

STRATFORD: *July* 3.—The supply to this market during the past week has been a good one, and, with a large attendance of buyers a brisk trade was done at the undermentioned quotations:—Cabbages, 6*d.* to 3*s.* per tally; Cauliflowers, 2*s.* to 2*s.* 6*d.* per dozen; do., 8*s.* 6*d.* to 12*s.* per tally; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 1*s.* to 3*s.* per dozen bunches; Mangels, 18*s.* to 25*s.* per ton; Onions, Egyptian, 90*s.* to 110*s.* per ton; Green Peas, 2*s.* to 3*s.* per bushel; do., 4*s.* to 6*s.* 6*d.* per bag; Cucumbers, frame, 1*s.* 3*d.* to 3*s.* per dozen; Lettuces, 8*d.* to 1*s.* 3*d.* per score; Radishes, 9*d.* to 1*s.* per dozen bunches; Gooseberries, 2*s.* to 3*s.* per half-sieve; do., 3*s.* 6*d.* to 4*s.* per flat; Cherries, 3*s.* to 8*s.* per half-sieve; Black Currants, 4*s.* to 5*s.* 6*d.* do.

FARRINGDON: *July* 5.—Quotations: Cabbages, 2*s.* to 2*s.* 6*d.* per tally; Peas, 4*s.* to 5*s.* per sack; do., sieves, 2*s.* 3*d.* to 2*s.* 6*d.*; Onions, 1*s.* 6*d.* to 2*s.* per dozen bunches.

POTATOS.

BOROUGH AND SPITALFIELDS: *July* 3.—Quotations for old Potatos ranged from 55*s.* to 110*s.* per ton; new being quoted at 8*s.* 6*d.* to 11*s.* 6*d.* per cwt.

FARRINGDON: *July* 5.—New: Hebrons, 9*s.* to 10*s.*; Puritans, 9*s.* to 9*s.* 6*d.*; Early Monarch, 9*s.* to 9*s.* 6*d.*; White Hebrons, 9*s.* to 10*s.* per cwt. Old: Lincolns, 90*s.* to 100*s.* per ton; Rose, £9 10*s.* to £11 10*s.*; Midlands, £8 to £10 per ton.

LONDON AVERAGES: *July* 4.—Old: Bruces, 80*s.* to 110*s.*; other kinds, 50*s.* to 80*s.* per ton. New: English Hebrons, 8*s.* to 10*s.*; do. Kidneys, 10*s.* to 12*s.*; Jersey do., 9*s.* to 11*s.*; Lisbons, 5*s.* 6*d.* to 7*s.*; French, 6*s.* 6*d.* to 8*s.* per cwt.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

AMERICAN BLIGHT ON APPLES: *A. B. S.* Destroy by fire as much as you can, and use petroleum emulsion to the rest.

CRYSTAL PALACE ROSE SHOW: *C. M.* The date is July 7.

CUCUMBER: *J. B.* The bottom-heat may have declined unduly, or there may be eel-worms at the root. Please send specimens of the latter.

DENDROBIUM: *Sydney.* The Dendrobium sent is not to be accurately determined by the dried specimen supplied. It may be a small form of D. Fairfaxii, Rolfe. You did not state its native habitat. We should like to know that, and have a better specimen sent us.

GRAPES: *W. M., J. H. R., Chepstow, X., Sender of Black Alicante, Eastwood Park,* and *H. C. W.* The berries sent are badly affected with "spot," Gloeosporium laeticolor. There is no cure when the malady has reached the bad state observed in these berries. Cut off and immediately burn all the berries similarly affected. Another season, try to avert an attack by the early use of the Bordeaux Mixture.

GRAVEL FOR WALK MAKING: *C. B.* If the person, under this signature, who made enquiries about gravel will communicate with us, we will give him the names and addresses of some wholesale dealers.

HELLEBORE ROOT, DISEASED: *Reader.* The fungus is Sclerotinia Libertiana, Fckl., described and figured in the *Gardeners' Chronicle,* September, 1883 (as Peziza postuma), as attacking Potatos; it is also known to attack Ranunculaceæ and Crucifers. If any plants be yet living, they should be removed, and after steeping the roots in dilute Condy's Fluid for six hours, be planted in a fresh place. The soil in which they are at present growing is saturated with the spawn and sclerotia of the fungus. *G. Massee.*

INSECT: *Jas. Garaway.* Grubs of Daddy Long Legs or Crane-fly (Tipula oleracea).

INSECTS ON CURRANTS: *Urick.* The insect with the woolly covering on the Currant bushes is known as Pulvinaria ribesii. It belongs to the family of "scale" insects (Coccidæ), and is nearly related to the "woolly-bug." Any treatment applied to the latter in conservatories, or to the "American Blight" on Apples would be efficacious against the Currant-bush pest. Try petroleum emulsion. *R. McL.* The formula for making petroleum emulsion: Hard soap ½ lb., boiling water 1 gallon, petroleum, 2 gallons. Dissolve the soap in the water, add the petroleum, and churn with a pump or syringe for 10 minutes; dilute 10 to 15 times before applying. For all insects which suck, and those with soft bodies.

MARGUERITES: *C. M.* A leaf miner. Nip the grub, which is readily seen, between thumb and finger-nail. That will do where the damage done is not great; but where many burrowings are made the leaf is sure to die, and it is best therefore, to cut off and burn it. You might try Quassia-water as a deterrent to the fly that selects the Marguerite, Chrysanthemum, Celery, &c., on which to lay its eggs.

MILDEW ON VINES: *A. J.* At this part of the season Bordeaux Mixture may be used as a preventative against mildew, washing it off ten minutes after applying it. Do not use it when the berries are approaching ripeness. If you favour the old remedy, sulphur, dissolve a few ounces in skim milk, and when reduced to a smooth paste, dilute with water. It will do no harm if allowed to remain on the Vines. Wherever the mildew has established itself on the berries the skin is injured, and will not swell any more, hence disfigurement and decay. This holds good of the foliage as well, although the mildew may be killed by the means used in both cases. Where mildew cannot be prevented by proper attention to ventilation and temperature, the Bordeaux Mixture may be used from the time the Vines go out of bloom.

NAMES OF PLANTS: *W. J. B.* Saxifraga cotyledon var. pyramidalis; sometimes known in gardens as S. nepalensis.—*E. C. C. D.* Lycium barbarum.—*C. A H.* The so-called Crown or Mummy Pea, a fasciated variety that comes true from seed; needless to say, it has no connection with mummies.—*A M.* Eccremocarpus scaber.—*R. R.* 1, Galega officinalis alba; 2, Hieracium aurantiacum; 3, Asperula odorata; 4, Allium Moly; 5, Veronica gentianoides; 6, Othonopsis cheirifolia.—*H. G.* Vanda brunnea, Rchb. f.—*W. H. D.* 1, Geranium ibericum; 2, Phyteuma orbiculare; 3, Send again when in fruit; 4, Sisyrinchium angustifolium; 5 Eriogonum umbellatum; 6, Potentilla fruticosa. *Truro.* 1, Escallonia leucantha; 2, Cistus albidus; 3, Cotoneaster bacillaris; 4, Spiræa canescens.—*Max Leichtlin.* Cyanella rosea, Ecklon.—*D. W.* 2, Ranunculus, double variety of R. acris, probably; 3, Senecio Doronicum.—*G. H. S.* 1, Agrostemma Githago; 2, Cytisus capitatus; 3, Lysimachia ephemerum; 4, Hemerocallis flava; 5, Baptisia exaltata; 6, Next week; 7, Calystegia pubescens var.; 8, Rosa multiflora.—*C. H. J.* 1, Campanula persicifolia var.; 2, Prunella sp.; 3, Œnothera fruticosa; 4, Erigeron philadelphicus; 5, Lychnis Haageana; 6, Philadelphus coronarius.—*R. McF.* Clethra arborea.—*Chepstow.* Piptanthus nepalensis. *Richard Grupp.* Gongora galeata.—*H. J. R.* A small form of Cattleya Leopoldii.—*C. J. G.* 1, Galium palustre; 2 Crepis biennis; 3, Senecio erucifolius; 4, Hypericum perforatum; 5, Nasturtium palustre; 6, Nasturtium amphibium; 7, Sonchus arvensis; 8, Scutellaria galericulata; 9, Rumex (specimen insufficient).—*Constant Reader.* The Publisher has nothing to do with such matters. Another time, do not send more than six specimens. Time is precious. 1, Veronica spicata; 2, Lychnis chalcedonica; 3, Gnaphalium margaritaceum; 4, Linaria cymbalaria; 5, Arum Dracunculus; 6, Cerastium sp.; 7, Hypericum humifusum; 8, Anthericum lineare variegatum; 9, Centaurea montana.

NOTICE TO QUIT SERVICE: *X. Y. Z.* and *W. T.* In the absence of any written engagement to the contrary, the gardener is assumed by law to be a yearly servant, and entitled to one quarter's notice, and in your case to an equivalent in money for that period, and for loss of lodgings, vegetables, fuel, &c. It is customary in small places to reduce the notice required from either party to one month. Your remedy is in the County Court.

PEACH: *X.* We cannot undertake to name a Peach without some knowledge of the kind of flower and leaf, and you afford no particulars.

PEACHES: *G. S. T.* Nothing can be detected now on the roots; but the nodules on them are such as might be set up by the irritation caused by the puncture of a mite. *R. McL.* We have but little belief in the concreting of Peach borders, as the concrete hinders capillary attraction of the moisture upwards from below, and the due aëration of the soil, and should the concrete floor have a sharp descent to the front, or layer of drainage materials placed on it there is risk of the soil becoming dangerously dry, unless very thoroughly watered at intervals; and this risk is greater under glass than out of doors, although there are many failures of the latter chronicled. Examine the state of the soil, and cut off and burn all blistered leaves.

PELARGONIUMS: *W. F.* We cannot undertake to name florist's varieties of the Pelargonium. Send blooms to some large grower of these plants.

PERENNIALS FOR FLOWERING IN JUNE: *G. S.* Potentillas in variety, Heuchera sanguinea, Delphiniums, Alstrœmeria aurantiaca, Tropæolum polyphyllum, Gaillardia in variety, Pyrethrum roseum in variety, Carnations, Picotees, mule and other Pinks, Doronicum austriacum, Iris germanica, I. pallida, I. sibirica, I. iberica, I. reticulata, I. cristata, I. xiphioides, and many others; Gladiolus byzantinus, G. cardinalis, G. insignis, G. segetum, Anthericum Liliago, Asphodelus creticus, A. luteus, Chrysobactron Hookeri, Hemerocallis flava, H. fulva, and others; Lilium bulbiferum, L. candidum, L. pomponium, L. pyrenaicum, Muscari comosum, M. moschatum, Ornithogalum narbonnense, O. umbellatum, Scilla peruviana, S. nutans, Astrantia major, A. Biebersteinii, Doronicum plantagineum, Centaurea caucasica; many of the Saxifrages bloom in June, and for their names we must refer you to some nurseryman's catalogue; Geum montanum, Orobus cyaneus, Geranium argenteum, G. pratense, G. sanguineum, Hypericum Androsæmum, and others; Lychnis chalcedonica, L. coronaria, &c.; Gypsophila paniculata, many species and varieties of Viola; Thalictrum aquilegifolium, T. flavum, Ranunculus aconitifolius flore-pleno (Fair Maids of France). The above will furnish capital subjects for the herbaceous border, affording variety in colour of flower, habit, and stature.

ROSE INSECT: *W. Stuart.* Larvæ of the Rose-sawfly, and can only be exterminated by persistent hand-picking.

TOMATO SENT WITH A BLACK ALICANTE GRAPE: *X.* Peronospora infestans, described by Mr. C. D. Plowright in vol. xiv., 1881, p. 621. Use Bordeaux Mixture.

TREE OF LIFE: *Botany.* This mythical tree in ancient times had many types, such as the Date Palm, the Fig, and the Pine or Cedar. The idea that mankind sprang from a tree was prevalent among primitive peoples, and is so at the present day among the Damara, and some of the natives of the Philippine Islands. You will not find the Tree of Life given in any nurseryman's catalogue.

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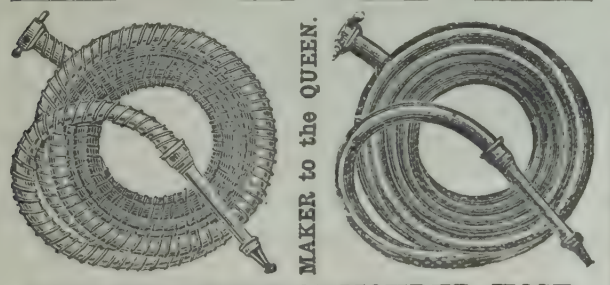
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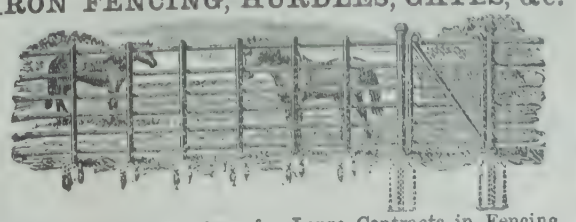
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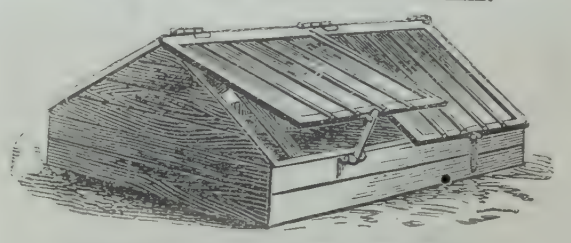
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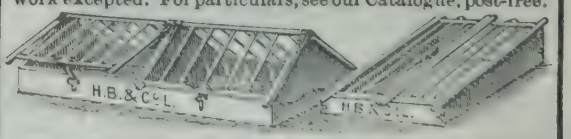
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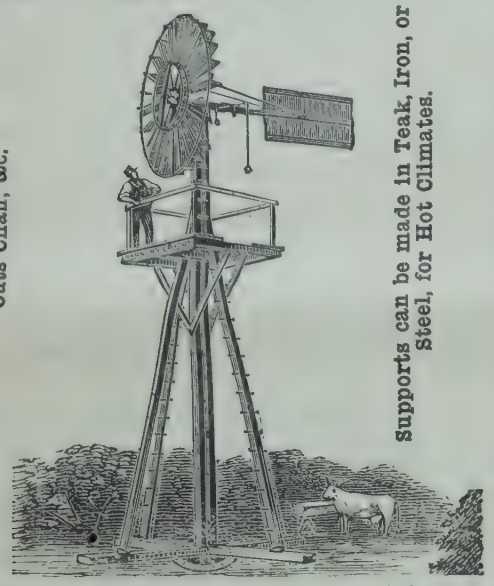
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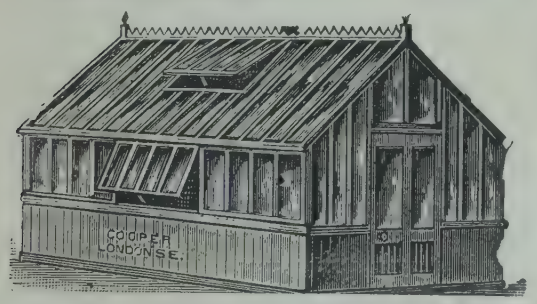
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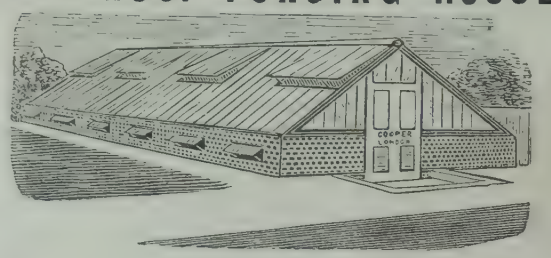


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9 to 11,	,,	12 ft. by 8 ft.	6 0 0	4 10 0
12 to 15,	,,	15 ft. by 10 ft.	8 10 0	6 10 0
16,	,,	20 ft. by 10 ft.	12 0 0	9 0 0
17,	,,	25 ft. by 10 ft.	17 0 0	12 0 0

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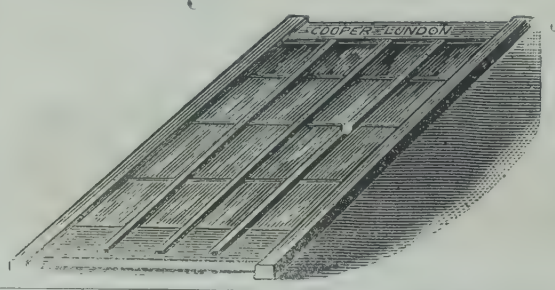


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18 to 20 ...	20 ft. by 9 ft.	8 0 0	6 0 0
21 to 23 ...	30 ft. by 12 ft.	14 0 0	11 0 0
24 ...	40 ft. by 12 ft.	19 0 0	16 0 0
25 ...	60 ft. by 14 ft.	32 0 0	25 0 0
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27 ...	10 houses, 150 ft. long by 12 ft. wide, similar to above, everything complete, ready for fixing, gutters, &c. Usual price, £65 each; Sale price, £55, or £450 the lot.		

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87...	27,140 ft. 2½-in. ,, ... ,, ,,	5 0	3 6
88...	42,810 ft. 2-in. ,, ... ,, ,,	3 9	3 0
89...	34,000 ft. run, 6 in. Feather Edge Boards ...	4 0	3 0

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MADE OF BEST YELLOW DEAL.

LOT	Size when open.	Usual price. s. d.	Sale price. s. d.
90 to 175 ...	12 ft. by 1½ ft. ...	per piece 2 8	2 0
176 to 232 ...	12 ft. by 2 ft. ...	,, 4 0	3 0
233 to 335 ...	12 ft. by 2½ ft. ...	,, 4 6	3 6
336 to 397 ...	12 ft. by 3 ft. ...	,, 5 6	4 0
397 to 455 ...	12 ft. by 3½ ft. ...	,, 6 0	4 6
456 to 512 ...	12 ft. by 4 ft. ...	,, 7 6	5 6
526 to 575 ...	12 ft. by 5 ft. ...	,, 8 9	6 3
576 to 675 ...	12 ft. by 6 ft. ...	,, 10 6	7 6

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BEST QUALITY, PERFECT SLABS, 27-in. WIDE.

LOT		Usual price. s. d.	Sale price. s. d.
676 to 970 ...	3 ft. long	1 1	0 10
	4 ft. ,, ...	1 5	1 1
	5 ft. ,, ...	1 8	1 5
	6 ft. ,, ...	1 11	1 8
	7 ft. ,, ...	2 2	1 11
	8 ft. ,, ...	2 6	2 2
	9 ft. ,, ...	2 11	2 6

LOT		Usual price. s. d.	Sale price. s. d.
676 to 970 ...	10 ft. long	3 6	2 11
971 to 1150 ...	5 ft. ,, ...	2 1	1 9
	6 ft. ,, ...	2 5	2 1
33-in. wide,	7 ft. ,, ...	2 8	2 5
	9 ft. ,, ...	3 8	3 1
	10 ft. ,, ...	4 5	3 8

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The result of many years' experience. Largely used both at Home and Abroad.

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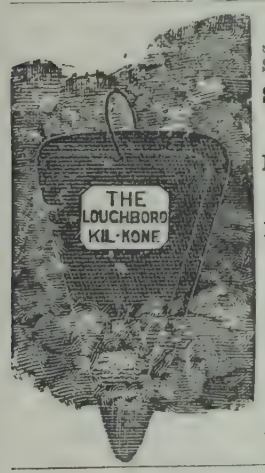
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Mr. S. PATERSON, for some time Gardener to H. M. POLLETT, Esq., of Fernside, Bickley, as Head Gardener to S. G. LUTWICHE, Esq., of Eden Park, Beckenham.
Mr. R. HOPE, Fruit Foreman, in Weston Park Gardens, as Gardener to Viscount Valentia, Bletchington Park, Oxford.

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10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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WANTED, as GROOM-GARDENER.—Married man, without incumbrances. Must be competent with Vines, Cucumbers, and Kitchen Garden.—Apply, by letter, to A. A., Mr. Richards, 36, Lower Addiscombe Road, Croydon.

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WANTED AT ONCE, two or three young MEN, for Layering Carnations. Must be practical hands.—F. GIFFORD, Montague Nurseries, Tottenham, N.

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The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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GARDENER (Head), Scotch, wishes situation in Eng'and where three or four are kept. Eleven years with late employer. Can be well recommended. Disengaged September 1.—W. GREEN, Mount Melville, St. Andrews, Fife.

GARDENER (Head); age 28, married.—The Right Hon. Earl Buchan will be pleased to recommend his late Gardener. Thoroughly competent in all branches.—H., Waldron House, Garratt Lane, Tooting, S.W.

GARDENER (Head).—Age 31, married. Good practical experience in all branches; Land and Stock if required. Good characters. Disengaged when suited.—J. KEMP, Shalimar, Ewell, Surrey.

GARDENER (Head), in a Gentleman's Garden; or FOREMAN in a Nursery.—Thorough practical man. Well up to his work in every branch Highest references.—A. CARPENTER, Middlebridge Street, Romsey.

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GARDENER (Head); age 43, married, two sons, ages 11 and 9.—A Gentleman would be pleased to highly recommend the above, who has been nearly seven years in his service; energetic and a good Manager. Could also be highly recommended by Mr. George Paul, The Old Nurseries, Cheshunt.—W. M., 2, Osborn Cottages, Turner's Hill, Cheshunt, Herts.

GARDENER (Head), or FOREMAN, in a good establishment.—Age 29; excellent testimonials. Twelve years' experience in all branches of the profession. Well recommended from present and previous situations.—T. WATMORE, Maran Park Gardens, Caterham Valley, Surrey.

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GARDENER (HEAD WORKING).—Age 33, unmarried.—Mr. NIGHTINGALE. Gardener to W. F. Faviell, Esq., Sandhurst, Tunbridge Wells, can highly recommend a man as above.

GARDENER (HEAD WORKING). — Scotch, age 42; married; no family; thorough life experience, first-class testimonials. J. LAWIE, gardener to Sir Massey Lopes, Bart., is open to re-engage with anyone in want of a trustworthy all-round Gardener.—The Gardens, Maristow, Roborough, Devon.

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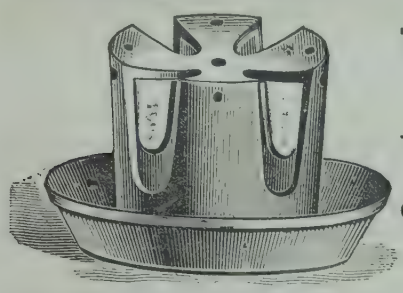
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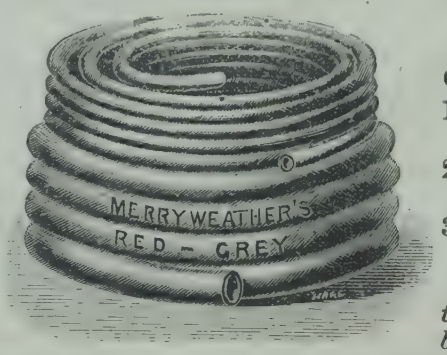
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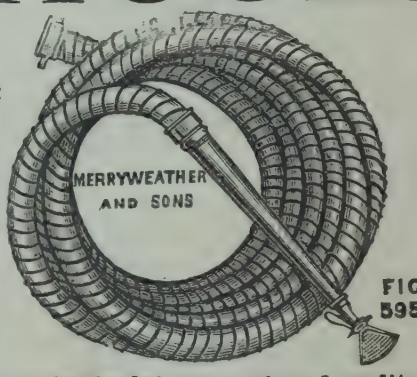


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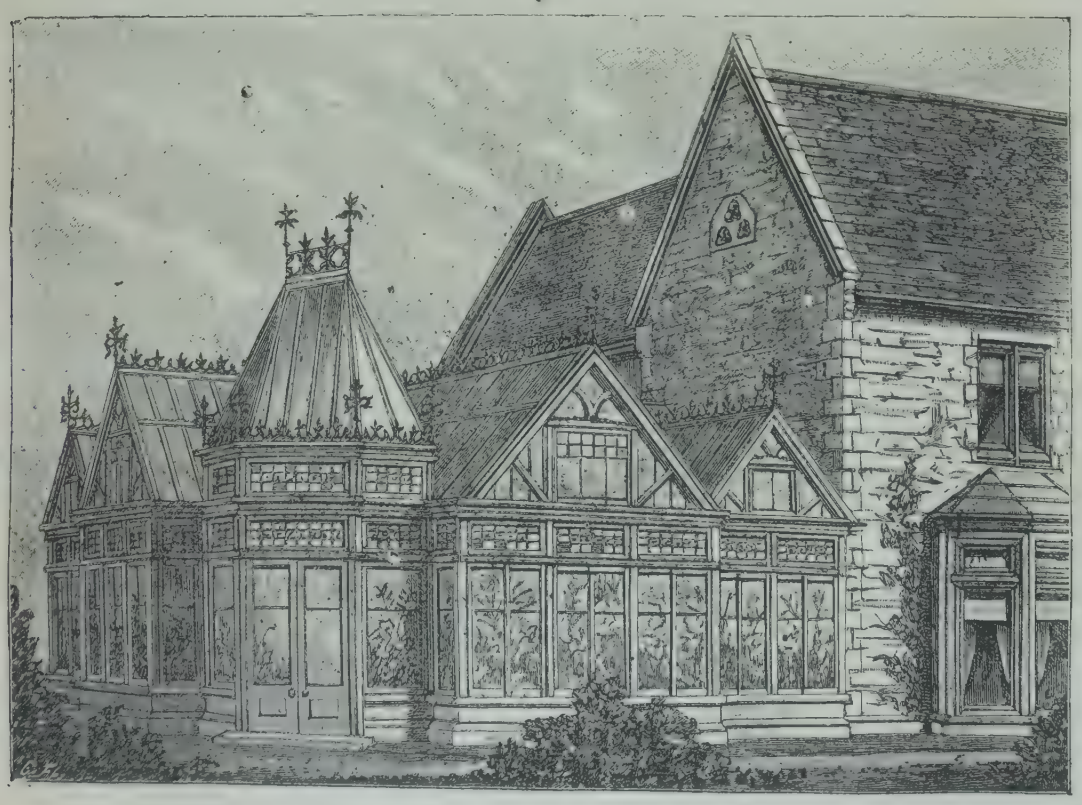
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Noble, Thury, Paxton, President, and others at 6s. 9d per 100, carriage paid. Sample dozen, 1s. List free.
W. LOVEL AND SON, Strawberry Nurseries, Driffield.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

VEGETABLE SEEDS FOR PRESENT SOWING.—Dicksons' First and Best Cabbage, Dicksons' Perfection Cabbage, 6d. per packet, 1s. 6d. per ounce; Tripoli Onions, Lettuces, &c.
DICKSONS, Seed Growers and Nurserymen, CHESTER.

FERNS and DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; Stores, 6s. per 100; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 24s. per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, Pelargoniums, Hydrangeas, 1s. each. Spiræas and Heliotrope, 9d. each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

CROSS'S GARDEN FERTILISER.—For Vines, Pot Plants, Fruit Trees, Vegetables.
MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.
ALEXANDER CROSS AND SONS, 79, Mark Lane, London.

PROTECT YOUR GARDENS FROM RAVAGES OF BIRDS.—Tanned Netting, 35 square yards for 1s. Will not rot if left out in all weathers. Sent any width; carriage paid on all orders over 5s. As supplied to the Royal Gardens. Sent on approval.
HY. JOHN GASSON, Fish Merchant, Rye, Sussex.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

By Special Appointment
TO H.R.H. THE PRINCE OF WALES.

MACKENZIE AND MONCUR, HOTHOUSE BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.
LONDON OFFICE:—50, CAMDEN ROAD, N.W.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

SALES BY AUCTION.

TUESDAY and WEDNESDAY NEXT.

THE CHOICE COLLECTION OF ESTABLISHED ORCHIDS,

formed by the late T. R. Watt, Esq., of Chislehurst.

By order of the Executors. Without the slightest reserve.

The Collection is rich in CYPRIPEDIUMS, and amongst the principal plants the following may be specially mentioned:—

Aërides Sanderiana
Anthurium Scherzerianum
Parisiense (rare)
Cattleya gigas in variety
,, Percivalliana
,, Mossiæ varieties
,, Gaskelliana
,, Schroderæ
,, Labiata elegans (rare)
,, Wagnerii
Cypripedium vexillarium
,, Bartetii
,, Youngianum (Cookson's variety)
,, microchilum
3 ,, grande
,, Argus Mœnsii
2 ,, Morganiæ, seven and nine growths
2 ,, Sallieri Hyeanum
,, Schroderæ
,, Niobe
2 ,, Arthurianum
,, seedlings
,, calanthum
,, macropterum
,, Leeanum superbum
,, caudatum Wallisii
,, orphanum
,, Brownii
,, Masereelianum
Cœlogyne cristata alba
Disa grandiflora
Cephalotus follicularis
Dendrobium Cassiope
,, nobile nobilius
Dendrobium Cooksonii
,, ,, Sanderianum
,, ,, grandiflorum
10 ,, Leechianum
,, rhodostonia
Eulophiella Elisabethæ
Lælia anceps Sanderiana
,, Stella
,, grandis tenebrosa
2 Lycaste Skinneri alba
Masdevallia Veitchii grandiflora
Miltonia Cobbianum
500 Odontoglossum Alexandræ, various sizes
2 ,, nullus
,, Wattianum
,, Ruckerianum
,, Wilckeanum
,, Andersonianum
2 ,, Uro-Skinneri
,, Bictonense album
,, excellens
2 ,, Pollettianum
Peristeria elata
Phalænopsis Schilleriana
,, grandiflora
,, amabilis
,, Luddemanniana
,, Lowii
,, Stuartiana
,, Sanderiana alba
Sobralia xantholeuca
Vanda cœrulea
2 ,, Sanderiana

MESSRS. PROTHEROE AND MORRIS will SELL the above COLLECTION by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY and WEDNESDAY NEXT, July 17 and 18, at half-past 12 o'Clock each day.

On view mornings of Sale, and Catalogues had.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on TUESDAY NEXT, 5 Cases of CATTLEYA TRIANÆI, just received from the best district, in fine condition.

Friday Next.—Cattleya Trianæi.

An importation received direct in magnificent condition of 30 CASES OF CATTLEYA TRIANÆI, comprising 1700 plants all well leaved, to be sold absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 20, at Half-past Twelve o'Clock.

Peckham Rye, S.E.

Close to the Honor Oak Station on the L.C.D. Railway.

IMPORTANT UNRESERVED SALE of choice ESTABLISHED ORCHIDS, PALMS, CROTONS, and other beautifully-grown DECORATIVE PLANTS, by order of Messrs. E. D. Shuttleworth & Co., who are relinquishing the cultivation of Orchids.

TO BE SOLD by AUCTION, on the Premises, The Albert Nurseries, Peckham Rye, on THURSDAY, July 26, at 11 for 12 o'Clock precisely, by order of Messrs. E. D. Shuttleworth & Co., the whole of the choice collection of 200 ESTABLISHED ORCHIDS,

well grown, and consisting principally of 1000 Odontoglossum crispum, Cattleyas, Oncidiums, Cypripediums, Cœlogynes, Lælias, Dendrobiums, &c.

Also a fine assortment of DECORATIVE PLANTS, comprising 150 Cycas revoluta, 1000 Palms, consisting of 50 Specimen Kentias, in three varieties; Latania borbonica, Phœnix Rupicola, Cocos Weddelliana, and others; Asparagus in three varieties; Araucaria excelsa and A. glauca, Adiantum Farleyense, A. cuneatum, Gymnogramma Wettenhallianum, Dracænas and Crotons in great variety, Caladiums, &c.; Azalea indica, large plants; and other Greenhouse Plants.

May be viewed two days prior and morning of Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tuesday, July 24.

THE COVENTRY HALL COLLECTION of ORCHIDS, and Others,

For SALE, without the least reserve, in consequence of the owner having sold his estate, and removing from the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, July 24, at half-past 12 o'Clock. Among this Collection and others for Sale will be found some wonderfully well-grown specimens, and extra grand varieties of CATTLEYAS, such as—

Cattleya Mendeli, many with flower-sheaths
,, Gaskelliana, in bud or flower
,, labiata autumnalis, all with flower-sheaths
,, Schofieldiana
,, intermedia alba
,, Schroderæ [men
,, Bowringiana, fine speci-
,, Gaskelliana speciosa (Award of Merit, R.H.S.)
Lælia purpurata alba
Vanda Stangeana, finest specimen in existence
Cypripedium seedlings, hundreds in one pot.
Vanda tricolor and suavis, grand specimens and varieties
Sobralia xantholeuca alba
Trichopilia tortilis alba
And many others of value.

On view morning of Sale, and Catalogues had.

Wednesday Next.

Enormous consignment of PALM SEEDS, received direct, for unreserved Sale, and in grand condition, comprising—

30,000 KENTIA BELMOREANA.
40,000 ,, FOSTERIANA.
3,000 ,, CANTERBURYANA.
7,000 ARECA LUTESCENS.
2,000 ,, RUBRA.
12,000 COCOS WEDDELIANA.
2,000 ,, INSIGNIS.
6,500 CARYOTA URENS.
2,700 ,, SOBOLIFERA.
30,000 GEONOMA GRACILIS.
14,000 ,, SCHOTTIANA.
1,400 URANIA MADAGASCARIENSIS.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on WEDNESDAY NEXT, July 18. The Seeds will be on view morning of Sale, and will be sold at 4 o'Clock.

Friday Next, July 20.

CATTLEYA DOLOSA (Rchb. f.)

REINTRODUCTION OF THIS SUPERB DWARF-GROWING LARGE-FLOWERED CATTLEYA.

WITHOUT QUESTION THE MOST MAGNIFICENT OF THE WHOLE SECTION.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, by order of F. Sander & Co., St. Albans, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 20, at half-past 12 o'Clock—

A truly superb Importation of the rare and beautiful

CATTLEYA DOLOSA,

in simply perfect order and condition, eyes sound and dormant, bulbs plump and fresh plants all ready to flower. Flowers 5 to 6 inches in diameter, varying in colour from pure white to rich maroon-purple; some snow-white varieties were observed by the collector, others had white sepals and petals, and a purple labellum, while others again were of a soft rosy-pink—old flower-spikes on the plants show as many as five flower seats.

This Orchid ranks in beauty with Dendrobium Schroderianum, Vanda Sanderiana, and the very best and showiest of all the family, and our collector describes the plants when seen in bloom as having the appearance of being covered with huge and brilliant butterflies.

Also a nice batch of the lovely and now rare self-coloured

ONCIDIUM CONCOLOR,

producing its beautiful golden yellow flowers on long drooping racemes; the importation is in capital order.

ANGRÆCUM HUMBLOTII.

The freest flowering, the easiest grown, and most useful of all Angræcums. Superb imported plants, both large and small to suit all buyers.

CYPRIPEDIUM INSIGNE, SANDERÆ SECTION.

A grand importation just to hand.

VANDA ROXBURGHI, MILTONIA ILLUSTRIS, &c.

On view morning of Sale, and Catalogues had.

TO DUTCH BULB GROWERS AND ENGLISH BUYERS.

MESSRS. POPE AND SONS wish to call the attention of the above to their SALES of BULBS, which will be held every TUESDAY and THURSDAY, commencing THURSDAY, August 23.

FLORISTS, and others requiring large quantities of Bulbs, cannot do better than give these Sales a trial, as we are sure (from a life-long experience of the Trade) that the Bulbs usually sold are good, sound, and true to name, and at Prices that cannot be touched in the Trade.

To DUTCH BULB GROWERS.—We shall be open to receive Consignments of good sound Bulbs, true to name, for Sale by Auction, and shall always do the best possible for all Senders, and send Account of Sales and Cheques immediately after the Sale.

POPE AND SONS, Horticultural Auctioneers, 6, Phillips Street (adjoining the Market Hall), Birmingham.

WANTED, to RENT a small NURSERY, with or without House attached. West or North-west district preferred. No objection to take to Stock, &c.—Address, with full particulars, as to size, rent, lease, &c., to M., 2, Queen's Terrace, Finchley Road, N.W.

NURSERY and JOBBING BUSINESS for SALE, in one of best suburbs of London. Long Lease; low ground-rent; 500 feet run of Houses, all well heated. Pits and sheds. Good trade attached. Price £800.—L. A. B., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

FLORIST'S, FRUITERER'S, SEEDSMAN'S.—An exceptional opportunity occurs to acquire a sound OLD-ESTABLISHED BUSINESS, in a good-class town, close to London. It will, to a quick cash buyer, be sold for barely the value of Lease and Stock. Bonâ fide buyers with £500 to £700 at command can have particulars on application to—

PHŒNIX, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, AT ONCE, through a Death.—A FLORIST'S BUSINESS, about 9 miles from London. Seven Glasshouses, well stocked with Tomatos and Cucumbers, in healthy condition; also quantity of Marguerites, Mignonette, and New Crassula; heated with Hot water; also eight-roomed DWELLING-HOUSE. Rent £69.—Apply, MILNES, 17, High Street, North Finchley.

NURSERY for SALE.—Eight Greenhouses, 60 feet by 12 feet, heated with 4-inch Hot-water Pipes, and about 50 Pit Lights, Horse and Van, Stable and Stock. Size of Land, 134 feet by 125 feet deep; on Lease.

THOS. MATTINGLY, 120, Church Road, Lower Tottenham.

EXHIBITIONS.

NATIONAL ROSE SOCIETY'S PROVINCIAL SHOW at Salterhebble, July 19, 1894. Schedules from JNO. E. BROOKS, 4, Savile Park St., Halifax.

TRENTHAM and HANFORD HORTICULTURAL SOCIETY.

The SEVENTH ANNUAL EXHIBITION will be Held, July 19, 1894, in Trentham Gardens.

£400 WILL BE GIVEN IN PRIZES.

GROUP OF PLANTS—1st, £20, and Silver Cup, value £10 10*s.*; 2nd, £20; 3rd, £13; 4th, £9.

48 DISTINCT ROSES—1st, £12 6*s.*; 2nd, £5; 3rd, £3.

36 ,, ,, —1st, £5, and National Rose Society Gold Medal; 2nd, £4; 3rd, £2.

COLLECTION OF BORDER FLOWERS—1st, £10 10*s.*; 2nd, £4; 3rd, £2.

COLLECTION OF FRUIT (9 varieties)—1st, £10; 2nd, £5; 3rd, £3.

4 BUNCHES OF GRAPES—1st, £5; 2nd, £3; 3rd, £2.

For Schedules, apply to—

Hanford, Stoke-on-Trent. L. T. ALFORD, Hon. Sec.

THE ROYAL HORTICULTURAL SOCIETY OF SOUTHAMPTON.

The ANNUAL GREAT SUMMER SHOW will be held on SATURDAY and MONDAY, August 4 and 6.

Entries close July 30. Schedules of—

17, New Alma Road. C. S. FUIDGE, Secretary.

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW.—Delapre Park, Northampton, August 6 and 7. £250 in PRIZES.

For best twelve Plants—£15, £10, £5, £2 10*s.* Central Group for Conservatory Decoration—£9, £6, £2 10*s.* Collection of Fruit, eight varieties—£5, £3, £1 10*s.* Twenty-four Roses—£2, £1 10*s.*, £1. Collection of Vegetables, twelve varieties, selected—£3, £2, £1. Table Decoration, £3, £2, £1.

Entries close July 27.

Schedules and full particulars from—

Northampton, June 30, 1894. W. B. TROUP, Secretary.

To Nurserymen and Florists.

FREEHOLD HOUSE and NURSERY GROUNDS, about 15 miles from Waterloo Station; 6 acres altogether; well stocked with everything. Price £1500. Full particulars of Mr. WATT, Estate Agent, 33, Paternoster Row, E.C.

To Market Gardeners.

FOR SALE, a FREEHOLD GARDEN of 2¼ acres, well-stocked, and 560 feet of glass, all fitted with heating-apparatus; situated within 11 miles of London. Price £1000, or close offer.

FRED. TAYLOR, Auctioneer, Chelmsford.

FRUITERER'S and FLORIST'S, in high-class district, for Disposal.—Doing good family and ready-money trade; inspection invited.—Apply, on the premises, to G. TAPLIN, High Street, Wanstead, E.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO BE LET, on very easy terms, an ESTABLISHED NURSERY in Gloucestershire, with good connection. Land, 2 acres; Glass, 3000 feet.

—Apply to RUMEX, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, LAWN MOWER, 28 inches, by Ransome. Condition equal to new. Price £6, on rail.

Apply to J. MARTIN, Plympton, South Devon.

REASONABLE OFFERS solicited for New, Welded SADDLE BOILER, best ⅜-inch plate, 37½ inches by 15 inches by 15 inches inside arch, 4 inch waterway. Misfit.

HART, Ironmonger, Reading.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CUT FLOWERS.—CUT FLOWERS.

We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.

POPE AND SONS, 6, Phillips Street, Birmingham.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.

Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

LARGE TOMATO PLANTS, 6*d.* per dozen. CABBAGE, CAULIFLOWER, SPROUTS, BROCCOLI, &c., 4*d.* per 100. LEEKS and CELERY, 1*s.* per 100. Postage extra. DULLEY, Copyhold Farm, Redhill.

FERNS, &c.—5000 Adiantum pubescens, in thumbs, ready for potting, at 9*s.* per 100; Pteris tremula, in 48's at 4*s.* 6*d.* per dozen; Azalias, at 4*s.* 6*d.* per dozen.

PALMS: Kentias, Belmoriana and Fosteriana, and Seaforthias, in 48's, at 4*s.* per dozen; in 60's, at 3*s.* per dozen.

Packed free at the above prices for cash with order.

B. PRIMROSE, Blackheath Nurseries, St. John's Park, Blackheath, S.E.

SURPLUS STOCK AT NURSERIES—MUST BE CLEARED.

GRAND STUFF. ORDER EARLY. ALL CAREFULLY PACKED ON RAIL.

17,500 GERANIUMS, out of small pots, very best varieties, 1*s.* per dozen; 7*s.* 6*d.* per 100.
21,400 CALCEOLARIAS, Golden Gem, 10*d.* per dozen; 6*s.* 6*d.* per 100.
9 300 VERBENAS, all finest varieties, 9*d.* per doz.; 6*s.* per 100.
4,100 PETUNIAS (single), fine large fringed flowers, 10*d.* per dozen; 6*s.* 6*d.* per 100.
21,000 LOBELIAS, blue and white, bushy, strong plants, 3*d.* per dozen; 1*s.* 9*d.* per 1 0.
17,900 PYRETHRUM (Golden Feather), exceedingly bright colour, 2*d.* per dozen; 1*s.* 3*d.* per 100.
2,100 MIMULUS, my own strain, lovely colours, 1*d.* per dozen; 6*s.* 6*d.* per 100.
1,900 CINERARIA MARITIMA, for bedding, &c., silvery white, 1*d.* per dozen; 6*s.* 6*d.* per 100
7,650 AGERATUM, imperial dwarf blue, in bloom all summer, 9*d.* per dozen; 6*s.* per 100.
12,900 ASTERS, splendid selection, dwarf varieties, indispensable for borders and beds, making a mass of bloom and colour, 3*d.* per dozen; 1*s* 9*d.* per 100.
22,150 CHILIAN BEET, for bedding, most ornamental and brilliant colour, to clear, at 3*d* per dozen; 1*s.* 9*d* per 100.
18,900 DIANTHUS, good selection, 3*d.* per dozen; 1*s.* 9*d.* per 100.
7,500 ANTIRRHINUM, very bright flowers, 3*d.* per dozen; 1*s* 9*d.* per 100.
15,500 HELIANTHUS (Sunflower), 3*d.* per dozen; 1*s.* 9*d.* per 100.
7,500 COLEUS, very strong plants, magnificent colours, in 3-in. pots, 1*s.* 6*d.* per dozen; in 5-in. pots, large, decorative plants, 4*s.* per dozen.
6,900 BALSAM, large Camellia-flowered, 5*d.* per dozen; 3*s.* per 100.
4,100 AMPELOPSIS VEITCHI, the small Virginian Creeper, self-clinging, autumn foliage turning to brilliant red, 3*s.* per dozen; 20*s.* per 100; in 3-inch pots.
2,100 PASSION FLOWERS, climbers, capital plants, in 3-inch pots, with about 18 inch to 2 feet growths, 3*s.* per dozen; 20*s.* per 100.
7,100 WHITE MARGUERITES, extra large plants, in 5-inch pots, full of flower and bud, for table and window decoration, 4*s.* per dozen; 2 dozen, 7*s.* 6*d.*
4,250 FUCHSIAS, extra large plants, full of flower and bud, for table and window decoration, in 5-inch pots, 4*s.* per dozen; 2 dozen 7*s.* 6*d.*; 3 dozen, 10*s.* 6*d.*
2,600 DOUBLE PRIMULAS, rooted, 3-inch pots, 3*s.* per doz.; 22*s.* per 100.
1,000 CARNATION MARGARET, White, in 3-inch pots, 2*s.* 6*d.* per dozen; 18*s.* per 100.
2,700 CINERARIA HYBRIDA, very grand plants of my superb strain, from finest show varieties, in 3-inch pots, big lot to clear, 1*s* 3*d.* per dozen; 3 dozen, 3*s.*; 100, 9*s.*
The most liberal collection of GREENHOUSE FERNS and MOSSES, consisting of fine plants of Aspleniums, Polypodiums, Selaginellas, Pteris cristata, Isolepis, &c., &c., at 3*s.* per dozen; 3 dozen, 8*s.* In 3-inch and 5-inch pots.

SPECIAL OFFER.

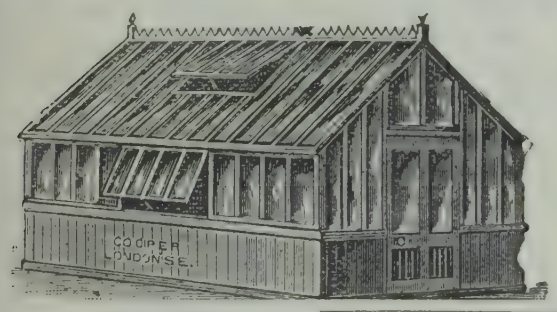
MARÉCHAL NIELS and GRAPE VINES, any variety, in 5-inch pots, from 2 feet to 3 feet long before potting into very large pots to complete this season's growth, will make 9 feet to 12 feet canes in either hot or cold houses during the season, and will bear flower and fruit respectively next year, 1*s.* 3*d.* each; three for 3*s.* 6*d.*; six for 6*s.* 6*d.*; twelve for 12*s.* Extra large plants, from 4 to 5 feet long, in large pots, 2*s.* 3*d.* each, three for 6*s.* 3*d.*

TOMATO PLANTS.—Good stuff. 1*s.* 9*d.* per 100. Do well in Greenhouse, Frame, or Outdoor.

NOTICE to BUILDERS, MARKET GARDENERS, SEEDSMEN, NURSERYMEN, and the TRADE GENERALLY.

WILLIAM COOPER'S STOCKTAKING CLEARANCE SALE,

RELIABLE BARGAINS.] For 14 Days Only, of SURPLUS GOODS. [NO SECOND-HAND GOODS.

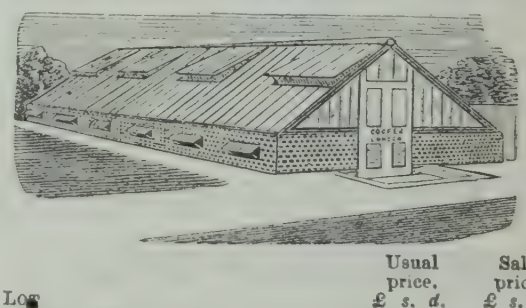


CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all orders, and prices strictly nett. All orders executed in rotation, and carefully packed and put on rail.

SPAN-ROOF AMATEUR GREENHOUSE.

Lot			Usual price. £ s. d.		Sale price. £ s. d.
1 to 5,	complete,	7 ft. by 5 ft. ...	2 16 0	...	2 5 0
6 to 8,	,,	9 ft. by 6 ft. ...	4 0 0	...	3 0 0
9 to 11,	,,	12 ft. by 8 ft. ...	6 0 0	...	4 10 0
12 to 15,	,,	15 ft. by 10 ft. ...	8 10 0	...	6 10 0
16,	,,	20 ft. by 10 ft. ...	12 0 0	...	9 0 0
17,	,,	25 ft. by 10 ft. ...	17 0 0	...	12 0 0

SPAN-ROOF FORCING HOUSE.

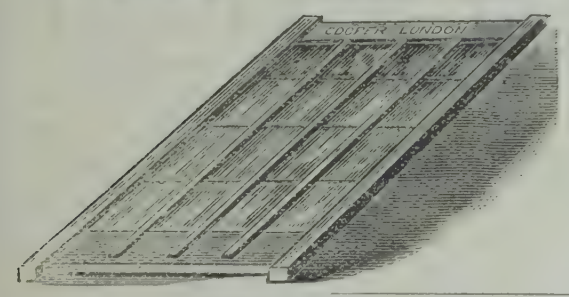


Lot			Usual price. £ s. d.		Sale price. £ s. d.
18 to 20	...	20 ft. by 9 ft. ...	8 0 0	...	6 0 0
21 to 23	...	30 ft. by 12 ft. ...	14 0 0	...	11 0 0
24	...	40 ft. by 12 ft. ...	19 0 0	...	16 0 0
25	...	60 ft. by 14 ft. ...	32 0 0	...	25 0 0
26	...	100 ft. by 14 ft. ...	50 0 0	...	40 0 0

Built for brickwork 3 ft. high, of well-seasoned red deal; roof ventilation according to size; all 21-oz. glass. Suitable for nurserymen, market gardeners, and all those who require a cheap, strong house for forcing or growing Cucumbers, Tomatos, Melons, &c.

LOT 27 ... 10 houses, 150 ft. long by 12 ft. wide, similar to above, everything complete, ready for fixing, gutters, &c. Usual price, £65 each; Sale price, £55, or £450 the lot.

GARDEN LIGHTS.



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82	...25 Marginal Light Doors. 6 ft. 6 in. by 2 ft. 6 in. ... ... each	10 6	...	7 0
83	...52 Top Vents, 3 ft. 5 in. by 2 ft. ... ,,	3 6	...	2 6
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86	...19 600 ft. 3-in. Sashbar ... per 100 ft. run	6 6	...	4 6
87	...27,140 ft. 2½-in. ,, ... ,, ,,	5 0	...	3 6
88	...42,810 ft. 2-in. ,, ... ,, ,,	3 9	...	3 0
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336 to 397	... 12 ft. by 3 ft. ...	,, 5 6	...	4 0
398 to 455	... 12 ft. by 3½ ft. ...	,, 6 0	...	4 6
456 to 512	... 12 ft. by 4 ft. ...	,, 7 6	...	5 6
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676 to 970	... 3 ft. long	1 1	...	0 10
	4 ft. ,, ...	1 5	...	1 1
	5 ft. ,, ...	1 8	...	1 5
	6 ft. ,, ...	1 11	...	1 8
	7 ft. ,, ...	2 2	...	1 11
	8 ft. ,, ...	2 6	...	2 2
	9 ft. ,, ...	2 11	...	2 6

Lot		Usual price. s. d.		Sale price. s. d.
676 to 970	... 10 ft. long	3 6	...	2 11
971 to 1150	... 5 ft. ,, ...	2 1	...	1 9
	6 ft. ,, ...	2 5	...	2 1
	33-in. wide, 7 ft. ,, ...	2 8	...	2 5
	9 ft. ,, ...	3 8	...	3 1
	10 ft. ,, ...	4 5	...	3 8

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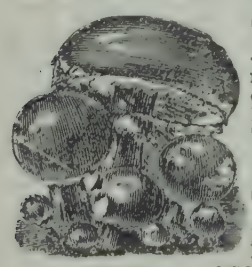
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THE

Gardeners' Chronicle.

SATURDAY, JULY 14, 1894.

ROSE SHOWS.

I HARDLY ever knew a Rose show about which opinions did not differ, very often these opinions being formed from ideas previously held. One is quite sure that it must be an indifferent show; others are equally sure that it must be a good one, and coming with these ideas already formed, they are unwilling to see anything that militates against them; and so it happens that various opinions have already been expressed as to the southern show of the National Rose Society, held under the patronage of the Queen at Windsor—and there certainly never was a more complete overturning of the anticipations and prophecies made concerning it. In the early part of April the rosarians were writing that the show was much too late, that it ought to be put forward at least a week; and if it were not, all the southern growers would be out of the running. But then came a spell of cold weather, such as we often experience in May; and instead of southern growers finding it too late, they were all crying out it was much too early for them—the Roses were not yet in flower!

The great centre of attraction was, of course, the competition for the Queen's Cup, and here especially the character of the season asserted itself; at the outset there were twenty-six entries, but these were reduced on the day of exhibition to thirteen, and a competition from which such growers as Messrs. Lindsell, Budd, Pemberton, Machin, and Hill Gray, were absent, was not of the representative character which we all expected—and the Rev. H. A. Berners, who secured the much-coveted prize, candidly acknowledged that it was a piece of great good luck. The Roses with which he won it were of good but not exceptional merit, and he himself stated that he had often staged a better twelve. I think that this is not improbable, but we must not take too much from the merits of the stand, but remember the character of the season which hitherto has not been favourable to the amateur. I think, in looking carefully through the recent show, one came to the conclusion that the amateur portion of it was its weakest point; but then, how could it be otherwise, when an experienced grower like Mr. Burnside stated that he could not have staged another box of blooms beside the very few which he brought up? and, as I have said, some of our largest growers were entirely unrepresented. There were, however, amongst the Teas, at any rate, some remarkable blooms: that of Cleopatra, which obtained for Mr. Burnside the Silver Medal of the National Rose Society as the best Tea Rose in the amateur section, was what the French call "hors ligne;" it was not, however, as I have seen stated in a contemporary, 9 inches across, which is about the size of one's hat. This

was cut from a standard, as were also the six for which he obtained a 1st prize for the best blooms of any one variety of Teas—a tolerably good confirmation of the opinion held by many growers of Teas that this is the way to get the finest blooms. I thought the Madame Cusin with which Mr. Foster Melliar gained a Medal at the Crystal Palace last year, was the grandest example of a Tea grown by an amateur I have ever seen; but the exquisite form, delicacy of colouring, and perfect purity of this bloom of Cleopatra, gave it the precedence even over that fine flower. I think there were stands there that won prizes, which would in ordinary seasons have been left out in the cold, and no one was more surprised at the positions they gained than the exhibitors themselves.

To some extent the character of the season also affected the professional exhibitors. For this I was prepared, for on talking over Rose matters with one of our most successful growers the night before, he stated that out of 25,000 standards he could hardly find 7 per cent. of good blooms. It was not the frost that had affected them, but the cold searching north-east winds; but nothing of this kind was to be seen in Mr. B. Cant's stands, especially in his trebles. Indeed, he and his nephew and neighbour Mr. Frank Cant, seem as if they were destined this year to share the honours of victory between them; they run a neck-and-neck race, and where one is first the other is pretty sure to be second; and thus they tend to keep up the right for their old city, considered to be the metropolis of Rose growing. Some may attribute this to the character of the soil, and some to the situation, but, whatever effects these may have, there can be no doubt that in both cases skilful cultivation and judicious treatment have a great deal to say to it.

There were two Roses which came out grandly on this occasion, and both, let us rejoice to say, home-raised flowers: one was the Cleopatra already alluded to, and the other Margaret Dickson, the grand flower raised by Alex. Dickson & Sons. Mr. B. R. Cant's stand of twelve of this variety was exquisite, and the flowers contained in his 48's and trebles were equally fine. I have heard complaints of this Rose being much given to mildew, but I have not found it so in my own garden, while its grand sturdy foliage makes it conspicuous. It cannot be called a white Rose, for it has a delicate flesh-coloured tint in it; but for a light-coloured, or nearly white Rose, it has few if any rivals. Mrs. Paul holds a conspicuous place in the same class, and was well exhibited in Mr. B. Cant's 48's. His flowers, too, of Madame Suzanne-Marie Rodocanachi, Gustave Piganeau, Count de Raimbaud, and General Jacqueminot were very fine.

Clara Watson, to which I have before drawn attention, was exhibited by Mr. Geo. Prince, and was much admired; and although not considered a gold-medal Rose, was unanimously awarded a card of commendation; it will, I believe, be a desirable early-flowering variety.

Garden Roses, and Roses for decorative effect, were shown in considerable numbers, and formed a very attractive feature of the exhibition; the period of the year is more favourable to them that the later date of the Crystal Palace, and the exhibits of Messrs. Cooling & Son, Paul & Son, Mount and Mattock among nurserymen, and those of Mr. Cuthell, were remarkable for the variety and the beauty of the flowers exhibited, while Mr. Geo. Mount's tasteful arrangement seemed to me to be worthy of the first place; but then this is a matter in which taste goes so far, that opinions are pretty sure to widely differ. Mr. Mount seemed to me to give a true interpretation to the term garden Roses, by including not merely the smaller varieties of Teas and Noisettes, but also some of those Gallicas, hybrid Chinas, &c., which used to form the glory of the garden in former days before the advent of hybrid perpetuals and the splendid Teas and Noisettes which we at present have. There was a stand of Lord Penzance's new hybrids and Sweet Briars, showing how wide is the range of colour which has been introduced into this section; but unfortunately I hear that there are a good many people who talk a great deal about the old-fashioned Roses, but whose admiration of them does not lead them to introduce them into their gardens. *Wild Rose.*

[Our report of the Crystal Palace show will be found on p. 44. Ed.]

New or Noteworthy Plants.

GASTROCHILUS ALBO-LUTENS, *Baker, n. sp.**

This is another of the small Scitamineæ with variegated leaves, which has just flowered at Kew for the first time, and proves to be an undescribed species. It resembles in habit the two species of the same genus which have been figured in the *Botanical Magazine* (G. pulcherrimus and G. longiflorus), but the flower is smaller, with a flat white labellum, keeled with bright yellow. It is supposed to have been collected in the Andamans, by Mr. Man (who must not be confounded with our old friend Gustave Mann), and sent to Kew in 1889. Gastrochilus is hardly worth separating as a genus from Kæmpferia.

Leaves two to a tuft, petiole erect, deeply channelled, 3 to 4 inches long; blade spreading horizontally, oblong, glabrous, 4 to 5 inches long, dark-green on the face, with a whitish keel, plain pale green on the back. Flowers, 2 to 3 to a tuft, produced in the centre between the petioles of the leaves, radical. Corolla-tube white, cylindrical, 1½ inch long; lobes three, standing forward, lanceolate, white. Upper staminodia, shorter than the corolla-lobes; lower (labellum) flat, broad, oblong, ¾ inch long, ½ inch broad, white, with a bright-yellow central keel and faint purple veins. Stamen and style shorter than the corolla-lobes. *J. G. Baker.*

Senecio kleinioides, *Oliver & Hiern.*

Messrs. Dammann & Co. have introduced this from the Mountains of Abyssinia, and flowered it. It is clearly allied to the old well-known Senecio (Kleinia) ante-euphorbium, which is now ascertained to be a native of Tropical Africa, and is figured in the *Botanical Magazine,* tab. 6099. S. kleinioides has rather smaller heads than S. ante-euphorbium, and the leaves are flat and obovate-cuneate. A full description will be found in the third volume of Oliver's *Flora of Tropical Africa.*

Plectranthus marrubioides, *Hochst.*

Another curious plant which Messrs. Dammann have introduced from the mountains of Abyssinia, is the above. It has dense clusters of very small white flowers, forming long spikes, and small crowded very fleshy opposite obovate-cuneate sessile leaves. Full descriptions will be found in De Candolle's *Prodromus,* and A. Richards' *Flora of Abyssinia. J. G. Baker.*

Nemastylis brunnea.

This curious little Irid, received from Mr. Van Tubergen, of Haarlem, is now in flower in a pot in my greenhouse. Its foliage closely resembles that of a Tigridia, and its flowers, which are unfortunately fugacious, like those of most, if not all, of its family, are freely produced in bunches of from three to seven, are pendulous and round, and cup-like in form, of a pale purplish-rose colour, consisting of six segments each; the three alternate ones are tipped with clear yellow, and are slightly reflexed. The marking of the centre of the interior of the flower is most distinct and curious, being a well-defined equilateral triangle of pure white, edged evenly all round with a narrow purple line. The flowers last but one day. *W. E. Gumbleton.*

* *Gastrochilus albo-lutens,* Baker n. sp.—Acaulis, foliis binis distincte petiolatis oblongis viridibus glabris, facie albo carinatis, dorso pallide viridibus; floribus 2—3 centralibus radicalibus; corollæ tubo cylindrato albo sesquipollari, lobis lanceolatis porrectis; staminodiis 2 superioribus oblongis corollæ lobis brevioribus, labello plano late oblongo venis purpureis, carinâ lutea.

A SOUTHERN FERN PARADISE.

Looking up the literature on insular floras of the New Zealand region the other day, I came across an account of the vegetation of Stewart Island, New Zealand, which so charmed me that I thought it might be worth while reproducing the substance of it, especially as it is in a publication found in comparatively few libraries.* Stewart Island, or South Island, as it is called in the older maps and books, is separated from the main island by the comparatively narrow Foveaux Strait, and is traversed by the 47th parallel of latitude. It is very hilly, or even mountainous, one might say, for there are altitudes of over 3000 feet, and the area is estimated at 640 square miles, or less than half the size of the county of Sussex. Several botanists have visited the island within the last decade, but it is to Mr. Thomas Kirk that we are indebted for the exceedingly interesting description, from which the following particulars and extracts are taken. With regard to the position of the island, in about the same southern latitude as the mouth of the river Loire in the northern hemisphere, it may be explained that in a general way, parallel for parallel, it is colder in the southern hemisphere than it is in the northern, especially in somewhat higher latitudes than Stewart Island. Thus, South Georgia in 54° 30′ S. lat., corresponding to the position of the Isle of Man, has an absolutely arctic climate But Stewart Island must enjoy an exceptionally mild climate for its situation.

Before proceeding to the Ferns, a few words respecting the general composition of the flora. Up to the date of Mr. Kirk's report, 380 species of flowering plants, and about seventy species of Ferns and Lycopods had been collected in the island. The woods present a striking difference from those of the northern hemisphere, in consequence of the brilliant colours of the flowers of some of the trees. Metrosideros lucida, one of the commonest trees in the island, is a perfect blaze of crimson during the months of December and January; to which Olearia angustifolia (Compositæ), offers a striking contrast, in its deep green glossy leaves and snowy-white and purple flower-heads. There are several other handsome arboreous Compositæ, including Olearia Colensoi and Senecio Muelleri. Ground Orchids are a conspicuous feature in some parts of the forest. Corysanthes oblonga, C. rivularis, and others produce their attractive flowers by thousands, and Mr. Kirk states that he has nowhere else seen these interesting plants in such profusion. Epiphytal Orchids are also well represented by Earina mucronata, E. autumnalis, and Dendrobium Cunninghamii. Sarcochilus adversus is rarer.

Mr. Kirk describes the composition of the vegetation of some of the most attractive spots in this charming island. The following is a specimen:—

The "Archdeacon's Cove" is a delightful nook on the south-eastern side of Paterson's Inlet, and can only be approached by water. On stepping out of the boat the visitor observes luxuriant plants of Lomaria dura and L. Banksii, but for some time sees no indication of the rich treat awaiting him. Proceeding for a few chains along a narrow creek, Lomaria capensis is found in great luxuriance, and

* The Transactions and Proceedings of the New Zealand Institute.

almost suddenly daylight is diminished by the narrowing width of the ravine and the increasing height of the cliff; all being overshadowed by a dense growth of gigantic forest trees, thickly clothed with epiphytes, so that the direct rays of the sun are excluded, and a constant drip falls from the branches. The eye is bewildered by the multiplicity of Fern forms, which emerge from the partial obscurity as it becomes accustomed to the diminished light. High up amongst the branches of an inclined trunk hangs a pale green mass, which seems strangely familiar, but which from its large size fails to be recognized until a tedious climb of the wet slippery trunk reveals it as Hymenophyllum pulcherrimum, with fronds between 2 and 3 feet in length. H. bivalve, H. multifidum, and many other congeners whose names need not be given, are found on adjacent trees, while H. dilatatum exhibits great luxuriance at their base. Presently the gully widens out, and numerous Tree Ferns are to be seen; but the glory of the gully consists in its grand specimens of Todea hymenophylloides and T. superba, both of which are plentiful, but the latter especially exhibits its most graceful habit and its most luxuriant growth. From a stout stem some 18 inches high a dense crown of nearly erect fronds, with drooping tips, is given off. They may be counted by scores; some of them are three years old, and between 4 and 5 feet in length, of a deep blackish-green. It is impossible to conceive of a more attractive Fern than this, or of a greater contrast than is presented by the same species when spreading its yellowish-green fronds in open woods. Numerous specimens were observed, but only one exhibited the extreme beauty or attained the large dimensions stated."

And now a few words concerning the wonderful Fern vegetation of Stewart Island. In no other temperate region in the world, probably, is there so large a number of species in so small an area. I have already mentioned that the Ferns and their allies the Lycopods number about seventy species; but there is no species of Selaginella. The Ferns include no fewer than four arboreous species, namely, Hemitelia Smithii, Alsophila Colensoi, Dicksonia squarrosa, and most unexpectedly, Cyathea medullaris, though the last is rare. The Hemitelia is spread all over the island, and sometimes attains a height of 25 feet; but Dicksonia squarrosa is the most abundant of all, forming groves covering many acres under large trees. Indeed, Mr. Kirk states that Tree Ferns are abundant alike on the outskirts of the forest and in its deepest recesses, and often occurring in large masses, especially unsheltered, where they frequently rise above the level of the surrounding shrubs, and produce an effect rarely seen elsewhere in New Zealand. In some localities the trunks of the Tree Ferns are clothed with various species of Hymenophyllum, H. æruginosum being especially abundant. Dicksonia antarctica has not hitherto been found in Stewart Island; and Mr. Kirk mentions half-a-dozen other Ferns which, he thinks, may yet be found. Filmy Ferns flourish here, as they do in few countries. Out of twenty-seven species found in the whole of New Zealand, twenty are known to occur in Stewart Island—that is to say sixteen species of Hymenophyllum, and four of Trichomanes. On the other hand, Adiantum affine is the only representative of its genus, and that is rare. Three species of Gleichenia are recorded, and G. dicarpa is said to be abundant. Next to the abundance of tree, Mr. Kirk states, the most striking feature in the Fern flora is afforded by the numerous varieties of Asplenium bulbiferum, A. obtusatum, A. falcatum, and A. flaccidum. Many of these varieties are very beautiful and attractive, but they merge into each other by such minute gradations that it is often difficult to determine the species to which they should be referred. Mosses, foliaceous lichens, and Liverworts also abound, clothing the trunks of trees and the ground where it is not covered with other things. Altogether Mr. Kirk's sketch of the vegetation of Stewart Island makes one long to see such a natural Fernery; yet one feels glad that it is not within an easy distance of London! *W. Botting Hemsley.*

DISA × LANGLEYENSIS

(TRIPETALOIDES × RACEMOSA).

Our illustration (fig. 5) affords a representation of Disa × Langleyensis, raised by Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea,



Fig. 5.—DISA × LANGLEYENSIS.

and since in the Royal Gardens, Kew, where, together with the other Kew hybrid Disas, it forms one of the most attractive features at the present time. The chief agents in these were Disa tripetaloides, introduced by Mr. J. O'Brien from South Africa, and illustrated from a specimen supplied by him in the *Gardeners' Chronicle*, June 21, 1890, and D. racemosa, which was illustrated from a specimen obtained from the same source, in the *Gardeners' Chronicle*, May 12, 1888. Both these species are beautiful in themselves, and when intercrossed with D. grandiflora, as they have been by Messrs. Veitch, and at Kew, a new race of free-flowering, elegant, magenta, rose, and pink Disas have resulted, and still more beautiful additions are in store.

Orchid Notes and Gleanings.

LÆLIA TENEBROSA.

For some weeks past we have been receiving flowers of this fine Lælia, and have had an opportunity of seeing the extraordinary variation in the flowers of the different plants. The greater part are of average merit, but some are very fine and distinct novelties, which will doubtless always be valuable. Two of the best are a very large and dark-coloured variety, approaching the Tring Park variety of Lord Rothschild's collection, received from Joseph Broome, Esq., Sunny Hill, Llandudno. Its fine sepals and petals are of an uniform brownish Indian-red, the lip light rose, with maroon-crimson and purple lines in the tube, and extending into the rose of the front portion—a most beautiful and striking form. The other, from W. M. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, has light yellowish-buff sepals and petals, and blush-white lip, with purple lines at the base, the two, both very handsome, presenting the most dissimilar colouring we have yet seen in the species.

Cypripedium Calypso, *Reichenbachia*, t. 77.

A hybrid out of C. Spicerianum by C. Boxallii. It resembles C. Boxallii, except in the dorsal sepal and staminode, both of which are strongly stamped with the characters of C. Spicerianum. It is a winter-flowering plant.

Masdevallia Chimæra var. Mooreana, *Reichenbachia*, t. 78.

"A fine form, with the ground deeper yellow than usual." A span-roofed cool Orchid-house, with a minimum temperature of 50°, is found to be best for these plants.

Miltonia Phalænopsis, *Reichenbachia*, t. 79.

This plant "stands as a memorial that the perception of the gardener is not always less worthy of consideration in the matter of a plant name, than the opinion of a botanist." Of course it is not. The gardener has often much better materials and opportunity than the botanist. If the gardener happen to be a botanist also his opinion is doubly valuable.

Lissochilus giganteus, *Reichenbachia*, t. 80.

"Among the most noble and stately of terrestrial Orchids, the place of honour should be awarded to the glorious Lissochilus giganteus, the Cattleya of the East."

The Duc de Massa, who grows this plant very successfully, uses a mixture of fibrous leaf-soil with a little cow-manure, which has always to be kept moist. The plants are grown in large tubs or pots with thorough drainage, and in the summer months are placed in the tank of the aquarium with the base of the pots or tubs sunk to the depth of a few inches in the water. In the autumn they are moved into the Vanda-house, where they remain during the winter in a shallow basin, with just sufficient water to provide a slight moisture to the roots.

HARD-WOODED GREENHOUSE PLANTS.

(*Continued from vol. xv., p. 779.*)

Darwinias.—This fine genus of New Holland plants is better known perhaps under the older name of Hederoma, which still clings to them in gardens, or under the still older one of Genetyllis. It was under this latter name that I first became acquainted with D. macrostegia, or as it was then called, Genetyllis

tulipera; that was at the then well-known nurseries at Kemp Town, Brighton, about the year 1860, just prior to that business being taken over by the late Major Mackenzie of Epping Forest. At that time the hard-wooded Ericas and other specimens, now rarely seen, were a fine feature in that establishment. The plant in question had been grown into a good half-specimen, which, considering it was only introduced in 1854, was not a bad achievement. I may be mistaken, but it has been my impression that this species of Darwinia as I then knew it, had flowers of brighter colour than those usually seen. This may have been caused by the situation and proximity to the sea, the latter having a tendency in a most decided manner of producing this result in some instances.

D. macrostegia is much the finest variety in cultivation, no other variety can compare with it in colour or size of flower. Its habit leaves nothing to be desired, whilst its blossoms last too long rather than otherwise, with a weakening tendency to the plant if persisted in. As a decorative greenhouse plant of hard-wooded growth it must be classed with the very best in cultivation. It is still to be seen at exhibitions in May and June, although not always in the best possible condition. A very fine plant of large size was presented at the recent Crystal Palace Show by one exhibitor, whilst another staged a well-managed half-specimen; these were both flowered well, showing the plant in its best character. The keeping properties of the flowers have already been alluded to; exhibitors of course do not like to pluck the blossoms whilst a plant can be made to do still further service, but in this they make a mistake.

For instance, to show the same plant in May, June, and July is expecting too much, consequently the next season there is a sparsity of flower. This has frequently resulted in a plant only being flowered well once in two years, but with good management this need not be the case, a fair average amount of flower every year being better than a greater profusion in alternate years. The best remedy for this is to pick off the flowers as soon as they lose colour, which will be some little time before they entirely give out. If they last in good condition for six or seven weeks when once they are fully expanded, that ought surely to be long enough, considering that for some little time previously they have been very interesting during development. When the flowers are picked off, the plant should be treated to a good syringing, with a little sulphur added to the water, in case of any red-spider having formed a colony. Thence onwards during growth it is best to keep the plant under glass, so as to encourage its free and speedy completion. A cold pit of sufficient depth would be a better place for five or six weeks than a freely-ventilated greenhouse; the moisture in the former case would encourage growth, it being possible to control this better than in the latter. In any case the syringe can be used with advantage, just as in the case of an Indian Azalea when in this stage. A close atmosphere must be guarded against; this would cause elongated and spindly shoots.

When the growth is fairly well completed, the plant may be stood out-of-doors in favourable localities until the first week in September, still employing the syringe during hot weather. Where the position outside is none of the best, a light part of the greenhouse would be preferable. When starting with a young plant, which is much the best plan, there may be a tendency for some shoots to take the lead. This should be stopped by merely pinching out the points of such shoots to encourage lateral growth, the chief aim for the first season or two, being to lay a good foundation. Afterwards, some stopping may be necessary, but in any case it should be done in time for the wood to become well ripened. Over-potting should be guarded against, for if once a plant becomes soddened and sour at the roots, there will be trouble in store. Moderate shifts in alternate years will be quite sufficient for a plant that is increasing in size. Specimens needing far less, provided the soil is in good condition, these might be slightly reduced at the root, so as to again use the same size of pot. The soil best suited to this and other Darwinias, is peat of the most enduring quality, such as one would select for the finest of the Cape Heaths. There should be no suspicion of its soon turning sour or becoming at all of a soapy character. Dark-looking, hard-handling peat is the best; but when it does not come up to this standard, I would add a little light yellow loam, which when all is made firm in the pot, as it must be, will remain for a longer time in good condition. I have noted one thing in Darwinias as compared with other hard-wooded plants; this is a preference for rather more sand, which should be of the coarsest kind, failing which, I would add broken crocks powdered down finely. Watering must be carefully attended to, both extremes being avoided, this plant being as impatient on the one hand of drought as on the other of too much moisture; but by striking a medium course the advantage will be apparent. When stored or housed for the winter, see that the plant is not crowded by other things, so as to weaken its lower branches, and avoid too damp an atmosphere at that season.

D. Hookerians, or, as it is better known in gardens, D. fuchsioides, is of the two, more profuse in flowering than D. macrostegia, being slightly earlier also. It is quite distinct in colour, being of a pale reddish shade throughout. In growth it is more slender, but is sufficiently bushy to form a good plant without much support from sticks. It should be grown wherever D. macrostegia also finds a congenial home, being quite distinct from it in every way. The *Dictionary of Gardening* states that it much resembles the other, but I fail to see this entirely. D. fimbriata is a later introduction, from the Swan River district of South-west Australia; but it does not appear to have ever gained in popularity, although it is quite distinct from both of the preceding. *James Hudson.*

(To be continued.)

A VISIT TO LANTAO.

Lantao is an island belonging to China, at the mouth of the Canton River, between Hong-Kong and the Portuguese settlement Macao. From the sea, it looks like a rugged barren mountain ridge, with numerous peaks, some of which rise 3000 feet above sea-level. The fertile spots are the ravines, and these run from the top of the ridge, sometimes almost perpendicularly, at other times sloping gradually, to the shore. In these places are to be found many rare plants. The object of our visit was to procure some specimens of Rhododendron Fordii, which makes its home at the top of one of the ravines at an altitude of 1600 feet. To climb such a height at home in the winter time would be a warm task, so that you may readily imagine what it was like with the thermometer standing at nearly 80° F. in the shade. It was impossible to go up the ravine, on account of the many large rocks and shrubs which were in the way; our only method of ascent was by a roundabout way up the hillside. We accomplished the task with considerable difficulty, after climbing for two and a-half hours. As long as we had a grass-cutter's path to follow, travelling was fairly easy; but after we had left this far behind, we had to assist ourselves in the upward journey sometimes by catching hold of the grass above us, and at other times the ledges of rocks. All our trouble was well repaid, however, for when we reached our destination, there, in the dense mist which prevailed at the time, was Rhododendron Fordii in hundreds, some in bud, the buds of a most brilliant pink; others in full flower, some flowers white, others suffused with pink, growing in the crevices of vertical rocks, with hardly a vestige of soil, and thriving under exactly the same conditions as Cœlogyne imbricata and Pholidota chinensis. The sight was one not easily to be forgotten, and our only regret was that the whole horticultural world could not see it.

The plants varied in height, from a few inches to 8 or 9 feet, and those which were 18 inches high and upwards were, or would be, one mass of bloom. The flowers are 2½ inches across when fully expanded, and are produced in terminal heads of half a dozen or so. The buds are enclosed in glutinous bracts, but many of these drop off as the buds open. The length of the corolla is about 2 inches, the colour on opening being white, suffused with a lovely pink, the upper lobe being marked with carmine and purple blotches. The flowers turn nearly white after having been open for some time. The leaves are very coriaceous, dark green and shining above, and covered with a rusty tomentum underneath. They are 3 or 4 inches long, and about 1 inch wide, on petioles of ¾ inch. The plants in bud are, I think, even more showy than those in flower, which is saying a good deal. In close proximity to the above was a plant of Rhododendron Westlandii, 10 feet high, and which, heretofore had not been found in the same locality. It was nearly past flower, but from the few flowers which remained, it was seen to be a good thing, but not anything like so striking as R. Fordii. The flowers, so far as I was able to judge, are white tinged with purple, the upper lobe of the corolla being marked with pink spots. Two other Rhododendrons were also growing within a few yards of the two noted above, R. squamatum and our old friend R. indicum or Azalea indica, as it is more generally called. The flowers of R. squamatum are of a light purple, which clashes with most other colours, but when they show up against a green background, as they did here against the green foliage of other shrubs, they looked remarkably pretty. Some of the plants were 4 feet high, and literally one mass of flowers. Amongst other flowering plants in the immediate neighbourhood, were the following: Schoepfia chinensis, a shrub 3 or 4 feet high, which was in fruit, its scarlet-oblong drupes making it rather showy. This makes a pretty plant when in flower in February; the petals are salmon-coloured, ½-inch long, four to six in number, united, forming a tabular corolla. Symplocos decora—there were several plants of this, 4 or 5 feet high; the flowers are white, very sweet-scented, ½-inch across, produced in axillary racemes. This plant grows to a much greater height in Hong-Kong, as there are plants in the Botanic Gardens quite 20 feet high. On the hills, however, it has become exceedingly scarce, in fact, so far as I know, there is only one wild specimen in the island. Enkianthus quinquevulnerus was still (April 4) in flower, although the beginning of February is its usual time for flowering. It is a great favourite with the Chinese, whose zeal in the acquisition of the shrub is often the means of their appearance at the local police-court, much to their discomfiture. Begonia laciniata was growing on the bare rocks, and had just started to put forth its new leaves; these were dull crimson underneath, and green above, the whole plant being covered with hairs, but more especially on the veins of the leaves. Indigofera venulosa was growing freely amongst stones, but it was too early in the year for it to be in flower, as it flowers in May; it grows to the height of a foot or 18 inches, and bears lilac-coloured flowers. Myrsine capitatella, Turpinia arguta, Asparagus lucidus, and Viola diffusa, were amongst other plants in flower. Of Ferns I noticed Aspidium auriculatum in hundreds, Aspidium aristatum, Gymnogramma decurrens, Polypodium lingua, Acrostichum repandum, Pteris aquilina, Pteris semi-pinnata, and Davallia pedata, the latter making itself at home on the rocks. The natural order Lycopodiaceæ was represented by Lycopodium involvens and L. flabellatum. On making the descent, there were many plants to attract one's attention. Brainea insignis was rather common, many of the plants being good specimens, with trunks 3 feet high. Cæsalpinia vernalis, a stout climber, armed with numerous recurved prickles, and bearing large racemes or panicles of golden-yellow flowers, was smothering less robust plants. The sight of Rosa sinica in flower is one ever to be remembered; there were dozens of plants, with hundreds of blooms open on every one, climbing over small trees and shrubs. The flowers are pure white, fully 3 inches in diameter, solitary at the ends of the lateral branches, and these showed up remarkably well

against the shining dark green foliage. The Weather Plant (Abrus precatorius) made itself noticeable, with its beautiful little seeds. These are oval in shape, not more than the eighth of an inch in length, black at one end, and brilliant scarlet at the other. Stauntonia chinensis was past flower, but its light green foliage made it very striking. Euonymus laxiflorus, a shrub of no particular beauty, but rather rare in Hong-Kong, was met with in several places. Gmelina chinensis, another rare Hong-Kong plant, was represented by several specimens 5 or 6 feet high; under cultivation, however, it attains a height of 16 feet at least. Other plants noted on the way down were Blechnum orientale, Gleichenia dichotoma, Lonicera macrantha, Pittosporum glabratum, Raphiolepis indica, Lygodium scandens, L. japonicum, Sterculia lanceolata, Gynura pseudo-china, and Rubus parvifolius, all of which are common. Pinus sinensis had apparently been planted rather extensively, but none of the trees were very



Fig. 6.—Iris germanica: five-parted flower, from a drawing by Mr. Harrison Weir.

big; the tallest, I should think, were not more than 12 or 15 feet high, and judging from the number already felled, it looked as if those standing had not long to remain. As soon as a tree is big enough to make firewood, nothing will prevent a Chinaman from cutting it down, with the exception of the restraining arm of the law. On reaching the lower levels, Azolla pinnata was noticed to be rather plentiful in pools of water, of a beautiful metallic hue, owing to exposure to the sun. Crinum asiaticum was growing luxuriantly near the sides of streams, and Plumbago zeylanica, in flower, was thriving in moist and shady places, in company with Fragaria indica. Two Composites, with yellow flowers, met with were Senecio Stauntonii and Wedelia calendulacea. The former was trailing over shrubs, and the latter creeping along the ground, rooting as it went. Adiantum flabellulatum was doing remarkably well on old walls, but was not seen elsewhere; whilst Adiantum caudatum was not at all particular as to situation. Close to one of the villages Ricinus communis was met with in abundance, but I have never observed it away from the haunts of men. *W. J. Tutcher, Hong Kong.*

Amateur's Column.

Iris germanica.—It is now nearly thirty years since I began to collect some of the varieties of Iris germanica, many of which are still the most beautiful, though I have added to their number of late years. This year a disease has appeared and killed several of my most thriving plants. One large clump of aurea, full of bloom, just showing the colour, was struck, as it were, in a night, it having the appearance as though scorched, and so with a few others. I tried several methods to save them, but none availed, and they are dead, or very nearly so. I have not seen the disease before, and I hope and trust that I may never do so again. With these exceptions, I have never had such wonderful flowers, both in size, form, and colour. In some instances they consisted of four standards, and four falls. In another there were seven standards and four falls. While one, the old Rose Queen, now called Queen of the May, a lovely bright light pink "beauty," produced one flower with five standards, five falls, and five petaloids, and yet in all these respects was well proportioned. This form being new to me, I made a drawing for the *Gardeners' Chronicle*, thinking possibly it might prove of interest to some of its readers.

While on the subject, I wish to remark that I know of but few florists' flowers where so many different names are given to apparently the same flower. I commenced the culture of Iris by buying about fifty sorts or varieties of Mr. Salter, of Hammersmith, years ago, and I now find several of these have another name, and some more than one, newly bestowed on them. What I have grown as the Duchess of Buccleuch, a fine purple and white blotched variety, is now called Victorine; the old Abou Hassan is Louis Van Houtte, &c.; and Goldfinch is Prince of Orange; yet I intend to call them by the names I have known them by, and were given to them by their skilful raiser, Mr. Salter.

As I have had a long experience, perhaps I should not be considered trespassing too much on your space if I give the names of a few of the most distinct. Among the dark purples, I have thought subbiflora, nepalense, Crimson King, and germanica major the best; of whites, Mrs. H. Darwin is the most beautiful, then the Princess of Wales, Innocenza, and Florentina; the last has been grand this year. Of white with blue and lilac edgings, Celestine is delicate in form and colour, but both Madame Cherian and Saladin are excellent—in fact, it is difficult to decide which is the best. Othello is more than a good dark one, the standards being a bright blue, and the falls nearly black. In this way is the Emperor of Morocco, but lighter. Of the white striped with blue, Zebra is the most singular, the standards, falls, and petaloids all being striped; next is Salter's Zebrina, the standards being soft lilac, spotted at the base, and the falls striped; the last variety of this is a seedling, with the standards white, and the falls striped with deep blue-purple—this is very telling, and is named J. Jenner Weir. Of the yellows, flavescens as a light colour still holds its own, while aurea is unsurpassable as a bright yellow. A new one of mine, named Gold Crest, is very good, the standards and falls being chromey-white, edged with deep yellow, with a few light purple blotches on the latter. Salter's Gipsy Queen is peculiar, the standards being a yellowish-grey, the falls deep blue-purple, reticulated, white. His Jacquiana is lovely, the standards are of a light orange, shaded with carmine, and the falls a deep carmine-purple, the beard cream. I raised a seedling from this about fifteen years ago, the standards being light crimson-sulphur suffused with blue, the falls a deep bluish-purple, reticulated with white at the base, with orange beard; the flower is large and fine in form, and is called Harrison Weir by Mr. Barr. I have two very beautiful veined varieties, raised by Mr. Salter, of the squalens type; one is Venus, the other Venosa. I have raised a third; this is a soft fawn colour, the falls being slightly suffused with pink, named Fallow Deer. Goldfinch is lovely, standards and falls deep yellow, the latter reticulated with bright red. Lady Jane is a reddish-pink, well worth growing, as is Miralba, of a similar colour. Cordelia is one of the most beautiful, and is remarkably rich in colouring of the red-purple type, with reddish-lavender standards. Darius is fine, so is De Bergii. Iris pallida is a large light blue, while pallida dalmatica is grand in size, colour and form, being one of if not the largest of all, it is also sweet-scented. All these are good, and will well repay the grower for any time or trouble he may take or expense he may incur, and not only be a delight to himself but to his friends also. *Harrison Weir, Sevenoaks, June 23.*

The Fruit-Tree Spraying at Cambridge.

When the great British Public see that a machine has won a silver medal in a competition at any trial of the Royal Agricultural Society, they think that the machine is worthy of inspection. For instance, recently, the uninitiated doubtless imagined the spot chosen for the above trial most suitable, and the judges to be experienced, in fact, everything combined to give a genuine test of the merits of a tree-spraying machine. I was one of the simple crowd when I journeyed forth from Cambridge to Mr. Ridgwell's farm, Histon Road, to see the best machines spraying the trees in the most up-to-date manner, judged by a man selected by our great Agricultural Society; but I no sooner arrived than the process of disenchantment commenced. The trees were not the most suitably cultivated to show the advantages of any engine. As far as bush-fruit was concerned, the owner wisely objected to have his crop spoiled, so there were no bushes to spray. The only one on hand was the chairman of the Strawson Company, who had exhausted stock in witnessing the attempt made to spray Potatos in a field adjoining. Having suffered disappointment with the site and judge, I buoyed myself up with the hope that those who exhibited tree-washing machines, would be experts at the business. A bull in a china-shop is thought to be in the wrong place. A cow with a musket is thought a trifle awkward, but to see some, in fact, I may say nearly all the exhibitors (except Messrs. Stott's representatives, Mr. A. H. Stott and Mr. C. Payant) begin to show the judge how to wash a tree was curious. It was evident their previous experience had been gained at the Royal Horticultural and other shows, and not by having to do the work. Many judges would have condemned the machines from the faults of those who endeavoured to show

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their points. Luckily, the judge did not notice the faulty way the washing was carried out. Thirteen machines were on the ground, the competitors numbering five. Stott fertilisers began the contest with a 30-gal. engine, with all necessary extras, to wash any orchard. The way this machine was handled won the admiration of all, and showed great technical skill on the part of the operators. Next came Weeks' horse machine, which had no chance of exhibiting its use from the natural disadvantages of the spot. The trees were too closely planted. After Weeks', came Boulton & Paul of Norwich with a 30 gal. engine; the beauties of this machine may be great, but those that handled it showed a great desire to water the roots and not to spray the foliage, if the time they took to each tree is any guide. The Syphonia and Strawsons, Limited, followed, with knapsack appliances, both excellent for window gardening or washing, but for extensive work are unsuitable. The sulphurizers of Weeks and Strawsons were also given a trial, for the latter there was nothing to apply the sulphur to, and to the former the remarks made as to their fruit-washers apply; it is absolutely necessary with horse-power sulphurizers to have large enough area, and suitable subjects to sulphur. The contest for tree-washers was severe, and the result was in doubt for some time—why, no one could understand. Boulton's machine that took the prize required dragging to each tree to be sprayed, its wheels were too small for work on any plantation cultivated as it would be by any man who had sense enough to wash his trees—in fact, the wheels are only fit to run on asphalte walks in a garden, while Stott's had large wheels, could be stood in one spot, and the trees around for 60 feet sprayed without moving the machine, and had an apparatus that enabled raw petroleum to be applied with water. This is an advantage that growers who have bought petroleum emulsions, costing 5*s*. per gallon, will not require dilating upon. The raw material can be bought, as all know, at 5*d*. per gallon, and used with the greatest safety. In spite of all these advantages, Messrs. Boulton's machine won. It must be some satisfaction to the losers to know the victors used Stott's nozzles, and that the manner in which their own machine was entered in the catalogue contributed to their defeat. I hear the catalogue price of the losing machine, which was quoted complete with every appliance for washing any variety of tree and bush, and had 60 feet hose, two patent copper distributors, and two long branches for lofty trees, with six sprayers, was £20, while the winning machine had only a length of hose of a few feet for spraying purposes—in fact, it might be considered as complete for real work as pigeon-pie without the pigeon. I went to this trial to learn how tree-washing was done by exponents of the art, as I have seen some little of it done by the commoner garden operators; also to see the way the machines were tested to bring out their practical points. I left, wondering if I stood on my head when I heard there was a doubt in the contest; I did so when I heard the result. Great are the ways of agricultural demi-gods. May I never be judged by them is the prayer of your correspondent. *Outside.*

ANALYSIS OF FRESH FIGS.

The growing importance of the Fig industry in California demanded that special attention should be directed to the manurial requirements of the Fig tree, especially in its fruit production, and also as to the chemical composition of the Fig as an article of human food. Accordingly, Messrs. M. E. Jaffa and G. E. Colby, the chemists of the Horticultural Department of the Californian Station, have carefully investigated the question.

For this purpose eleven of the most important varieties of the crop of 1892 were selected and chemically examined. These included the varieties —White Adriatic, Smyrna, California Black, Hirtu du Japon, Constantine, Du Roi, Dorée Narbus, Pastelière, and Brunswick.

The following tables give the average results of the physical and chemical examination of these varieties:—

Composition of Fresh Figs.	Average of 11 Analyses.
Physical Analysis.	Grains.
Average weight of the fruits	37·70
Number of fruits to the pound	14·75
Percentage of juice in the fruit	74·35
Percentage of pulp in the fruit	25·65
Chemical Analysis.	Per cent.
Sugar in the expressed juice	21·42
Sugar in the fresh fruit	15·73
Acidity of the juice	0·14
Nitrogen in the whole fresh fruit	0·20
Albuminoids in the whole fresh fruit	1·25
Ash in the whole fresh fruit	0·62
Water in the whole fresh fruit	81·84
Dry substance in the whole fresh fruit	18 16

The juiciest fruit was the White Adriatic, which had over 85 per cent. of juice, against 74 per cent. shown in the average. The driest sample was that of the Smyrna, containing but 64 per cent. of juice.

In the whole fruit the highest sugar was found in White Adriatic; however, the juice of one Smyrna variety showed 29·9 per cent. of sugar, which, when referred to the fresh fruit, is still over 1 per cent. less than that of the White Adriatic, or as 19·2 to 20·45 per cent. Dorée Narbus and Constantine, with respectively 27·4 and 24·04 per cent. sugar in their juice, show, on account of their dry flesh, much less sugar in whole fruit, than either of the Adriatics. Another Smyrna variety showed the lowest sugar percentage, amounting to but eight parts in the hundred of whole fruit, about 4·5 per cent. less than the California Black, which gave 12·4 per cent.

The acidity of fresh Figs seems to be very much lower than that found in any other fruits.

In regard to the nutritive values of Figs as an article of food, it may be stated that the Fig rates first in flesh-forming materials among Californian fruits; Apricots and Plums second; Prunes and Oranges third.

(The writer has recent evidence of the great value of fresh Figs as an article of human food in a case of extreme prostration.)

The following table shows the mineral constituents of the Fig fruit, and the consequent requirements of the tree upon the available mineral resources of the soil:—

Percentage Ash-constituents of the Fig.	White Adriatic.	Smyrna.
	Per cent.	Per cent.
Potash	60·13	48 60
Soda	1·17	2·20
Lime	9·12	.....
Magnesia	5 32	.....
Iron oxide	0·84	.....
Manganese oxide	0·19	.....
Phosphoric acid	11·07	11·20
Sulphuric acid	4·75	.....
Silica	4 85	.....
Chlorine	2·56	.....

As to nitrogen, the investigation showed that among Californian fruits the Fig, on the whole, extracts decidedly the largest amount of this element from the soil, and therefore it is but a truism to assert that the growing plant must have within its reach a sufficiency of nitrogen to maintain health, vigour, and productiveness.

With the exception of the Grape, the analysis shows that the Fig draws rather more heavily upon the mineral ingredients of the soil, that will need to be replaced by careful manuring, than do any of the Californian fruits yet examined.

In the ashes of the Fig, as in the Prune, Apricot, Orange, and Lemon, the constituent potash is found to be the leading element, amounting to about three-fifths of the whole ash.

The Fig, like the Lemon, appears to range a little below the other fruits in its requirement of phosphoric acid, for we find the composition of the fruit ash to stand in the following order in their phosphoric acid percentages, namely, Prunes, 14·1; Apricots, 13·1; Oranges, 12·4; Lemons and Figs, 11·1.

To sum up, it may be stated that the Fig requires a soil very rich in food-material. It is also advantageous for the vitality and fruit-bearing capacity of the Fig tree to have even the lower layers of the soil abundantly supplied with soluble nutrients, so that the roots penetrating into the subsoil can be well-nourished, and made to develop vigorously. *J. J. Willis, Harpenden.*

PLANT NOTES.

CIENKOWSKIA KIRKII.

Although by no means a new introduction, this plant is rarely met with, although well deserving more general cultivation. A fine plant was observed in the Orchid-house at the Birmingham Botanical Gardens, which was flowering freely. I was desirous of looking up some information respecting this plant, and Mr. Latham referred me to the Society's library, where in the *Botanical Magazine* for 1872, I found a coloured illustration of this plant, a native of eastern tropical Africa, of the natural order Scitamineæ, the drawing being made from living plants, sent by Dr. Kirk from Zanzibar in 1871, and which flowered at Kew in that year.

The plant is of easy culture, dying down for the winter, when it should have a season of rest, and be kept dry and warm, starting it into growth again in the spring, and growing in a warm and somewhat moist temperature. The flowers are of a pale shaded pink colour veined with pale lilac, with a bright yellow long spot in the throat, and the flowers are from 2 to 2½ inches in diameter, somewhat resembling the flower of the larger-sized Achimenes.

In the Orchid-house, the very beautiful Cypripedium Rothschildianum is in flower, the blooms being of large size and richly-coloured, and so distinct. It is truly a great acquisition to the already numerous handsome species and garden hybrids we already have. *W. D.*

VERONICA TRAVERSII.

This plant is admirably adapted for growing in the front parts of shrubberies, or on rockeries, flowering abundantly during the month of July. Cuttings inserted in a cold frame, about the middle of the month of September, choosing the half-ripened growths, pulling them off with a heel, strike readily. I have seen bushes of it, 12 feet across, which, when in bloom, were a remarkable sight. *E.*

ORNAMENTAL WATER AT HARBORNE HALL.

A good example of the formation of an ornamental pond in a pleasure-ground, under some difficulties, is to be found at Harborne Hall, Birmingham, the residence of Walter Chamberlain, Esq. The pool was made ten years since, the ground being excavated for it on one side of the pleasure-ground in view of the mansion, and is 90 feet in length and 50 feet in breadth in the widest part. The Hall and grounds are in an elevated position, with a full view of the celebrated Clent and Licky Hills, and exposed to the full strength of the south and west winds. In making this pond on a subsoil of gravel, it had to be puddled with clay to the depth of 12 inches, but when the sub-soil is of a heavier tenacious nature, such deep puddling is not necessary. Its greatest depth is 4 feet, and in its formation the clay puddle was brought well up to the sides, and the turf from the sloping lawn laid over it to the edge of the water, and Tufa-stone arranged informally around the margin of the pond, and a small islet formed in the centre of the broadest part. The outline of the pond is irregular and very pleasing to the eye, and with

the large collection of bog and other plants in the pond and around the margin, it has a very charming appearance in the spring, summer, and autumn months; a huge mass of Eulalia zebrina growing near to the water being a very conspicuous object, especially when in bloom, and quite 6 feet in height and 3 feet through, planted out four years since, and is never protected.

In the formation of this pond a difficulty arose in obtaining a supply of water for it, as the pleasure-grounds near to the mansion are so much above the lower pond and springs. The surplus water from the roof of the mansion, out-houses, greenhouses, and other buildings, and the walks, had to be utilized for the purpose, and two or three collecting pits were sunk and pipes near the surface arranged from one to the other for the conveyance of the water into the pond, the sediment remaining in these pits, and with the exception of such a summer as that of last year, when some additional aid to the water supply had to be given, there has always been sufficient water in the pond, and as goldfish exist in it, the water is not unsuitable for supporting life.

This pond was made by the present gardener, Mr. Charles Bick, who has also bestowed considerable thought and care in the planting in and about the pond so large an assortment of suitable plants, amongst some not generally supposed to be aquatic or bog plants, but luxuriating under such treatment. The lovely brightly-coloured Primula rosea abounds on the margin, which, during the winter, is very moist indeed.

The following are some of the plants grown in or on the banks of the ponds and pools:—Pontederia cordata, Acorus calamus, Butomus umbellatus, Orchis maculata and O. mascula, the flag-leaf Irises in variety, Epilobium angustifolium, flourishing in the rockwork close to the water; Calla palustris, Athyrium filix-fœmina, Osmunda regalis, Bambusa Metake, 10 feet high, and 4 to 5 feet through—a grand mass; Carex riparia albo-marginata, Phlox setacea, P. frondosa, and others; Funkia Sieboldii, in masses; F. ovata, and F. albo-marginata; Saxifragas, several kinds, luxuriating on the Tufa-stone; Scolopendrium vulgare (Hart's-tongue Fern), Menyanthes trifoliata, Sagittaria sagittifolia, Nymphæa Marliacea ochroleuca, a mass of it growing in the pond; N. odorata; Villarsia nymphæoides, which has pretty yellow flowers, but the plant spreads so rapidly in the water that much of it has to be destroyed; Typha angustifolia and T. latifolia, both very striking objects, especially in large pools; T. minima is a smaller and more graceful species; Mahonia japonica, although not a bog-plant, grows freely on the margin of the pond, and is in admirable foliage, and flowers freely every spring; Cyperus longus is a very pretty-growing aquatic, and where shelter is wanted for moorhens and other birds, should be freely used; Polygonum cuspidatum, a very fine specimen of this is growing upon a small island, and is a noble object in the summer, with its strong growths, 6 to 7 feet high; Phalaris variegata grows luxuriantly near water, and is very effective; Iris pseudo-acorus; Myosotis palustris semperflorens; Caltha palustris and C. p. pleno, luxuriating on the damp margin of a pond; Gunnera scabra, with leaves 4 feet in diameter; Rheum officinale, grows 12 feet high; Polygonum Sachalinense; Spiræa aruncus, S. palmata, large patches, and flowers so freely; S. filipendula flore-pleno; S. astilboides, but this was killed last winter; Gynerium argenteum has to be protected in winter; Nuphar advena, N. luteum, Nymphæa alba, Aponogeton distachyon, which flowers from May to November; Carex pseudo-cyperus, and Sparganium racemosum.

In a lower part of the pleasure-grounds a large ornamental pool was formed a few years ago, and a good bit of rockwork at the upper portion of the pool was arranged by Messrs. Pulham & Son. Around the margin of the lower portion, large stones are placed to protect the edges of the pool from the action of the water in windy weather, and Saxifragas, Sedums, and other rock-plants, very soon cover these stones, and assist in forming a break-water for the action of the waves. At the lowest end, when the water is level with the surrounding ground, Acorus Calamus has been planted, as it breaks also the action of the waves. A somewhat rare British plant in this district of the Midlands is growing here, Carex pseudo-cyperus and Petasites vulgaris, and many other aquatic plants are found in the pond; but as there are wild ducks, teal, gargory, and other birds encouraged here, the water is kept tolerably free for them. This pond is fed from a small spring close by. At one end of this larger pool a small shed has been built over the pool for cormorants and penguins.

Around the higher sides of the pool are large plants of Heracleum giganteum, Rheum officinale, and masses of Rhododendron ferrugineum and R. Wilsonii, double-flowered Gorse, Erica herbacea, Oak, Beech, and other trees, hardy Ferns, and other plants; and growing out from the rockwork is the handsome Cistus formosus, Pernettyas, &c. *D.*

Apropos of planting aquatics, Mr. Bick, the gardener at Harborne Hall, says:—The puddled bottom of the pond offers very little inducement to root-action; it is, therefore, necessary to make some preparation for the reception of the plants. At the margin of the pond, Calthas, Iris, &c., are planted in the interstices of the rocks, using lumps of old turf free from living grass-roots to fix them. I always plant my bog plants in fruit-punnets, filling these with good loam, and surfacing the latter with clay; they are then placed in shallow water, and more loam is placed around the punnets, so as to keep the whole thing stationary. The roots soon pass through the sides of the basket, which soon rot away, and leave the plant free to ramble at will. Water Lilies and other large-leaved aquatic plants, require great care in planting, as the leaves expand before root-action takes place, the loam becoming soft mud, the plant rises to the surface, where it very soon rots. The best way to plant them is to tie the roots to large pieces of rock or bricks, then place in round nursery flat baskets, and fill up with loam, adding more brickbats to give weight; interlace a piece of rope across the top of the basket, saturate the whole with water, and then surface it with a layer of clay 2 to 3 inches thick. These precautions are absolutely necessary, or trouble and disappointment will occur. The Typhas, and other strong-growing plants, will soon fill the space allotted to them, and if not prevented, would occupy the whole of the pond. To this end the leading growths are cut off as soon as they appear; and I always use for this purpose a 12-feet long standard tree-pruner, which will reach the bottom of the pond, and remove the growths without injuring the puddle. It does not do to pull the roots up, or a leakage will probably be the result.

Villarsias, and some of the other smaller-growing species, will sometimes take possession of a pond, and these should be cut or raked out every spring, in order to give the other plants a chance to get a fair start, sufficient roots remaining always to furnish the pond during the season.

Aquatics, like most other plants, have their likes and dislikes, and some of those that grow most luxuriantly in some ponds, will only just linger in others. *Chas. R. Bick.*

NURSERY NOTES.

MR. PRICHARD'S NURSERY, CHRISTCHURCH.

On the occasion of a recent visit, I found a grand collection of choice things, all in good heart, and in the best possible condition. Evidently Mr. Prichard thoroughly understands the requirements of his numerous charges; and I may say at once, that it is one of the best kept herbaceous nurseries I have visited as regards freedom from the untidyness so frequent in mixed borders of these popular flowers.

No one collection can possibly contain the whole series of genera, species, and their varieties, which come under the heading of herbaceous flowers, as not only do they vary very much in their requirements, both as regards position and soil, but the number is so great that even the Kew collections are not complete. However, the number grown at Christchurch, and their healthy condition, is surprising. Many taking spots of colour were dotted about in delightful confusion, and I propose to name a few which appealed to my fancy the strongest. Cistus florentinus is a very dwarf form, pure white in colour, and of remarkable freedom in blooming; this and C. lusitanicus were particularly good. A very showy rock plant, or for a border in sunny aspects, was Coronilla iberica, then a mass of deep yellow. Another gem for the same purpose is Tropæolum polyphyllum, the yellow Rock Indian Cress, certainly one of the very best yellow trailers we have, and forming grand festoons or trails of deep canary-yellow. Gaillardia maxima is grown in quantity, and considered the best variety; for cutting, and for lasting properties throughout the season, it is unsurpassed. Large quantities of the scarlet Alum root are also cultivated. I have been somewhat disappointed in the blooming of this pretty Heuchera, but Mr. Prichard informs me none would occur if they were transplanted each autumn; he also says that all soils are equally suitable, and that it is one of the best plants for gentle forcing in the conservatory.

In Philadelphus Lemoinei, a very compact miniature mock Orange, we have one of the freest and sweetest-blooming shrubs I have met with; it is comparatively new, but is bound to make its way rapidly. Among several Potentillas, California and Congo were very conspicuous. The former is the largest double flower I have seen, beautiful clear lemon-yellow in colour, and very good habit. Congo is a rich brown maroon, but not quite so large a flower. A small collection of bedding Pansies or Violas was also interesting, and contained the best varieties. Orchis foliosa and O. maculata superba were in grand form, the soil evidently suiting them, and although fully exposed to sun, were the best examples I have seen. Sea Hollies, Delphiniums, Alstrœmerias, and hundreds of others must be left, but I can truly say that a look round this small nursery, with Mr. Prichard as a guide, was one of the pleasantest features of a recent holiday. *A. P.*

CARNATIONS AT BOOKHAM.

The pitching by Mr. Jas. Douglas of his Carnation-tent just on the margin of the well-known common of the Surrey village of Great Bookham, has been instrumental in creating considerable interest in the popular flower he so admirably cultivates around that locality, and well it may, considering that he has so fine and varied a collection, grown, as is the usual florist's fashion, in pots. Just now, there are hundreds of fine plants under glass, where they can be shaded, and generally so tended, as to have them in that perfection of form essential to the winning of prizes at exhibitions. Quite as many are grown out of doors. The show of the National Carnation Society is near at hand, and naturally the Bookham plants and flowers, especially some fine seedlings, are then wanted, to put in respectable appearance. Some new yellow selfs, in considerable quantity, are very full of promise; of these, Miss Audrey Campbell, having large flowers of the Germania type, though fuller, and grass of a stout, erect character; and Duke of Orleans, rich creamy-yellow flowers, large and full, having grass of a long-stemmed nature, are very distinct; Louis Philippe has similar style of growth, but flowers are of a yellow-ground Picotee, very attractive; King Arthur is a large deep scarlet-flowered variety. Waterwitch is a fine creamy-pink; The Pasha, rich creamy-buff, or perhaps terra-cotta; Cardinal Wolsey, a fine yellow-ground fancy; and many others, far too numerous to individualise here. The yellow-ground section seems to be a strong class at Bookham, and there is also a fine lot of Mr. Martin Smith's very large and attractive seedlings of the Malmaison type that Mr. Douglas is putting into commerce. Generally, however, when I looked in on the 5th inst., comparatively few plants were in flower, but about the 20th there should be a big lot in bloom, and no doubt just then the Carnation Queen will be holding high levée at Bookham. *A. D.*

THE HERBACEOUS BORDER.

PRIMULA SIKKIMENSIS.

A VERY beautiful and pleasing species is the above, when seen in flower and in good condition. Although strictly speaking this species should be regarded as perennial, it is not always satisfactory grown as such, and those who would have it in perfection must regard it as a biennial. Raised from seeds, and grown quickly to the flowering stage, it is certainly a beautiful plant; and it thrives amazingly if planted in sub-aquatic places, and where there is no fear of the plant feeling the need of moisture. In such positions the seedlings, when large enough, may be planted at 9 inches or 1 foot apart. Grown thus, in groups or colonies as large as circumstances will permit, the plants produce excellent results, and attain to more than 2 feet high. The flowers are a clear pale yellow, bell-shaped, and produced in large umbels, and have an agreeable perfume. By reason of its distinct colour and easy culture, the plant should be grown abundantly in gardens where suitable positions can be found for it, it being easily raised from seeds. By raising batches of plants at intervals, its flowering season may be considerably prolonged. Even isolated examples last a long time in flower, by reason of the large number of blossoms a single umbel contains. In the Sikkim Himalayas it is found at a great elevation, acres of wet boggy or moist land being covered with the plant. *J.*

QUEEN ANNE'S POCKET MELON.

"Cucumis Melo Dudaim (L.)."* Through the Southern States a small Melon is frequent in Melon patches where volunteer plants are almost certain to appear each year among the Musk Melons, and the opinion seems to be quite prevalent that the Vines, which resemble those of the ordinary Melon, originate from degenerate seeds of the latter.

At first very dark green, and quite destitute of grooves, but with about ten longitudinal stripes, and numerous irregular spots of lighter green—then resembling a diminutive Water Melon. The fruit, which varies in size from that of an Apricot to that of an Orange, changes to a deep orange or maroon at maturity, and the paler stripes and blotches then assume a lemon-yellow colour. Though not at all grooved, it possesses the firm wall and central fibrous seed-mass of the Musk Melons, but is gelatinous toward the centre instead of becoming hollow as is usual with the latter; and when ripe assumes an unusually pronounced Cantaloup odour. All through the South these Melons are known as "Pomegranates," though they are in every way unlike the true Pomegranate, the fruit of the shrubby Punica granatum, which is cultivated to some extent in the Gulf States. The same name has also accompanied them into the North and West, as far as Missouri and Kansas at least. Elsewhere they are said to be cultivated for ornament to a certain extent under the name of Mock Oranges, though they differ greatly from the Gourd which is similarly named.

This Melon is evidently the Melon Dudaim of French writers, and it is otherwise known as Concombre Dudaim, Queen Anne's pocket Melon, Melon de senteur, Citrouille odorante, Melon des Canaries, Pomme de Brahma, and Pomme de Grenade—the latter corresponding to its popular American name.

Notwithstanding its smooth surface, small size, and gelatinous heart, the Dudaim is to be classed among the Musk Melons, of which there are a great many forms of very dissimilar appearance, several of which, including the present, have been named as distinct species.

The Dudaim Melon is worthy of general cultivation as a climber because of the beauty of its fruits, which in this respect equal the finer Gourds. They are also very attractive additions to a dessert piece of fruit, and their value for this purpose is increased by the highly-developed Melon odour that they exhale when perfectly ripe, though to some persons this odour is disagreeable because of its intensity. As a table fruit, however, the Melon is almost worthless, for though it is somewhat eaten when over-ripe, it is neither sweet nor of pleasant flavour. At best it is made the basis of a dessert by the use of sugar and wine to impart to it the sweetness and flavour which it naturally lacks. It is also capable of use in preserves, and forms the basis of the smallest of the stuffed Mangoes, a name which is no more appropriate to it than those of Pomegranate and Mock Orange.

Related to the Dudaim, but rather to be regarded as an undeveloped netted Melon, is the other form of the Musk Melon, which is likewise destitute of longitudinal grooves, and possesses a jelly-like pulp about the seeds. This appears to be cultivated more or less extensively under the names of Mango and Vegetable Peach, mainly for use in pickling, preserving, and jellies, though when fully ripe it is more palatable than the Dudaim, and capable of use on the table if sliced, with a liberal allowance of sugar and a little Lemon or other flavouring substance. Unlike the Dudaim, it is covered with slightly elevated grey lines, generally distinct from one another, but suggestive of the more pronounced ridges of the netted varieties of Cantaloup; but it posseses the same powerful fragrance at maturity, when it assumes a uniform light Lemon colour. *William Trelease, in the Fifth Annual Report of the Missouri Botanical Garden, April* 24, 1894. *pp.* 160—162.

* Cucumis Melo Dudaim, Naudin, *Ann. Sc. Nat.* 4 Ser. XI. (1859), 69. Pailleux and Bois, *Potager d'un Curieux*, 342; C. Dudaim, *Linn. Sp. Plant, II.*, 1011; *C. Melo, Cogniaux, Monogr. Phan. III.*, 484; *Synonymy in Naudin and Cogniaux.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

INSECT PESTS. — Amongst insects infesting Orchids none is more destructive than the yellow Thrips, and warm weather is very favourable to its increase. Every cultivator should be on the alert to detect them, employing such means for their speedy extermination as may be proper. I cannot recommend any of the patent liquid insecticides, and my advice is, to let each grower use a safe kind of insecticide, according to his own ideas of what such should be. Aphides are very troublesome, infesting the young growths of Dendrobiums, Epidendrums, Masdevallias, Oncidiums, and Odontoglossums more than other species; but they are easily got rid of, by removing them daily with a small damp brush, killing them with the finger and thumb. The different forms of scale-insects which infest Aërides, Saccolabiums, Vandas, and particularly the small hard scale, chiefly found on Cœlogyne cristata, must be perseveringly sought after and removed, and the best means of doing so is first to sponge the plants with lukewarm soapy rain-water; after the plants have been sponged, they should be gone over again, and the scale removed with a bit of stick sharpened to a point, and the sponge, using this time only clean water. Among Cattleyas, and Lælia anceps and its varieties, woodlice sometimes do much harm by nibbling the young roots, and as they prefer a dry to a wet place, they may be kept under by examining the compost and catching them, after the plants have been watered; also by laying scooped out-Potatos on the damp soil, and examining these night and morning. Cockroaches should be constantly sought after and destroyed, beetle-poison being always kept about the houses.

DENDROBIUM PHALÆNOPSIS.—A decidedly fine acquisition to Dendrobiums is this species, which, when well grown, is much admired. It succeeds either in pots or shallow pans, provided they are well furnished with drainage and an open compost. To obtain sturdy growth the plants should at this season be placed in the warmest house, and thinly shaded; and as the pots become full of roots, water must be afforded in abundance, and a slight sprinkling overhead applied in the afternoon. Let each plant be examined daily for the destructive species of beetle which attacks the pseudo-bulbs of this plant, cutting off any that are affected and at once burning them, so as to prevent other plants becoming similarly injured. Whenever a beetle is discovered, examine the plants every day until the insects are completely eradicated.

MISCELLANEOUS.—Amongst plants now in bloom is Vanda teres, an Orchid that succeeds admirably when grown in a hot sunny corner of the Mexican-house, and kept well syringed five or six times a day during the season of active growth. An interesting and rare plant now in bloom at this place is Hexesia bidentata, flowers orange-scarlet in colour and very pretty, lasting a long time in good condition. It is a plant easy to grow and one that flowers freely. Its chief requirement is a place in the Cattleya-house, suspended close to the roof-glass in small shallow pans. There are three handsome Cattleyas that have just finished flowering, viz., C. Aclandiæ, C. Schilleriana, and C. superba, which should now begin a short rest period, suspended in a place up to the light in the intermediate-house, gradually diminishing the quantity of water, but not entirely withholding it, or allowing the bulbs to shrivel in the least degree. Here they may stay till growth recommences, when increased heat and moisture should be afforded them.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

THE WATERING OF FRUIT TREES.—After three weeks of parching heat, fruit trees in bearing will be in need in many gardens, especially those with light soils, of heavy waterings at the root. The first in the row are the Apricots, the fruits being now finally swelling. Make sure that the Apricot border is made thoroughly moist to a good depth, which can scarcely be accomplished unless three successive waterings on succeeding days are given, finishing with an overhead application with the garden-hose or engine.

PEARS AND APPLES, especially Apples worked on Paradise and Pears on Quince stocks, should be thoroughly watered without delay, the more so when carrying heavy crops of fruit. Should a showery time set in, instead of depending upon the rain to supply all the moisture needed, which it cannot do in the time, thoroughly water the soil at the roots, and mulch afterwards to prevent the moisture escaping. Young trees, if infested with aphis, should also receive a good washing.

FIGS.—When the roots of the Fig are confined to a given space, and full crops of fruit are being carried, root-waterings are very much needed, once a week being not too often till the fruit begins to ripen. Even trees growing unrestricted at the root in warm borders should receive sufficient water to moisten the soil to a depth as far as the roots reach, when, with ordinary summer weather, unless the border be an exceptionally dry one, no more water will be required this season.

MORELLO CHERRY.—Trees on walls and bushes should now be examined for the last time before putting the nets on them, and if the black aphis, in ever so small numbers, be detected, dip the tips of the shoots in tobacco-water or some other insecticide, and well syringe the trees with clean water, not sparing any pains in doing so. Care must be taken to so fasten the nets and prop them out from the wall, or the fruit in the case of bushes, that the birds cannot reach the fruit. For bushes growing singly, a stout pole placed in the centre, with six others around at the extremities of the branches, will be found sufficient as a framework on which to hang the nets. It is very convenient to have short pieces of net for protecting single trees, and the following are convenient sizes: 18 feet by 12 feet, 24 feet by 12 feet, and 36 feet by 12 feet. Be sure that the trees do not lack water.

BUDDING.—The budding of Cherries, Apricots, Plums, Peaches, Pears, and Apples may be commenced if the bark runs freely, the kinds being taken in the order above given. Budding is a simple operation, and its employment is sometimes more convenient than that of grafting; and whilst it is the best method for the Cherry, Apricot, and Peach, it is also advisable in the case of the Apple, Pear, and Plum, when suitable scions for grafting cannot be obtained. For the Apricot it is advisable only where young Plum-stocks have been prepared; but with Peaches and Nectarines, other kinds, to give a succession of fruit, established trees may be budded, being careful that wood-buds only are used. The method of budding is identical with that followed with the Rose; and the budded shoots are left at full length till the winter pruning, so as to avoid any risk of the inserted buds starting to grow this year.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

DOUBLE-FLOWERED PRIMULAS.—Plants standing in 60's may have a shift into 4-inch pots, which should be quite clean and well-drained. The best kind of soil to make use of for these plants consists of light fibrous peat, loam, exhausted Mushroom-bed dung, sand, and charcoal broken small. When repotted, stand them in a cold frame, not quite near to the glass, shade from bright sunshine, and air the plants sparingly till the roots have taken to the soil, when to ensure a robustness, the ventilation given should be liberal.

BOUVARDIAS.—Continue to pinch the shoots more or less according to the strength of the plants and of the growths, applying soot-water once a week

if the plants have not been repotted this season, which should alternate with Thomson's Vine and Plant Manure given at the rate of a tea-spoonful to a 5-inch pot, and increasing the strength of the dose as time goes on. Syringe the plants sharply twice daily, and should green-fly be present, fumigate mildly on two consecutive nights. Freely ventilate the pits and frames in which the plants are standing, but avoid shading of all kinds.

CINERARIAS. — Self-sown seedlings of good varieties may now be pricked-off into pans or shallow boxes, at 3 inches apart. This is a much better practice than potting them directly from the seed-bed, as they are not so liable to rot off if too much water be afforded them; place them in a cold frame, and shade from hot sunshine.

SHOW OR FANCY PELARGONIUMS. — Those going out of flower should be removed from the show-house, and cuttings taken of all that are required, selecting the firmest and healthiest shoots, dipping these in a mixture of water, soft-soap, and tobacco-juice, to kill aphis, and place them singly into thumb-pots, using a sandy loamy soil. The cuttings should be about 3 inches in length. Place them in a cold frame placed to face the north, and keep the foliage fresh by frequently damping it lightly with the syringe; shade from bright sunshine.

BEGONIAS, treated as advised on p. 595 of the last volume, will now be sufficiently forward to admit of their being potted into 48-sized pots, using a light sandy soil, mixed with a liberal quantity of spent Mushroom-bed manure and peat. Place the plants on the benches near the glass in the intermediate-house.

GENERAL WORK. — The early crops of Peas, Potatos, &c., having now been removed, quarters will be found in which to plant the remaining stock of autumn and winter-flowering plants, first affording the beds a dressing of well-rotted stable manure, and digging it in. Select the first dull day for planting out the various Salvias, Lantanas, Eupatoriums, Solanums, &c., and in doing so plant at such a distance apart as will allow of the plants attaining a suitable size without being crowded. The same remarks will apply to Richardias planted in the open ground, affording all of these various subjects a plentiful supply of moisture at the roots. Assuming that in most gardens the pits and frames are rearranged, so far as their occupants are concerned, or the season, and that the various plants are healthy, it lies with the cultivator to see that this high standard is maintained for the season. There are, however, many obstacles to success in plant culture, but these can be got over or avoided by paying due attention to the requirements of the plants at the proper time. It is not necessary here to mention the various enemies to plant life, suffice it to say that the least harmful insect should be dealt with as rigorously as the worst.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

MELONS.—Continue to make up new beds till the middle of the month, taking care to thoroughly clean the structures of all insects before planting them, especially such as are heated with hot water. The hills or beds, if these remain, should be forked over and top-dressed with loam and manure, and made firm before planting them. Late Melons are looked upon as very useful additions to dessert, and good flavour may be obtained in them even in October by careful attention to the watering, very little water being required at that late part of the season. To plants in beds with swelling fruit a thorough watering of tepid manure-water may be applied twice a week during hot weather, care being taken not to let it touch the stems, or canker may appear. When the fruit begins to ripen, water ought to be given in smaller quantity, but there should be enough afforded to keep the plants from flagging till the fruits are all finished off. Melons in pits heated by dung, &c., and those in hotbed frames, if the soil was moist at the time of planting, will carry their fruit throughout without much water or syringing being needed, merely a damping over the foliage with a fine-rose pot on fine days at closing time being sufficient. During very bright summer weather a little shading of thin lime-wash on the glass will benefit them.

APRICOTS under glass protection, now ripening their fruits, will be benefited, if the soil has got dryish, by having a good watering at the roots afforded them. The heavy rains in June were rather inimical to the Apricot trees whose roots were outside, many fruits turning yellow, and falling off, but those trees which were not severely thinned of fruits will furnish a good crop. In view of the injury heavy rains do at the stoning period, the borders for Apricots should be well drained, so that the water is quickly carried off. Young trees should have their shoots carefully laid in, the laterals removed, and a properly-balanced head formed, the centre being kept an open space. The fastenings of the earlier-trained shoots should be examined, and those which have got tight should be cut so as to prevent injury to the rind—often the forerunner of canker. Fruits for dessert should remain on the tree till thoroughly ripe, or the flavour will be deficient. For jam-making, &c., the fruits should be gathered before they are quite ripe. Earwig traps of small flower-pots with a bit of dry moss or hay stuffed into them, should be placed about the Apricot trees, and the insects killed by being turned into a can of boiling water; failure to catch these marauders causes the loss of much of the finest fruit.

ORCHARD-HOUSE.—Vigilance will be required by the various kinds of fruit trees in mixed orchard-houses; the Peach, Nectarine, and, indeed, all stoned fruit trees needing careful watering towards the ripening period, especially such as are in pots and tubs; for although a certain amount of dryness in the soil is necessary at that period, the foliage must not be allowed to flag at any time, or the fruit will be deficient in flavour and juiciness. When the fruit of any variety is all gathered from a tree, a thorough watering and syringing should be afforded the tree; Quassia-water and also clean water being employed to rid it of insects; and all such trees ought to be placed by themselves for suitable treatment, and if they are placed outside, they should be plunged in some light spent hot-bed material, to shield the pots from the sun's rays, paying particular attention to the watering and syringing. Late kinds and varieties of fruits must be syringed daily, and afforded plenty of air by day and a little by night. Spring-potted Apple, Pear, and Plum trees should be induced to make good growths the first season.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SHRUBS.—All shrubs and specimen trees, Hollies, &c., late planted, should have the soil at the roots examined as to the state of moisture or otherwise, well watering it if found to be getting dry, and syringing the heads in the afternoon and evening in hot weather. This will often be the means of saving some which would, failing this attention, succumb. Large or small trees and bushes should have a basin formed round them, corresponding in size to that of the head, which may be done by scooping the soil away from the stem a little, and drawing some from outside, so as to form a ridge of about 4 inches high. This will retain the water, especially on sloping or very hard soils, just where it is needed. If trees and bushes are much exposed to sun and air, a mulch may be applied.

BEGONIAS.—Seedlings, when large enough, may be potted on, pricked out into boxes, or planted in prepared beds of good soil in the open, where they will make capital tubers by the autumn, useful for planting in the flower-beds next year.

ROSE BUDDING.—This operation will require attention in warm dull weather. Before commencing to bud, go over the stocks, and reduce the shoots to three—the strongest and best placed. Having done so, choose well-developed, plump buds of the required varieties, putting the rose shoots in a covered watering-can. Place the buds well down in the angle formed by the shoot with the stem of the stock, and tie securely with soft worsted or bast. If the bark of stocks or Roses does not run readily, water the plants heavily, and wait a few days before commencing the job.

ROSE-BEDS AND BORDERS.—Remove at short intervals faded flowers, pinch off the seed-pods; syringe with an insecticide all bushes, &c., infested with green-fly, and keep a sharp look-out for caterpillars, or the flowers, as well as the foliage, will soon be disfigured. Keep the heads of the standard Rose trees fairly thin by removing thin, blind, misplaced, or crowded shoots, rubbing off all shoots on the stocks, and removing suckers. The flowering of climbing Roses having approached its end, cut out all the weak and worthless shoots, and dress the plants with an anti-mildew preparation and an insecticide, thus preparing some of them for a good supply of bloom at a later date. Maréchal Niel, if gone out of flower, should be cut hard back, when, if the plants are in good health, they will break and make growths of 8 or 9 feet in length, which will produce fine blooms the next season.

HINTS ON WORK IN GENERAL.—Subtropical beds will require much labour in tying, watering, and syringing the plants, especially such of the latter as are plunged in pots. Carpet-beds should be damped over every evening in hot weather, and some of the tender plants not well hardened-off may require shading during bright sunshine. Turf which was laid at a late part of the season and that beneath umbrageous trees, will be improved by occasional heavy waterings. Late-sown Sweet Peas, Tropæolum Ball of Fire, and other similar plants, should have small Pea-sticks placed to them as supports; Verbenas may be pegged down, and Mignonette plants thinned.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

SALADINGS.—During the warm weather sowings should be frequent of Mustard, Cress, Radishes, and Lettuces, the last-named as far as possible, where they can remain, to attain full size. North borders and other places in the garden should be chosen for the various sowings, and if the land be dry at the time, it should receive a good watering the evening before sowing the seeds. The same practice should be followed with transplanted stuff, also affording the plants water before and after transplanting. Do not plant Lettuce between tall-growing crops, as the plants become drawn and the leaves twisted in growth. Keep all salad plants of whatever age, moist at the roots, and the land stirred with the Dutch hoe to prevent evaporation of water.

CABBAGES.—The time has arrived when sowings of Cabbage for spring and early summer supply should be made, the exact date depending upon the earliness or otherwise of the district. As a rule, if seeds be sown very early the plants make too much growth before the winter sets in, and are liable to bolt. In my district the suitable period for sowing is from July 15th to the 20th, which in the generality of years is sufficiently early for this part, but too early for more southerly counties. A sowing is also made about the 3rd or 4th of August, and full plantings are from both sowings. Sow on well-exposed ground that has not grown any of the Cabbage tribe for some years—the longer the better. If it be well dug and is sufficiently rich, no manure need be afforded, otherwise, a light dressing of rotten manure is necessary, the land being well pulverised and mingled with the dung in the course of digging it. It should be trodden evenly all over, made level and smooth, and shallow drills at 6 inches apart drawn, in which the seeds should be scattered thinly if the seed be new. Thick seeding when seed is fresh, unless the plants are pricked out at a very early age, is sure to produce spindly plants that seldom do much good. The seed-beds should be treated as advised for salad plants, and the beds shaded till germination has taken place, when the shading stuff should be taken off instantly.

CELERY.—Supply water in large quantities in bright dry weather, and if the soil in the trenches is becoming baked on the top, loosen it with a hand-fork or the Prussian hoe, and draw out any weeds that may be growing on the sides of the trenches, not hoeing them off, as this causes more soil to fall into the trench than is desirable. As fast as the Pea and other crops are cleared off, throw out more trenches for Celery cultivation, planting them forthwith, watering the plants before and after planting.

GREEN CROPS.—If water and labour are sufficient for the purpose, the planting of Cauliflower, Savoys, Brussels Sprouts, and Kales may be pushed forward as fast as the land becomes vacant; but if water and labour are insufficient, defer the above work till rain falls in quantity. If any of the plants in store beds, except Cauliflower, are growing too quickly, and the ground is not ready to receive them, or other causes prevent immediate planting, a check to growth may be given by raising them up a little with a fork or trowel, watering them before and after the lifting.

ONIONS should now be finally hoed, taking care in doing so not to break down the tops; and afford a dressing of nitrate of soda if showers of rain should occur, or after artificial watering. Mulch with spent Mushroom-bed manure, &c, if large bulbs are needed, and afford liquid manure once in ten days.

SHALLOTS.—Remove flower heads, and turn the tops down.

GATHERING VEGETABLES.—As far as may be practicable gather these in the early morning, and store in a cool place.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

SATURDAY, JULY 14—Royal Botanic Society.

SHOWS.

SATURDAY, JULY 14—Rose Show at New Brighton.
TUESDAY, JULY 17—Helensburgh Rose and Horticultural.
WEDNESDAY, JULY 18—Durham, Northumberland, and Newcastle Botanic and Horticultural Society (three days). King's Lynn Horticultural.
THURSDAY, JULY 19—National Rose Society (Northern Section), Halifax. Trentham Rose and Horticultural. Halesworth Rose and Horticultural. Elsenham (Herts) Horticultural.
FRIDAY, JULY 20—Forest Hill and Catford Horticultural Society (two days).
SATURDAY, JULY 21—Rose Show, and National Pink Society's Show at the Manchester Botanical Gardens.

SALES.

TUESDAY, JULY 17—Unreserved sale of the collection of Established Orchids, formed by the late T. R. Watt, Esq., of Chislehurst, at Messrs. Protheroe & Morris' Rooms (two days).
FRIDAY, JULY 20—Orchids from Messrs. F. Sander & Co. and others, at Messrs. Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.4.

The literature of Orchids.

ONE special advantage which the passion for Orchid-growing has secured, has been the creation of a literature richer and more varied than pertains to any other order of plants. Hence it is that, if we except the minute anatomy and chemistry of the subject, the history of Orchids is probably better known than that of any other order of plants. This, of course, has not been the main object of Orchid collectors and Orchid growers, nevertheless, it is the one which will be most permanently beneficial to horticulture and to botany. When Orchids shall have gone out of fashion, and some other group shall have taken their place in popular esteem, a revolution which, judging from the past may occur, though it seems distant enough now, then the lessons which the love for Orchids has taught will still be available for other things. From this point of view it is fortunate that the cult of Orchids is of comparatively recent development, because it has coincided with the rapid progress of science in all departments. Other families have been popular favourites for centuries, people rave about the Rose as much and as justly as ever they did, its beauty and fragrance are still unsurpassed, but neither they nor Carnations and Daffodils, Iris and Lilies, nay, even Vines and Wheat, long as they have been cultivated, have by any means such an up-to-date literature as Orchids.

All the horticultural weekly journals, and there are now nine, where a few years ago there were but three, find it necessary to devote a considerable space to Orchids. Besides which, there is one journal specially assigned to them, the *Orchid Review*. In France there is the *Orchidophile*, in Belgium the *Journal des Orchidées* and the *Lindenia*. Then, if we turn to less ephemeral literature, we have in this country WILLIAMS' *Orchid Growers' Manual*, of which a seventh edition is before us; VEITCH'S encyclopædic *Manual*, recently completed, most trustworthy, and excellent in all particulars except its arrangement; the sumptuously illustrated publication issued by Messrs. SANDER, under the title of the *Reichenbachia*, one of the finest illustrated works ever issued; the useful *Orchid Album*, published by Messrs. WILLIAMS, besides other books of less pretension, and intended principally for the use of amateurs and beginners.

The purely scientific interests have been well looked after by LINDLEY and HOOKER, BATEMAN, and ROLFE, in this country; by REICHENBACH PFITZER, KRÄNZLIN, and others in Germany; by MORREN and COGNIAUX in Belgium. Our own pioneers' share in the work—we need not hesitate to avow it—has been large. In our columns, LINDLEY and REICHENBACH published so much, that, so far as cultivated Orchids go, a very large share indeed of the literature is enshrined in our volumes from 1841 onwards. Moreover, this is matter of permanent value. We may also lay claim to have led the way in cultural matters, and to have shown that Orchid culture was not an affair of mystery, but of the right application of sound general principles; not the exclusive luxury of the wealthy, but a gratification to be enjoyed also by those of modest means. "Orchids for the Million" was the title of a series of articles contributed by the late B. S. WILLIAMS to our columns in 1850, articles which have undergone progressive evolution till now they lie before us in a portly richly-illustrated volume in the shape of the seventh edition of the *Orchid-Growers' Manual*. This is a further extention of the old edition. In it the garden names are maintained even to the use of sectional names, as if they were generic, e.g., Zygopetalum is split up into Zygopetalum proper, Promenæa, Bollea, Pescatorea, &c. The sign of hybridity is often omitted, which is to be regretted; but on the whole, the book is as thorough and good for garden purposes as ever it was, and may be highly recommended to the notice of the British gardener.

Simultaneously with the receipt of our seven-times-tried friend comes a new candidate for public favour, and we can at once say that its success is assured. In M. LUCIEN LINDEN'S *Les Orchidées Exotiques et leur Culture en Europe*,* we have a portly volume of over a thousand pages of large octavo, well printed, well arranged, well indexed, and with numerous illustrations, but with no maps. To review such a work critically and thoroughly would necessitate a large expenditure of time and research. We have seen enough already, however, to justify our favourable opinion. This is no mere paste-and-scissors book, still less is it a commercial sale-list. It is the work of a tried expert, who has known how to avail himself judiciously, and with due acknowledgment, of the writings of others, and to incorporate them with his own. Thus, the name of M. COGNIAUX, which finds a place on the title-page, is ample guarantee that the botanical portions are correct, while the portrait and dedication to JOHN LINDEN will remind the reader of the unrivalled opportunities that the son has had. The dedication is as well turned as it is appropriate. We should spoil it if we translated it, therefore we shall be excused for giving it in the original:—

"À mon Père.

"À l'explorateur botaniste à qui la science des Orchidées doit ses plus grandes, ses plus nombreuses et ses plus fécondes découvertes.

"À mon premier maître et mon premier modèle, à mon meilleur ami.

"Je délie ce livre . . . ."

* Brussels: 100, Rue Belliard. Paris: O. Doin, 8, Place de l'Odéon.

The primary object of the work is to afford the Orchid-loving public information and practical advice in a form more compact and convenient than the pages of a periodical journal like the *Journal des Orchidées*. The special competence of M. LUCIEN LINDEN as a cultivator is acknowledged on all hands, and many will be glad to have in so convenient a form a summary of the general principles of cultivation followed in the remarkable establishment at Brussels, of which the author has been the responsible director for many years.

The introductory chapters are devoted to the botanical history of Orchids and to the conditions under which they grow naturally. In this portion of the work M. LUCIEN LINDEN must have derived great assistance from his father as well as from M. COGNIAUX and M. GRIGNAN. In dealing with the division of the order into tribes, the author has had the happy idea of describing a few Orchids as illustrative of the main subdivisions. Thus, to illustrate the Epidendreæ and the Vandæ we have brief comparative descriptions of Miltonia vexillaria, Zygopetalum crinitum, Lælia anceps, Sophronitis grandiflora, Calanthe vestita, &c.

The classification adopted is that of BENTHAM, as given in the *Genera Plantarum*, itself a slight modification of that proposed by LINDLEY. At p. 83 is given an analytical key, for the purpose of identifying the tribes and genera, and which will be very convenient to those who have acquired sufficient knowledge to be able to use it. Beginners make a mistake in attempting to use such keys, which are more serviceable as hints to the initiated than as guides to the novice.

The history of the introduction of Orchids to European cultivation forms the subject of a separate section, and lists are given of the several collectors, and of the plants introduced by them—lists which probably might be extended with advantage. The natural conditions under which Orchids are found are well illustrated by some notes contributed by BUNGEROTH, CLAES, NÖTZLI, and AUGUSTE LINDEN, which we commend to the attentive notice of the reader.

These details naturally lead up to the consideration of the temperature and degree of moisture to be afforded to the plants in cultivation; but in this matter, as we have often said, strict imitation of Nature in some particulars, even if it were possible, would be ill-judged, because it is impossible to imitate them all. The art of the gardener is not to imitate the unattainable, but to know how to bend to circumstances, and enable the plants under his charge to adapt themselves to the new conditions in which they are placed. Some useful indications are given on the structure and conformation of the vegetative organs, and their relation to the manner in which they should be grown. Then follow clever chapters on "Temperature, and the relative degrees of heat required by each class; and selections of the principal genera and species adapted for cultivation." In these lists, as in all other arbitrary selections of the kind, useful though they may be, there are some few to which many growers, in this country at least, would take exception. For example, "Nanodes in general" are set down for intermediate and warm house; whereas, the only one in general cultivation, Nanodes (Epidendrum) Medusæ is found in Great Britain to grow best in the cold-house. Also the little highland Indian Cœlogyne odoratissima is set down for "warm-house," while here we find it safe only in a cool-house.

In the chapters dealing with the general treatment of Orchids, such as re-potting; the material to be used in the operation, watering,



FIG 7.—ANGRÆCUM FOURNIERIANUM: FLOWERS WHITE.

(A newly-introduced Orchid, described at p. 808, vol. xv., 3rd series, by Professor Kränzlin.)

shading, &c.; the author deals with each of the subjects in a thorough manner, in every detail displaying his intimate knowledge, gained by many years of careful study and observation, and his assimilation of every reliable fact gleaned from the correspondence of collectors and other available sources.

Of the greatest interest are the articles touching on the construction of Orchid houses, accompanied by illustrations showing every detail of the structures in use in Belgium, and the manner in which they are heated and shaded. The Belgian houses, as we have had repeated opportunities of knowing, seem to be designed as simply as possible consistent with embodying every feature considered salutary for the plants, and we have no doubt that some of the details, at least, might be introduced into Orchid-houses in England with beneficial results.

The work contains a calendar of operations for the whole year, and the fourth part, extending from p. 563 to p. 1119, contains "Descriptions of the principal Orchids cultivated in Europe," together with a very complete index. In alphabetical order the genera are dealt with, and their botanical features and cultural requirements set forth. Under each genus the best species are described, special information for culture, and as to time of flowering, being also given.

In the matter of nomenclature, the work is up to date, all the genera and species being placed in accordance with the views of the best botanical authorities of our times, though we regret to find the names of the authorities for the species omitted, an omission which is serious in a book of reference. Over some of the vexed questions the author has occasionally, like the rest of us, to emit a slight groan. Under Cattleya (p. 621), he says, "Mais, il existe encore une autre grave difficulté. Doit-on considérer comme des espèces distinctes, ou seulement comme des variétés du C. labiata, ces formes splendides, si populaires et si répandues et dont le nombre s'accroît tous les ans d'une moisson nouvelle, les C. Trianæ., Mendeli, Mossiæ, gigas, Gaskelliana, Eldorado, Percivaliana, &c.?" So far as some of them are concerned, we should say, certainly not! In the enumeration the author drops the name "labiata," and uses the popular as if it were the specific name, —a course which will not be objected to by the botanist if he is duly forewarned, and which will recommend itself to the amateur and gardener. Wonderfully few misprints are to be noted, considering the magnitude and complexity of the work. Cattleya Trianæ should be Trianæi; Linnée should be Linné, at least it is so spelt in French botanical books; cirrhosum should be cirrosum.

We have said sufficient to show how comprehensive the book is. Little or nothing relating to Orchids seems to have been forgotten, though naturally some sections are better and more thoroughly treated than others; the chapters on insects and fungi attacking Orchids are, for instance, rather meagre.

The work is sure to fulfil the main object of its projector, to diffuse the knowledge of Orchids and their cultivation in Europe; whilst as a book of reference for the expert it will be invaluable.

Spot on Grapes.—This week and the last we have received such very numerous specimens of this disease from all parts of the country, that we fear it is very widely prevalent. It is especially prevalent on Muscats. A brown spot appears at the stalk end of the berry; this extends, till ultimately the whole of the berry becomes a rotten mass. Sometimes, but rarely, there may be seen small raised black dots; these are the fructification of the fungus. The disease was first noted in our columns by Mr. Berkeley in 1871, and again so recently as December 6, 1890, by Mr. W. G. Smith. We should recommend that all affected bunches be immediately destroyed by fire. Spraying in the present advanced stage would be quite useless, though it might have been used as a preventive at an earlier period.

Floral Decorations at Buckingham Palace.—On the occasion of the state concert at Buckingham Palace on Monday evening, the decorations of the state rooms were carried out by Messrs. Wills & Seegar, 16, Onslow Crescent, S.W. The exigencies of space required that a series of pretty floral pictures should be arranged in alcoves, corners, fireplaces, &c. In the tea-room a noble group of plants was set up—Palms, Dracænas, Ferns, &c., with which were mingled white Lilies, Hydrangea paniculata, &c. This was most effectively repeated on a smaller scale in other parts of the various rooms. In the picture gallery are four white marble fire-places, and in each of these Mr. Wills employed sprays of Mr. Turner's new Rose, Crimson Rambler, with brilliant foliage, Ferns, white Lilies, and Spiræa astilboides. The Rambler was seen to the best advantage under the brilliant light. The combination was perfect, and it was one of the happy inspirations which so exalts the art of the decorator.

Chelmsford Recreation Ground.—A new recreation-ground was opened at Chelmsford on the 4th inst., consisting of a total area of 27 acres. The initial expense has been about £2000, and the whole of this has been provided by private persons, entirely independent of the rates. A full report and description is given in the *Essex Chronicle* for Friday, July 6.

Flower Shows. — We have reports from Bearsted, Ightham, and Sittingbourne (Rose), on June 30; Malling and Leeds, July 2; Larkfield and Sevenoaks, July 3; Maidstone, July 4.

Golden Douglas Fir. — Mr. Dunn kindly sends us a branchlet of the Douglas Fir, in which the young growth of the year is of a beautiful clear primrose-yellow, so that the tree must indeed be a beautiful object. The specimen was communicated in the first instance by Mr. Fender, gardener to J. Maxtone Graham, Esq., of Cultoquhey, near Crieff. The tree was only planted two years ago, and previous to this year has not differed from its fellows. It remains to be seen whether the coloration will prove permanent, and if so, what effect it will have on the rate of growth of the tree.

A Viola Conference.—A Birmingham correspondent writes:—"The great interest now taken in the Viola, and the influx of so large a number of new varieties annually, has created a desire on the part of many leading raisers and cultivators of this flower to hold a conference of specialists, and this has been arranged for Friday, August 3, being the day fixed, to enable those who attend it also to see the Great Midland Counties Carnation and Picotee Show on the Saturday, August 4, the Birmingham Botanical Gardens having been kindly placed at the disposal of the promoters of the conference, and blooms of seedlings and new varieties of Violas as well as Pansies are invited, and certificates will be awarded to first-class kinds, papers read, and discussion promoted. Any information will be supplied by the hon. sec., W. Dean, Dolphin Road, Sparkhill, Birmingham.

The Birmingham Botanical Gardens.—The large exhibition hall here, which is also used as a conservatory and promenade, has been recently lengthened at a cost of nearly £800, and a permanent orchestra constructed for the purpose of concerts, &c., and for the flower shows which are held in the building. Other improvements are contemplated, such as the formation of a rock and bog garden; a rearrangement of the herbaceous borders, botanical lectures, &c, and to make the gardens more a school for botany than it has been. The formal opening of the addition to the exhibition hall was inaugurated by the Mayor of Birmingham on the 4th inst., when there was a large attendance of subscribers and visitors, and the band of the Royal Marines from Portsmouth was in attendance.

Isle of Wight Horticultural Improvement Association. — The monthly meeting was held at Warburton's Hotel, Newport, on Saturday, July 7, when an excellent address on the "Cultivation of Cinerarias, Primulas, and Calceolaria," was given by Mr. J. Barkham, F.R.H.S., Longford House Gardens, Haven Street, I.W. Mr. Barkham, who has grown the above subjects from 2 to 4 feet in diameter, is considered to be unapproachable by any gardeners in the Island, so far as cultivation of these plants is concerned. The discussion afterwards was taken up by Dr. Groves (chairman) and several of the members. The table was decorated with a fine collection of Roses by Mrs. Williams, Gatcombe. The plant exhibits were especially fine, and such as are not witnessed very often in the Island. Mr. T. Barker, gardener to J. Wood, Esq., Ryde, showed a a plant of Oncidium macranthum, having a flower raceme 12 feet long with 11 blooms, Sobralium guttatum, very fine; and Cattleya gigas Sanderiana, with 7 very fine and largely-developed blooms. This new association bids well for success in its objects of horticultural education.

Testimonial to Mr. William Dean.—At the request of the Midland section of the committee interested in getting up this testimonial, the presentation fixed for July 9, his 70th birthday, has been postponed till August. The Hon. Treasurer, however sent on that day to Mr. Dean a substantial instalment of the amount collected. Any further subscriptions, however small, will be gladly received and acknowledged by Mr. George McLeod, Hon. Treasurer, 46, Cannon Street, London, E.C., or Mr. William Cuthbertson, Hon. Secretary, Springfield, Rothesay.

United Horticultural Benefit and Provident Society.—The quarterly meeting was held at the Caledonian Hotel, Adelphi, on Monday evening, 9th inst., Mr. G. W. Cummins presiding. Forty-five new members have been elected this year; three deaths have occurred, and two members are on the sick fund at the present time. The treasurer reported that he had purchased £200 South Indian Railway, 3½ per cent. stock, guaranteed by the Indian Government. The usual business of the society was transacted, and a cordial vote of thanks to the chairman ended the meeting.

Beddington, Carshalton, and Wallington Horticultural Society.—In connection with the annual show of this Society in Carshalton Park on the August Bank Holiday, a Conference on Gardening will be held at 5 o'clock in the afternoon, under the presidency of the Right Hon. Jesse Collings, M.P., supported by E. J. Halsey, Esq., J.P., Chairman of the Surrey County Council, and of the Technical Education Committee, and H. Macan, Esq., M.A., F.C.S., Organising Secretary. Superior and inferior garden produce will be exhibited, and a short address thereon delivered by Mr. J. Wright, F.R.H.S., County Instructor on Horticulture. Questions on any point in connection with gardening may be asked by any persons at the meeting, or may be previously submitted to the Secretary in writing, with or without names of the querists. Specimens for demonstration, examples of plants, fruits, and vegetables, good, bad, or indifferent, will be welcomed by the committee for the purposes of instruction. A. H. Smee, Chairman of the Committee; G. W. Cummins, Hon. Secretary.

New Publications. — *Agricultural Zoology.* By Dr. J. Ritzema Bos. Translated by J. R. Ainsworth Davis. (Chapman & Hall.) — *Mountain, Moor, and Lock.* (Sir Joseph Causton & Sons.) — *Considérations Générales sur les Anomalies des Orchidées.* Par le Professor Penzig.—*Kew Bulletin*, July.—*A Handbook to the Study of Natural History, for the Use of Beginners.* Edited by Lady Isabel Margesson. (G. Philip & Son.)

OPUNTIA AND ITS RELATIVES.

Now that an attempt is being made to bring Cacti and succulent plants generally to the fore, it may be of interest to lay before our readers the accompanying sketch (fig. 8). It shows how the ordinary flat branches of an Opuntia may assume the slender cylindric form of the branches of such plants as Cereus flagelliformis. Whether the flat form was derived from the cylindrical, or *vice versâ*, we cannot say. We can only guess that in obedience to new requirements, the cylindrical assumed the flat form, and if so the case above-mentioned is an instance of reversion.

HOME CORRESPONDENCE.

THINNING PLANTATIONS.—In Mr. Webster's article on this subject, in the *Gardeners' Chronicle* of June 23, he tells us several facts which we should imagine were pretty generally known by this time. In explaining why trees are able to exist and put on timber with small crowns only, however, he makes the novel statement that "the leaves of the trees are produced much closer (?), and in consequence have a greater amount of surface exposed to light and sunshine, when the trees are grown thickly together, than when allowed plenty of room." Up till now, we have been labouring under the impression that woods were thinned for the express purpose of allowing light to enter to a lower level, and thus increase the leaf-surface exposed to it. If Mr. Webster's statement be true, then we, and doubtless many others, have based our thinning operations upon a gross error, and a great loss of time and timber must have resulted from it. Mr. Webster also states that the root-spread of trees with small crowns is narrow. Why this is so he does not explain; but we should have thought that the narrower the root-spread so much the less plant-food from the soil would be at the tree's disposal, and that this circumstance, therefore, would not be likely to favour the increase of the stem with a small crown, which is Mr. Webster's argument. It is also rather difficult to trace the connection between the thickness of the bark, the health of the tree, and production of a useful stem." We generally find that the thickness of the bast (from which the bark is formed) and the activity of the cork cambium is in direct proportion to the growth of the wood ring, and that a vigorous-growing tree has a corresponding thick bark, and *vice versâ*. We may possibly be mistaken, however, on these points. *A. C. Forbes.*

A FEW STOVE AND GREENHOUSE CREEPERS.—Amongst stove creepers which are not rampant growers, and can easily be kept within bounds, the beautiful Stigmaphyllum ciliatum, of graceful growth, nice foliage, and charming Oncidium-like flowers, should find a place; so also should the beautiful Solanum Wendlandii, with its clusters of large-sized, pale mauve-coloured flowers, and which blooms so freely. These two plants are growing side by side in the Birmingham Botanical Gardens, and contrast pleasingly in colour. Some of the Aristolochias also well deserve more general cultivation; and in a moist stove in Yorkshire, I recently met with examples of Gloriosa superba, in fine condition. Amongst greenhouse creepers, the handsome Mandevilla suaveolens is rarely seen now, with its profusion of white blossoms. Some few years ago I saw it in full bloom in the large old-fashioned conservatory at Strathfieldsaye; it does best planted out, and so well deserves more attention. [Perhaps it is too "dirty" a plant for present-day gardeners. Ed.] Bignonia jasminoides is another free-growing evergreen creeper, with white flowers, admirably suited to larger houses, and does best planted out; and another old favourite plant, Mitraria coccinea, although not absolutely a creeper, can be used as a wall plant, and just now a plant several feet high trained against a wall in the large floral hall of the Birmingham Botanical Gardens, and planted out, is "a thing of beauty," with its rich orange-scarlet flowers. The scarlet Trumpet Evergreen Honeysuckle, although a hardy plant in the more favoured parts of the country, is a very beautiful plant as a creeper in a cool greenhouse which suits it. In a north house near me, devoted to Palms, Azaleas, &c., a plant is in luxuriant growth, and is planted out in the open border, and trained up a support, and it covers a large space under the glass, and it has been in flower for a long time, its bright orange-scarlet Honeysuckle flowers being much valued for indoor decorative work, and a basket, bouquet, or vases of these flowers with white Marguerites or other graceful suitable flowers is a very charming combination. *W. D.*

RAVENSCOURT PARK, HAMMERSMITH.—This, one of the prettiest of the smaller suburban parks under the control of the London County Council, is just now looking extremely well. A new feature—the rockery—is at present attractive, and will, when established, be a source of increased interest and pleasure. A rough piece of ground facing the high road has been taken in, and tastefully laid out and planted this season, effecting a great improvement. The bedding (as is proper) is not overdone, the delightful breadths of green sward not being cut up, but serve as pleasant "eye-resters." Beds of Fuchsias are doing well, showing the adaptability of the plant for this purpose. A little carpet-bedding—nicely designed—will find admirers of this style of garden embellishment. It struck the writer, in going through the Park lately, that the Hammersmith Horticultural Society might well utilise such charming

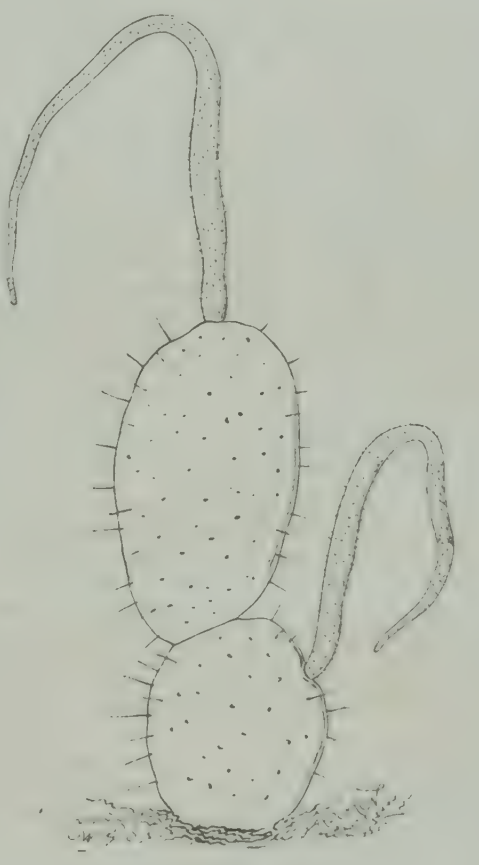


Fig. 8.—TWO-FORMED OPUNTIA.

(Specimen grown by Mr. W. G. Smith.)

surroundings as the Park affords for its annual flower show. A precedent has been set for this in the neighbouring parish of Acton, where the annual flower show has been held with much success in the Acton Recreation Grounds. The important borough of Hammersmith certainly deserves a better place for its annual flower show than a cramped schoolroom, where its recent exhibition was held. Will the committee of the Society be enterprising enough to hire a tent, and have their next display in Ravenscourt Park? New life would thus be infused into the Society, visitors in plenty be attracted, and any additional expense incurred recouped by this little bold, but much wanted action on the part of the Society. *J. B.*

PHORMIUM TENAX.—It is rather singular that this plant should succumb to the winter in Cornwall (see *Gardeners' Chronicle*, vol. xv., p. 814), and survive here. We have a strong plant now coming into flower, which has lived without protection for several years, which has flowered at various times before. It is growing in a well-drained and sheltered position. It may be that the failure of the plant in Cornwall is due to imperfect drainage. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

EREMURUS ROBUSTUS.—This plant has thrown two grand spikes of flowers here this season after failing to flower for several years. The beauty of this species must be seen to be fully realised, the greenish-yellow ovaries in the centre of the pale pink flowers—of which there are over 300 on each spike—gives it such a distinct and pleasing character. It does not seem to seed naturally, but I have tried what can be accomplished by artificial fertilisation. Can any reader of the *Gardeners' Chronicle* inform me if the plant has formed seed in this country? or is some special insect required for this purpose? Its foliage was much damaged by the frost on May 21 and 22, although it is in a very warm and sheltered position. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

THE POTATO DISEASE.—I little anticipated when I penned the short note on this subject, inserted last week, that I should so soon have observed the dread pest. Judging cottage gardens at Reigate on the 6th, I found in one low-lying garden a patch of early Potatos, the leaves of which were virulently spotted with the fungus. It was unfortunate that no one in this isolated place was at home to advise the pulling and destruction of the haulm immediately. A few hours later the district was visited by a very heavy thunder-storm, and I can now very well imagine, after the exceeding humidity of the succeeding night, that the tops of the patch must in a few hours have become quite black. This garden not only lies low, but close in front is a brook, down which flows in a considerable stream the effluent from the local sewage-farm—black, foul, and offensive. No wonder if, in such a position, the atmosphere is full of fungoid germs. Had the spot not been so strikingly in evidence prior to the storm, then the electricity with which the air was so highly charged would have had to bear the blame, no doubt. I could but think that with our present knowledge of the nature of the Potato disease, and of the powerful antidote to it that the Bordeaux Mixture presents, it would be well if local sanitary authorities could furnish their inspectors with an Eclair sprayer, and the needful ingredients for the mixture, then these officials could be empowered, so soon as the disease presented itself in their districts, to give the Potato breadths affected a sulphate of copper dressing, that very much might be done to arrest the operations of the fungus, and save the crops. That course would lead many having large breadths to do their own spraying. *A. D.*

CLEMATIS, COUNTESS OF ONSLOW.—It may be interesting to know that a similar plant to that figured at p. 9, was raised here about five years ago. My plant, which now has become the property of M. Louis Späth, is also exceedingly free-flowering, especially towards the points of the growths; the flowers are deep rose-purple. *Max Leichtlin, Baden-Baden.*

JAPANESE BAMBOO NAMES.—Mr. Freeman Mitford stated in the *Gardeners' Chronicle*, vol. xv., No. 379, p. 407, that the Japanese word "sasa" is a corruption of the Chinese words Hsiao Tsao. But this is incorrect. The word sasa is purely Japanese. It means small or trifling. Sasa as a name of plant is either onomatopœtic (the sound of leaves moved by the wind), or a contraction of sasa-dake, meaning a small Bamboo. The word Kumazasa is a compound of the two words Kuma, margined, and zasa, small Bamboo. It is the Japanese name of Arundinaria Veitchi, in Mr. Bean's classification of hardy Bamboos in the *Gardeners' Chronicle*, vol. xv., No. 376, p. 301. The Japanese name of Phyllostachys Kumazasa in his classification, is Okamezasa. Bangozasa in the same journal, p. 407, seems to be a misprint of Bungozasa. *S. Okubo, Tōkyō, Japan* [With reference to this communication, we have received the following note from Mr. Mitford:—"In Hepburn's *Dictionary of the Japanese Language*, the word *Sasa*, the generic name for the dwarf Bamboo, is written with the two Chinese characters, *Hsiao Tsao*, "small grass." *Sasa*, "small trifling," would be written with the character *Hsiao*, "small," repeated. Hepburn was assisted in the compilation of his *Dictionary* by the highest native authorities available. *Hsiao Tsao* at once points to a dwarf plant of the grass family; whereas *Sasa*, written as Mr. Okubo suggests, gives no such indication." Ed.]

FOOD REQUIREMENTS OF THE CHRYSANTHEMUM.—Your correspondent, Mr. W. Dyke, of Turnford, at p. 18, vol. xvi., asks certain questions regarding the food requirements of Chrysanthemums. In the first place, the actual amount of ash in the Chrysanthemum plant was not given me by Dr. Griffith, but the omission does not affect the manurial formulas quoted, because unless the total weight of the Chrysanthemum plants grown were known, the amount

of ash constituents abstracted from the soil could not be ascertained. Further, it is always necessary to apply an amount of food-constituents considerably in excess of the actual requirements of a crop, as only about 60 per cent. at the most of the food supply becomes immediately available, and is taken up by the growing plant. For instance, in one of Sir J. B. Lawes' experiments at Rothamsted on grass-land, the total constituents of 1 ton of hay are applied annually, and yet the yield of hay in the average of twenty years is only 11⅝ cwt. per acre in excess of that grown without manure. In the first formula quoted, Mr. Dyke will see that it is nitrate of potash which is recommended; now this is a very concentrated manure, and contains 44 per cent. of potash, and 13 per cent. of nitrogen, equal to 67 per cent. sulphate of potash and 16 per cent. of ammonia. The phosphate of soda will furnish soluble phosphoric acid and soda in the most quickly available form, while the superphosphate provides the phosphate and lime in a slower acting condition. It may also be mentioned that most of the good loams employed in the culture of the Chrysanthemum contains from a quarter to one-half of 1 per cent. of potash in their composition, which, of course, renders the direct application of artificial potash less necessary. In the second formula, kainit and nitrate of soda are quoted instead of nitrate potash and magnesia. Kainit will furnish about 25 per cent. potash, 14 per cent. magnesia, and 30 per cent. sodium; while the nitrate of soda will provide the nitrogen required. The constituents in kainit are not in such a readily available condition as in nitrate of potash. With regard to sulphate of iron, it is true, as stated by Mr. Dyke, that most soils contain iron; but it is in a condition not easily assimilable by plants, and therefore assists very little in the formation of chlorophyll. I have seen very good results follow the direct application of sulphate of iron, and if Mr. Dyke will give it a trial, I think he will find it beneficial not only to Chrysanthemums, but to many other plants also, especially in the action of assisting plants to keep off disease. *J. J. Willis, Harpenden.*

ARUM DRACUNCULUS.—I see, in *Gardeners' Chronicle*, p. 16, mention is made of this species of Arum flowering profusely this year. In Hampshire it is doing likewise, in our herbaceous border. This Arum, in strong and retentive soil of our garden, is perfectly hardy. The huge rich purple spathes are an interesting sight, but very evanescent, especially if the weather be warm and dry. *E. M.*

SOCIETIES.

NATIONAL ROSE, CRYSTAL PALACE.

July 7.—The annual exhibition of the National Rose Society, held at the Crystal Palace on Saturday last, was attended with the success it usually enjoys. On this occasion the arrangements differed a little from what has formerly prevailed, and they were an improvement—although making it less easy to gauge the quantity of flowers as compared with the exhibition of last year. It is, however, we think safe to say that there were more flowers than on the last occasion. It is gratifying to notice that year by year, the number of amateurs taking part in these exhibitions of the popular flower is increasing, and their exhibits when compared with those shown by the trade, constitute a much more important and interesting feature than formerly. The quality of the blooms staged on Saturday was good and of much better general average than those at last year's show, and it may be necessary to add here that although this was the case, there were but few extra fine blooms, none such as the surprising flower of Cleopatra, exhibited by the Rev. F. R. Burnside at the show at Windsor. Some of the Roses had disfigured petals, but in this respect also they compared favourably with those of last year. The extremely hot weather that has lately obtained, was succeeded on Saturday by much less heat, and the flowers remained fresh correspondingly longer, besides which, it was a welcome change to the Rose-loving public, who came to admire or criticise.

Nurserymen.

The leading class for seventy-two distinct single trusses was won by Mr. Frank Cant, Braiswick Nursery, Colchester, and Mr. B. R. Cant was 2nd, thus reversing the positions these exhibitors held in the leading class at the Windsor show. Mr. Frank Cant's exhibit was composed of even blooms of good quality, though we think they were slightly under the collection that secured this coveted prize last year for the firm of Messrs. Harkness & Son. The varieties were as follows:—*Back row:* Ulrich Brunner, Madame Eugénie Verdier, Gustave Piganeau, La France, Dr. Andry, Caroline Testout, Mrs. Jowitt (good), Her Majesty, Madame Charles Crapelet, Marie Baumann (very large and full), Merveille de Lyon, Earl of Dufferin, Mrs. Jno. Laing, Chas. Darwin, Pride of Waltham, General Jacqueminot (fine flowers), François Levet, Marie Verdier, Duke of Albany, Suzanne-Marie Rodocanachi, Margaret Dickson, Reynolds Hole (a good specimen of this old variety), Marchioness of Londonderry, and Alfred Colomb, the last-named a splendid bloom, of large size and good finish. *Middle row:* Madame Montet, Comte de Raimbaud, Countess of Oxford, Duke of Teck (very good), La Boule d'Or, Charles Lamb, Harrison Weir, Catherine Mermet, Comtesse de Comando, Madame de Watteville, Madame Henri Pereire (very full bloom), Mons. Noman, Victor Hugo, Baroness Rothschild, Horace Vernet (good), Star of Waltham, Countess of Rosebery, Le Havre (large and good), Madame Gabrielle Luizet, Duke of Connaught, Jennie Dickson, Exposition de Brie, and Marquise de Castellane. *Front row:* Duchesse de Morny (a good-sized and pretty bloom), Marchioness of Dufferin, Camille Bernardin, Souvenir d'Elise Vardon, Lady Arthur Hill, Souvenir de S. A. Prince, Alfred Dumesnil, Louis van Houtte, Niphetos, Comtesse de Ludre, The Bride (very fine), Duke of Edinburgh, Heinrich Schultheiss, Prince C. de Rohan (large, and good colour), Jean Ducher, Duke of Wellington, Madame Cusin, A. K. Williams, Beauty of Waltham, Comtesse de Nadaillac, Mary Bennett, Dr. Sewell, Lady Mary Fitzwilliam, and E. Y. Teas. Mr. B. R. Cant was a capital 2nd, and, we should think, only narrowly escaped being 1st. Some of the blossoms, indeed, were finer than any in the 1st exhibit, but the general quality was no doubt a little under. Ulrich Brunner was a very large and good flower; the bloom of Her Majesty was also large; John Stuart Mill was a large bloom, and full; Madame Cusin was large, and Marie Baumann was of an immense size and of good form. The stand contained a wonderful bloom of Maréchal Niel, both in size and colour; and Earl of Dufferin, Alfred Colomb, and Prince Arthur were of extra merit. The 3rd prize was secured by Messrs. Paul & Son, Cheshunt. The blooms in this exhibit were rather small generally, but they were fresh-looking, and many of them were pretty flowers of considerable merit. Madame de Watteville, Catherine Mermet, T. B. Haywood, and Ulrich Brunner might be instanced.

The second class for nurserymen was for forty distinct Roses, three trusses of each, and there was considerable competition. The 1st prize was given to a collection shown by Mr. Frank Cant, Braiswick Nursery, Colchester, who showed a very superb lot; conspicuous amongst these were blooms of Horace Vernet, Comtesse de Nadaillac, Beauty of Waltham, Ulrich Brunner, A. K. Williams, Madame Henri Pereire, Alfred Colomb, Star of Waltham, Earl of Dufferin, and Marie Baumann. Mr. B. R. Cant, of Colchester, was 2nd, with much smaller, less expanded flowers, but some of them were nice and fresh, though others showed signs of damage to the outer petals; the blooms of Duchesse de Morny, Alfred Colomb, and Marie Baumann were very good. Messrs. Paul & Son, The Old Nurseries, Cheshunt, were 3rd.

The best forty-eight distinct single trusses came from Messrs. D. Prior & Son, Colchester, and the blooms shown were of good size, but many of them were rather rough, and a few had slight damage to petals. There was lively competition in this class, and the 2nd place was awarded to Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge; and good blooms of Marie Baumann, Duke of Albany, Heinrich Schultheiss, Suzanne-Marie Rodocanachi, John S. Mill, and The Bride, were the most notable in the Cambridge exhibit; the English Fruit and Rose Co., King's Acre, near Hereford, were 3rd, and staged an exhibit to which we should have been inclined to have given the 2nd position.

In the class for twenty-four distinct single trusses, the most successful competitor was Mr. Jno. Mattock, and the general quality of the blooms was not quite equal to that in the 1st prize exhibits of the larger classes, but still such specimens of Gustave Piganeau, Suzanne-M. Rodocanachi, Earl of Dufferin, and Star of Waltham, as were shown, go far toward making the stand a good one; Messrs. J. Townsend & Sons, Lower Broad Heath, Worcester, made a good 2nd; Marie Van Houtte was a pretty though small bloom; and Dupuy Jamain, Mrs. Jno. Laing, Ulrich Brunner, Heinrich Schultheiss, and Duke of Teck, deserved notice.

Class 5 was for twenty-four distinct Roses, three trusses of each, and Messrs. D. Prior & Son, Colchester, who were awarded 1st place among half a dozen or more exhibitors, staged a very creditable lot of blooms. When many of the blooms in the exhibition showed damage in petal, the collection now under notice may be said to have been very free. Horace Vernet, Alfred Colomb, Gustave Piganeau, Prince Arthur, Earl of Pembroke, La Rosière, and A. K. Williams, were among the best.

Tea and Noisette Section.

The leading class in the nurserymen's division for Teas or Noisettes, was that for twenty-four distinct, single trusses, and in this class there were but few competitors. The premier prize was well won by Mr. S. Prince, Oxford, with a generally good lot, and the best Tea or Noisette exhibited by a nurseryman in the whole show, was included in the exhibit. The varieties were, *Back row:* Comtesse de Nadaillac, Souvenir de S. A. Prince, Madame Cusin, The Bride (Silver Medal); Princess Beatrice, Madame Elie Lambard, Madame de Watteville, and Maréchal Niel. *Middle row:* Alba Roses, Souvenir d'Elise Vardon, Etoile de Lyon, La Princesse Vera, Golden Gate, Miss Ethel Brownlow, Rubens, Princess of Wales. *Front row:* La Boule d'Or, Souvenir d'un Ami, Madame A. Jacquier, Madame Hoste, Niphetos, Marie Van Houtte, Ernest Metz, and Hon. Edith Gifford.

Messrs. D Prior & Son, also had a good lot, and were 2nd, Madame Cusin, Devoniensis, Maréchal Niel, Ethel Brownlow, Madame de Watteville, Niphetos, and Perle des Jardins, were the best. The 3rd prize collection was one shown by Mr. Frank Cant, and the blooms generally were of considerable merit, May Rivers was nice, Souvenir de S. A. Prince and The Bride were fair, Ethel Brownlow was large, but rather rough.

The best eighteen distinct, single trusses, were staged by Mr. J. Mattock, New Headington, Oxford, his exhibit included good specimens of Comtesse de Nadaillac, Souvenir d'Elise Vardon, Madame Cusin, Souvenir de S. A. Prince, Anna Olivier, Madame de Watteville, and Ethel Brownlow. Messrs. J. Burrell & Co., were 2nd, The Bride, Jean Ducher, Comtesse de Nadaillac, Innocente Pirola, and Souvenir d'Elise Vardon being the best.

For 18 distinct Teas or Noisettes, three trusses of each to be shown, the best place was taken by Mr. George Prince, Oxford, who has shown this charming section of the "Queen of flowers," exceedingly well during the present season. His exhibit in this class was one well deserving commendation, though of course of inferior quality to those in the classes for single trusses, Comtesse de Nadaillac, Souvenir d'Elise Vardon, Souvenir de S. A. Prince, Madame Cusin, Madame de Watteville, Catherine Mermet, and Hon. Edith Gifford, was among the best. Messrs. D. Prior & Son were 2nd, the best of this exhibit being the specimens of Ethel Brownlow, Madame Hoste, Catherine Mermet, Rubens, Maréchal Niel, Niphetos, and Souvenir de S. A. Prince.

Open Classes.

For twelve distinct single trusses of hybrid Teas, Mr. Frank Cant was placed 2nd, and staged La France de '89, La France, Viscountess Folkestone, Danmark, Augustine Guinoisseau, Lady Mary Fitzwilliam, Auguste Halem, Germaine Caillot, Kaiserin Augusta Victoria, Princess May, Gloire de Lyonnais, and Maid of the Mist. The first prize in this class was withheld, and there were no other exhibitors.

The best twelve single trusses of any yellow Rose except Maréchal Niel were from Mr. J. Mattock, and he had very fine blooms of Jean Ducher. Mr. Geo. Prince followed, with pretty blooms of Marie Van Houtte; and Messrs. D. Prior & Sons were 3rd, with the same variety.

The best twelve trusses of any white Rose proved to be a collection of Souvenir de S. A. Prince, shown by Mr. Geo. Prince; the flowers were large, and pretty. Messrs. A. Dickson & Sons, Royal Nurseries, Newtownards, co. Down, were 2nd, and had superb Margaret Dickson; whilst Mr. Frank Cant was 3rd, with a dozen blooms of Souvenir de S. A. Prince.

Mr. B. R. Cant had the best twelve single trusses of any crimson Rose, showing large and very full well-coloured blooms of Marie Baumann; the 2nd prize was taken by Messrs. Perkins & Son, Coventry, with A. K. Williams; and the 3rd by S. P. Budd, Esq., of Bath (gr., Mr. J. Bradbury), showing Alfred Colomb in very good form.

The best of any dark velvety-crimson Rose came from Messrs. G. & W. H. Burch, Peterborough, with exceedingly well-coloured Earl of Dufferin; Mr. Frank Cant was 2nd with Reynolds Hole; and Mr. B. R. Cant 3rd, with a stand of Fisher Holmes.

There was much competition in these classes for Roses of one variety, and many of them were to be seen in splendid condition. Mr. Frank Cant had the best of any light Rose (excepting white) in Mrs. Jno. Laing; Messrs. A. Dickson & Sons 2nd, with La France; and S. P. Budd, Esq., 3rd, with Her Majesty. There were seventeen exhibits.

Messrs. Townsend & Sons, Broad Heath, Worcester, were 1st for twelve single trusses of any H. P. or H. T, and they showed Mrs. Jno. Laing in good form; Mr. B. R. Cant, who was 2nd, had Alfred Colomb; and Messrs. Prior & Sons, with Horace Vernet, were 3rd.

Mr. J. Mattock was 1st for twelve trusses of any Tea or Noisette, showing lovely specimens of Souvenir d'Elise Vardon; Messrs. Townsend & Sons were 2nd; and Mr. Frank Cant was 3rd, with Ethel Brownlow.

The best specimens of Maréchal Niel came from Messrs. D. Prior & Son, with moderately sized blooms of good colour; A. Hill Gray, Esq, Biaulieu, Newbridge, Bath, was 2nd; and Mr. Geo. Mount 3rd.

An interesting class always is that for the best twelve trusses of any new Rose, and on this occasion the coveted prize was secured by Messrs. A. Dickson & Sons, Newtownards, for Marchioness of Downshire, a large wide-petalled H.P. variety of deepest flesh colour or rose; Mr. Frank Cant was 2nd, with the Marchioness of Londonderry, a larger bloom than the last-named, and almost white. It is a heavy H.P., and has a little scent. Mr. J. Mattock was 3rd, with Margaret Dickson, a very fine variety of blush-rose or nearly white.

The best twelve new Roses, distinct, single trusses, were from Mr. F. Cant, Colchester, showing good blooms of Violet Queen (a more violet-coloured Chas. Lefebvre) Media, and Marchioness of Londonderry; Messrs. Paul & Sons, Cheshunt, were 2nd; and Messrs. G. Cooling & Sons, Bath, 3rd. There was nothing very striking in this class, the last flower, Violet Queen, being too much like Charles Lefebvre as shown.

The Gold Medal for a new Rose, seedling or sport, was given to Messrs. A. Dickson & Sons' Marchioness of Downshire; Mrs. Edward Mawley, from the same firm, is an improved Margaret Dickson as shown here, but this has yet to be proved. Helen Kellen was again shown, but it is not decided enough in colour. Mr. Prince's Clara Watson was also shown again, as was Messrs. W. Paul & Son's Clio, and Messrs. G. Cooling & Son's Lawrence Allen. All three of the latter were in better form at early shows.

Garden Roses.

Nurserymen.—The classes for garden Roses are generally the means of bringing together a grand as well as an interesting display of the lighter and more graceful of the Rose family. The collection of thirty-six bunches from Messrs. Paul & Son, The Old Nurseries, Cheshunt, and awarded 1st prize, was magnificent, and constituted a great attraction to the ladies, and any whose time was not wholly absorbed by a critical examination of the florists' varieties, Noisettes, mosses, H.T.'s, Gallica, China, evergreen, Bourbon, and hybrid Bourbon. Polyantha Roses were all represented, and shown with long sprays containing some of the foliage of the plants. The 2nd prize was taken by Messrs. Geo. Cooling & Sons, Bath.

For eighteen trusses, distinct varieties, the 1st prize was taken by Mr. Chas. Turner, Royal Nurseries, Slough, with fine trusses. Messrs. D. & W. Croll, Dundee, were 2nd.

Open Classes.—Mr. Jno. Mattock was 1st for twelve bunches of Roses suitable for buttonholes, not less than six varieties, and had Madame de Watteville, Madame Hoste, Anna Olivier, Rubens, Marie Van Houtte, Souvenir de S. A. Prince, l'Ideal, and W. A. Richardson; Mr. F. Cant was 2nd.

The best nine bunches of single-flowered Roses, distinct, came from C. J. Cuthell, Esq., who showed a very nice lot of these effective varieties. He had rubrifolia, a small-flowered rose-coloured variety; lucida (rose), macrantha (good-sized white), Alpina (rose), moschata alba, Rosa rugosa alba (extremely large), Rosa rubiginosa, and indica (crimson); the Right Hon. Lord Penzance, Eashing Park (gr., Mr. Basket), was 2nd.

Display of Roses.

The best display to be arranged on a space not exceeding 5 feet by 3 feet, with Rose foliage only for decoration, was also best shown by C. J. Cuthell, Esq. Chapel Croft, near Dorking; Mr. Geo. Mount was 2nd, and Mr. John Mattock 3rd.

Medal Roses.

The Silver Medal awarded for the best hybrid Rose exhibited by a nurseryman was taken by Mr. B. R. Cant, for his large and splendid blooms of Marie Baumann; and Mr. Geo. Prince of Oxford, received a like honour for the best Tea or Noisette, which was awarded to a capital bloom of The Bride.

Amateurs' Classes.

Open to all, irrespective of the number of plants they grow:—

For forty-eight singles, trusses, the Amateurs' Trophy class, Dr. S. P. Budd, Bath, was a good 1st, a very creditable lot, but not so heavy and well-finished as this class usually calls forth. Mr. W. Drew, Uplands, Ledbury, was 2nd, his best flowers being S.-M. Rodocanachi, Lady Mary Fitzwilliam, Niphetos, Mrs. J. Laing, The Bride, Charles Lefebvre, U. Brunner, Horace Vernet, Mons. Noman, and Marie Verdier; Rev. J. H. Pemberton being a good 3rd, and having splendid examples of Her Majesty, Mrs. J. Laing, A. K. Williams, Charles Lefebvre, H. Vernet, and Caroline Testout.

For thirty-six single trusses, T. B. Haywood, Esq., Woodhatch Lodge, Reigate (gr., Mr. Salter), was a good 1st, his best blooms being F. Michelon, S.-M. Rodocanachi, Her Majesty, Louis Van Houtte, and Duchesse de Morny. In this class Dr. Budd took 2nd place, Rev. J. H. Pemberton 3rd. Mr. Tate was disqualified for duplicating Marie Baumann.

For twenty-four distinct single trusses, Mr. T. Hobbs, Easton, Bristol, was 1st, having good flowers of Victor Hugo, U. Brunner, Marie Verdier, and Merveille de Lyon; 2nd, Miss F. T. Baker, Holmfield, Reigate, but the difference between the two lots was very slight; 3rd, the Rev. A. Foster Melliar, Ipswich, who had a good selection as regarded colour.

For twelve distinct varieties, three of each, Dr. Budd was again 1st, with an exceedingly bright lot, Earl of Dufferin, A. K. Williams, and Star of Waltham being the best; Mr. W. Drew, Ledbury, 2nd. Five competitors were unsuccessful.

For twelve single trusses of any H. Perpetual or H. Tea, T. B. Haywood, Esq., was 1st, with Her Majesty; J. Gurney Fowler, Esq, being 2nd, with a good box of Marie Finger; and Mr. W. Drew, 3rd, with S.-M. Rodocanachi.

Open only to growers of less than 2000 plants of exhibition varieties, as defined by the National Rose Society:—

Twenty-four distinct single trusses, 1st, Rev. H. A. Berners, Harkstead Rectory, Ipswich, took 1st and secured the Turner Memorial piece of Plate; Mr. A. Slaughter, Jarvis Villa, Steyning, 2nd; and Mr. A. M. Bethune, Denne Park, Horsham, 3rd. In this class a most unfortunate mistake was made, J. Gurney Fowler, Esq., Glebe Lands, South Woodford, Essex, having staged his box here, which should have been in class 7. The correct card was attached but the box was wrongly placed. This was the more annoying because it would also have been 1st in its own class, and was well in front of Dr. Budd's. An extra prize was awarded.

Eighteen distinct singles, Mr. R. E. West, Reigate, staged an excellent lot, E. Y. Teas, A. K. Williams, Prince Arthur, Annie Wood, Madame V. Verdier, Merveille de Lyon, and Charles Lefebvre, being very bright.

Eight distinct trebles, 1st, Rev. H. Berners, Ipswich, whose best trebles were Alfred Colomb, Earl of Dufferin, and Her Majesty.

For twelve distinct singles, Mr. Osmond G. Orpen, West Bergholt, Colchester, was a splendid 1st, winning the Harkness Challenge Cup with good blooms of S.-M. Rodocanachi, Maréchal Niel, Souvenir d'Elise Vardon, U. Brunner, Madame de Watteville, Mr. John Laing, Ernest Metz, Duke of Teck, Souvenir de S. A. Prince, Jean Liabaud, Madame Hoste, and Madame Cusin; Mr. H. Foster, Ashford, was 2nd; Mr. Conway Jones, Hucclecote, Gloucester, 3rd. This class was strongly contested, nine others showing in creditable form.

Open only to growers of fewer than 1000 *plants of exhibition varieties.*—For nine distinct single trusses called forth no fewer than twelve boxes, the result going as follows: 1st, Rev. H. B. Biron, Lympne Vicarage, Hythe; 2nd, Mr. O. G. Orpen, West Bergholt, Colchester, very clean, but not so heavy.

For six distinct, three of each, Mr. Orpen was a good 1st.

Open only to growers of fewer than 500 plants of exhibition varieties:—

For nine distinct single trusses, Mr. H. Foster, Ashford, was 1st, with grand flowers of Sultan of Zanzibar, Gabrielle Luizet, Horace Vernet, and Marguerite Brassac among others. Eight other competitors.

For six single trusses, 1st, Rev. G. E. Jeans, Shorwell Vicarage, Isle of Wight.

Four distinct trebles, 1st, W. D. Freshfield, Esq., Reigate.

Extra classes for amateurs.—Six Roses, of any one Hybrid Perpetual or Hybrid Tea, Mr. A. F. Grace, 1st, with Merveille de Lyon; Mr. J. Bateman, Archway Road, N., 2nd, with Marchioness of Londonderry; Mr. C. J. Grahame, Coombe Road, Croydon, 3rd, with Mrs. J. Laing; and Mr. Conway Jones, Hucclecote, Gloucester, 4th, with the same variety.

Six distinct singles, open only to amateurs who have never won a prize at the National Rose Society exhibitions:—1st, Mr. E. R. Smith, Milford Lodge, Muswell Hill.

For singles, open only to members who have joined the National Rose Society since the last Crystal Palace Show, Mr. A. F. Perkins, Oak Dene, Holmwood, was a good 1st.

For six singles, distinct, to be grown within 8 miles of Charing Cross, Mr. Rivers H. Langton, Hendon, N.W., was 1st with one of the very best in the show. The 1st prize in this class is a piece of plate, presented by Mr. E. Mawley, Berkhamsted, Hon. Secretary of the Society.

A class for twelve singles, grown within 11 miles of Charing Cross, Lieut.-Colonel J. De La Mare, Church Road, Croydon, was a good 1st.

In the class for six distinct, single trusses, the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, was 1st with Caroline Testout, Marchioness of Londonderry, Spenser, Duke of Fife, Margaret Dickson, and Marchioness of Dufferin. Lord Penzance also competed, showing a stand of his seedlings, the only two which commended themselves to us being Henry Gow and Columbine.

Tea and Noisette Section.

Amateurs (open to all, irrespective of the number of plants grown).—Eighteen distinct, single trusses, 1st prize, a challenge trophy and £4. This was won by the Rev. H. A. Berners, Harkstead Rectory, Ipswich. All of the flowers were good, but the following were extra, Catherine Mermet, The Bride, Madame Hoste, Edith Gifford, Ethel Brownlow, Madame Cusin, Etoile de Lyon, Niphetos, and Mrs. J. Wilson. A capital 2nd was found in Mr. A. Hill Gray, Beaulieu, Newbridge, Bath, who had grand flowers of C. Mermet, Comtesse de Nadaillac, Souvenir d'un Ami, and its white sport, and The Bride. 3rd prize went to Rev. F. R. Burnside, Birch Vicarage, Hereford, who had splendid flowers of Madame de Watteville, Souvenir d'Elise Vardon and Cleopatra.

Twelve distinct single trusses; 1st, Rev. Foster Melliar, Ipswich, which town seems invincible for Teas this season. In this stand was found the best Tea or Noisette in Souvenir d'Elise Vardon, a splendidly built-up flower, to which was awarded the Silver Medal. Rev. H. A. Berners, also of Ipswich, was a close 2nd, his Edith Gifford and Madame Bravy being very good. Dr. Budd, Bath, was 3rd. The competition here was numerous.

For twelve distinct, three of each, a piece of plate is given, as a memorial of the late Rev. the Hon. J. Townshend Boscawen, and was won by the Rev. H. A. Berners, Harkstead Rectory, Ipswich. Mr. A. Hill Gray, Newbridge, Bath, was a remarkably close 2nd.

Nine blooms of any Tea or Noisette, 1st, Rev. H. Berners, with Maréchal Niel; 2nd, Rev. Foster Melliar; 3rd, Mr. E. M. Bethune, Horsham, both with Edith Gifford.

Open only to Growers of fewer than 500 *Plants of Exhibition Varieties.*—A piece of plate presented by the Rev. F. R. Burnside, for twelve Tea or Noisettes, single blooms, was won by Mr. O. G. Orpen, West Bergholt, Colchester, whose best flowers were Madame Hoste, Marie Van Houtte, Caroline Custer, Madame Cusin, Francisca Krüger, and Souvenir de S. A. Prince.

For nine distinct singles, C. E. Shea, Esq., gave 1st and 2nd prizes, which were won by Mr. Conway

Jones, Hocclecote, Gloucester, and Miss F. T. Baker, Holmfels, Reigate.

Six distinct trebles, Mr. O. G. Orpen, Colchester, 1st.

Open only to Growers of fewer than 200 *Plants of Exhibition Varieties.*—Nine single blooms, 1st, Rev. J. R. Buchanan, Herne Vicarage, Canterbury.

Six singles distinct, 1st, Mr. H. Foster, 28, North Street, Ashford; 2nd, Rev. G. E. Jeans, Shorwell Vicarage, Isle of Wight.

Extra Classes for Amateurs:—

For six blooms of any Tea or Noisette, Mr. Orpen was 1st, with splendid examples of Madame Hoste; Mr. E. Horne, Park House, Reigate, 2nd, with Madame Bravy.

In a class open only to amateurs who have never won a prize at the National Rose Society's shows, for six single trusses, 1st, Mr. G. W. Cook, Glenthorne, near Southgate.

For six distinct Teas, grown within 8 miles of Charing Cross, prizes presented by Messrs. Paul & Son, Cheshunt, Rivers H. Langton, Esq., Hendon, was 1st, and Mr. J. Bateman, Archway Road, N., 2nd.

The best Tea or Noisette was found in the Rev. A. Foster Melliar's Souvenir d'Elise Vardon; and the best H. Perpetual or H. Tea, in a superb flower of Margaret Boudet, from Dr. Budd. Both of these blooms were in 1st prize stands.

AMATEURS' GARDEN ROSES.

As usual, these attracted much attention. Lord Penzance presented a Silver Cup as 1st prize for eighteen varieties, not less than three trusses of each. Mr. O. G. Orpen, Colchester, was successful, and staged good examples of l'Ideal, Madame Capucine, W. A. Richardson, Bardon Job, Perle d'Or, Gustave Regis, Maiden's Blush, and others.

For nine bunches, Mr. J. Mallender, Hodsock Priory, Worksop, was 1st.

A box of the old Gallica Roses from Lord Penzance clearly demonstrated the advance we have made in the queen of flowers.

MISCELLANEOUS.

There were not many exhibits from nurserymen staged only for exhibition, and by far the most important of these was an extensive collection of cut Roses, and a few plants in pots from Messrs. Wm. Paul & Son, Waltham Cross, Herts, and staged immediately under the orchestra. The blooms were arranged in boxes and baskets surfaced with moss. Amongst others were noticed baskets of the Tea-scented Sunset, of Spenser, a very good H.P.; Madame Hoste (T.), Madame Alfred de Rougemont (H.P.), a capital white variety for cutting; The Queen (T.), pure white. Messrs. Paul's Clio (H.P.), a large flesh-coloured flower, one becoming very popular amongst growers; Marquise de Salisbury, a crimson semi-single variety, and very brilliant. There were many other new and older varieties, and interspersed were small Palms and some Ferns, which added to the attractiveness of a good exhibit. Mr. William Rumsey, Joyning Nursery, Waltham Cross, Herts, had a stand of capital Rose blooms in large variety. H.P.'s were most represented, and there were about two dozen Teas, most of them first-rate specimens. Messrs. Geo. Jackman & Sons, Woking, had a small collection of Roses, consisting chiefly of H.P. and garden varieties. Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley, contributed a show of hardy flowers, including varieties of Viola, shown on velvet-covered stands. Messrs. Harkness & Sons, Bedale, Yorkshire, had a collection, including spikes of Delphinium flowers in variety, Gaillardias, single Pyrethrums, Iceland Poppies, Campanula persicifolia grandiflora alba, Heuchera sanguinea, Scabiosa caucasica, Astrantis major, &c.

ROYAL HORTICULTURAL.

JULY 10.—The usual fortnightly meeting was held at the Drill Hall, James Street, Westminster. Exhibits were not quite so numerous as usual, and there were no Roses of any description shown. Several competitive classes for hardy flowers had been arranged, and there were very fine exhibits of succulent plants, these latter constituting a very exceptional feature of the show.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, H. Herbst, C. T. Druery, G. Stevens, C. F. Bause, R. B. Lowe, J. T. Bennett-Poë, H. Cannell, W. Bain, J. Walker, H. Selfe Leonard, C. E. Shea, C. Beckett, C. Noble, H. Turner, and J. Jennings.

Messrs. Wm. Cutbush & Son, Highgate Nurseries, London, staged an immense collection of hardy flowers. The varieties almost exhausted the plants of this description now in flower, and conspicuous amongst these, were bunches of Erigeron macranthum, Centaurea macrocephala, Prunella Webbiana, Veronica spicata rosea, a pretty rose-coloured variety, Erigeron speciosus superbus, dwarf varieties of Dianthus, Orchis pyramidalis, &c. (Silver Banksian Medal).

The same firm also contributed a fine group of Carnations in flower, consisting of well-grown plants of the Souvenir de la Malmaison type; also Uriah Pike, and many other varieties (Silver Flora Medal).

A grand exhibit of Tuberous Begonias was staged by Messrs. John Laing & Sons, Forest Hill, S.E. The varieties, mostly double, included some of fine excellence. Awards of Merit were given to Lord Dunraven, a good flower of extra deep crimson; to Neatness, a medium-sized crimson-scarlet flower of especial good form; and to Laing's Fringed White, a large white single variety with deeply-fringed petals. Amongst other varieties worthy of notice, may be mentioned, Lady Grimthorpe, an immense rose-coloured single variety. Mr. William Miller, an intense crimson single flower; G. A. Loveday, a rose double; and Mrs. French, a pale lemon double, of good size (Silver Flora Medal).

From Mr. Walter Salmon, Ivy Cottages, Elder Road, West Norwood, came a good number of cut spikes of Antirrhinum in variety, and bunches of Sweet Williams (Bronze Banksian Medal).

A number of Sweet Williams bloom, from Mr. J. Walker, Thame, Oxon, were sent as illustrating his strain of Auricula-eyed flowers, and were of very great merit (Bronze Banksian Medal).

Sir Trevor Lawrence sent several interesting things, amongst which were five spikes of Pentstemons, in as many varieties, of a splendid strain, bearing extra large and well-coloured flowers. Jean Mace, a flower more than 2 inches across, and of deep crimson, with silvery throat, was recommended an Award of Merit. A number of plants in flower of Exacum affine were awarded a Botanical Certificate. The plants were about 1 foot high, and bore numerous axillary small flowers of Gentian-blue, with yellow anthers. A plant of Exacum macranthum in flower accompanied these. A pan of Saintpaulia ionantha received a like reward.

W. E. Hall, Esq., Coker Court, Yeovil (gr., Mr. S. Kidley), had some flowering sprays of varieties of Bougainvillea, said to be seedlings from B. glabra, and others from B. spectabilis. One of these varieties, of extra dark colour, was recommended an Award of Merit. Other varieties were lighter than the type.

A Clematis named Lady Ashcombe, shown by Messrs. J. Ivery & Son, Dorking, Surrey, and recommended an Award of Merit, was a pretty blue flower, of good size and substance.

Messrs. Sander & Co., St. Albans, showed a great mass of Bougainvillea glabra Sanderiana in a large pan. The plants were about 4 feet high, and were literally covered with flowers. They were raised from cuttings taken in August last, and planted in a bed in a hothouse. Sonerila Mrs. H. Walter, the result of a cross between S. orientalis and S. Hendersonii elegans, received an Award of Merit; it is a vigorous-growing variety, and the leaves are thickly spotted with silvery-white.

A collection of Sweet Peas, in variety, from Mr. Eckford, Wem, Salop, abounded in most pretty and delicate-coloured flowers, which presented almost innumerable shades of rose, pink, blue, purple, and some were pure white. Countess of Powis, rose-coloured, with deeper-coloured veining, and a large flower, received an Award of Merit; as did Salopian, a crimson flower, curiously veined with dark purple. Stanley is almost black, so intense is the velvety-purple of the flower. Many others are of great excellence.

Messrs. R. Wallace & Co., Colchester, had a grand exhibit of Calochortus varieties, one of the best being Calochortus venustus citrinus, a very pretty yellow variety; C. v. roseus, and C. v. oculatus. Calochortus splendens atroviolaceus is a little darker in colour than the type, itself a very charming flower; C. luteus, and C. l. concolor, the latter a yellow variety, were also shown. Also a grand lot of garden Lilies; conspicuous among these were flowers of L. Thunbergianum Horsmani, in which the colour is remarkably developed—this was awarded a First-class Certificate; L. T. bicolor, L. T. Van Houttei, and L. T. Prince of Orange, are all desirable varieties (Silver Banksian Medal).

An Award of Merit was obtained for Chrysanthemum maximum, a large-flowering white variety, exhibited by Mr. M. Prichard, Christchurch.

Messrs. Jas. Veitch & Sons, Chelsea, obtained a First-class Certificate for Rubus japonicus tricolor, exhibited as a very slender-growing trailing plant. The stems and leaf-petioles were rose-coloured, and a good proportion of the smaller leaves were entirely white, but some of the larger ones had considerable green in them. Rhus Cotinus, Quercus cuspidata, in flower; Stuartia pseudo-Camellia were also included, and a collection of flowers of Carnations and Picotees of high merit. We must not omit mention of a handsome plant of Nepenthes mixta (figured in the *Gardeners' Chronicle*, January 14, 1893, p. 47), carrying some capital pitchers. A collection of hardy flowers in great variety came from the same firm. Several good Phloxes, bunches of Centaurea macrocephala, Bupthalmum speciosum, Cephalaria alpina, Malva moschata alba, Morina longifolia, Monarda didyma, Delphinium nudicaule, Linum flavum, Gaillardia hybrids, Papaver nudicaule vars., and many others. Also some pretty coloured and large varieties of Campanula Medium, single, and double. Some bunches of Papaver glaucum created a vivid blaze with their extremely showy crimson flowers (Silver Flora Medal).

Flowers of Calochortus venustus vesta, C. v. rosea, and C. v. purpurascens were sent by G. F. Wilson, Esq., Weybridge. C. v. vesta has large flowers of creamy-white, with yellow or brown throat; it had grown 3 feet high (Award of Merit). C. v. purpurascens has also large flowers, the creamy-white in this case having a little yellow; the centre is marked with red and brown (Award of Merit).

Messrs. H. Cannell & Sons, Swanley, contributed largely to the display at this meeting. In addition to a very exceptional group of Cactaceous and succulent plants from this firm, came a good collection of Sweet Peas in numerous varieties, flowers of Arnebia cornuta, Statice Suworowi, Linaria reticulata aurea purpurea, a variety with rich purple-crimson and yellow flowers. Gypsophila elegans in white and rose variety were pretty, and some fine sprays of Canna blooms were included. From the same firm was also shown a collection of flowers of tall and dwarf Rocket Larkspurs of capital strain (Bronze Banksian Medal).

Mr. H. Burbidge, Grove Nursery, Westgate-on-Sea, showed plants of Coleus Westgate Gem, apparently a tolerably good decorative variety, but no award was made, there being so many good forms already grown.

Martin R. Smith, Esq., The Warren, Hayes, Kent (gr., Mr. Blick), exhibited splendid blooms of five varieties of Carnations; large flowers of King Arthur, a crimson-flowering variety which obtained an award at Chiswick last year, were magnificent, and although the flower is so large, the calyx is invariably good as shown. Horace Trelawney is the name of a handsome rose variety, said to be as large as King Arthur when fully developed, but as shown on Tuesday the blooms were not fully expanded. An Award of Merit was given to Winifred, a good-sized flower, of fine form and delightful colour, perhaps best described as apricot-salmon.

Miss A. Debenham was the only exhibitor in the amateur's class for eight bunches, and she was rightly awarded a 1st prize.

For the Kelway Silver Medal offered for six varieties of Gaillardias, five blooms of each, there was but one exhibitor, Dr. P. H. Emerson, Claringbold, Broadstairs, the blooms were of good size.

The 1st prize in a competition class for twelve bunches of hardy herbaceous perennials was taken by Mr. G. H. Sage, gr. at Ham House, Richmond. His exhibits were highly commendable, and consisted of Eryngium Oliverianum, Lathyrus latifolius, Alstrœmeria chilensis, Erigeron speciosus, Coreopsis lanceolata, Gaillardia hybrida, Galega officinalis, Delphinium, Centaurea macrocephala, Malva moschata alba, and Lilium candidum. And Chrysanthemum maximum. The 2nd prize was won by Mr. S. Kidley, gr. at Coker Court, Yeovil, Somersetshire.

Messrs. H. Cannell & Sons, The Home for Flowers, Swanley, exhibited an unexpectedly-large collection of succulents, the plants occupying a space of tabling 30 feet by 3 feet, closely packed together—much too closely, in fact, for proper inspection. Among much that was hardly distinguishable from each other, we noted several distinct-looking subjects: Dasylirion gracile, Agave Ghiesbreghti, A. Victoriæ Reginæ, Aloe plicatilis, A. heteracantha, A. varie-

gata, A. distans, A. arborescens, Crassula monticola, Pilocereus Brunonniana, P. Houletti and P. senilis, Cereus rostratus, C. giganteus, and a large number of small plants of Stapelia, Opuntia, Mesembrianthemum, Gasteria, Echinocactus, Mammillaria, Haworthia, &c. (a Flora Medal).

Mr. C. G. Ludford, of Fern Lea, Four Oaks, Sutton Coldfield, showed a collection of relatively large plants, nicely grown, of Echinocactus Grusoni, E. Leconti, E. cornigerus, with remarkable ferocious-looking brown curved spines; E. pilosus, E. texensis, Opuntia leuchotricha, several Cereus, including Eriophorus and erectus; and a fine lot of Pilocerus senilis (a Banksian Medal).

Mr. W. Singer, Frome, Somerset, had a small collection of succulents, consisting of Echinocactus, Mammillaria, Pilocereus, Euphorbia, Opuntia, including O. cylindrica cristata; Anhalonia prismatica, Cereus glomeratus, and a plant of Echinocereus pectinata in bloom (a Banksian Medal).

Mr. G. Pritchard, 78, Goldwin Road, Forest Gate, had a collection consisting of many choice and rare species and varieties, as Opuntia bicolor, O. cylindrica, O. monocantha, O. cochinilifera, O. Emoryi, and others; Cereus speciosissimus, C. Napoleonis quadrangularis, Phyllocactus Kaufmanni, P. alatus, P. cæspitosus, P. cruentus, and numbers of Cereus, including the easily-flowered Mallisoni, many Echinocactus and Mamillaria (Flora Medal).

M. P. Rebut had a small collection of Cereus, including C. Peruvianus monstrosus, C. marginatus, C. Damortieri, Opuntia senilis, and a small number of Echinocacti and Mamillaria.

It was remarked that scarcely any of the foregoing had flowered, or showed signs of doing so.

Orchid Committee.

Present: H. J. Veitch, Esq., in the chair, and Messrs. Jas. O'Brien (Sec.), De B. Crawshay, R. Brooman-White, E. Hill, H. M. Pollett, H. Ballantine, Chas. Pilcher, H. Williams, Walter Cobb, T. W. Bond, H. J. Chapman, T. B. Haywood, S Courtauld, Baron Schroder, and Dr. Maxwell T. Masters, F.R.S.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, exhibited some fine new hybrid Orchids, among which were Lælio-Cattleya × Timora (C. labiata Luddemaniana ♂, L. pumila Dayana ♀), a very showy Orchid of neat habit. The sepals and petals, which were of good substance, were of a bright rosy-lilac, the lip white at the base and with a rich plum-purple front, and edges to the side-lobes (First-class Certificate). Another worthy plant was Thunia × Veitchiana superba (T. × Veitchiana × Bensoniæ). Beside it, T. Veitchiana (Marshalliana × Bensoniæ) was shown, and the large rose, white, and yellow flowers of the second cross showed marked improvement (Award of Merit). Messrs. Veitch also showed Disa × Diores (Veitchii ♀, grandiflora ♂), a pretty hybrid of the same form as D. grandiflora, but with the lower sepals much lighter in colour, and the large odd sepals nearly white. The committee requested to see it again when stronger. The beautiful Psalænopsis × Artemis (rosea ♂, amabilis ♀) was also shown by Messrs. Veitch.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, had an extensive and fresh-looking group of showy Orchids, for which they were awarded a Silver Banksian Medal. In it were Cattleya labiata Gaskelliana in great variety, including one pretty white form; a very rich blue-lipped form of Zygopetalum maxillare Gautierii, Lælia × Amanda, Bifrenaria Harrisonæ, B. vitellina, Cattleya Eldorado, Cypripedium × Patersonii (Lowii × Dayanum). C. × macropterum, Odontoglossum citrosmum, Dendrobium suavissimum, Oncidium curtum, &c.

One of the most interesting plants shown, from a botanical point of view, was Vanda Rocklingiana, Rolfe, n. sp., from Messrs. Hugh Low & Co, with rather small brown flowers, the narrow base of the lip being white, and the front lobe bearing two circular fringed plates (Botanical Certificate). Messrs. Low also showed Cypripedium × Alice (Stonei × Spicerianum) and C. × javanico superbiens.

Baron H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), showed a fine spike of the richly-spotted Odontoglossum crispum Ballantinei, still one of the best of its class.

Messrs. F. Sander & Co., St. Albans, staged a group of rare Orchids, in which were a noble plant of Dendrochilum (Platyclinis) filiforme, with one hundred and twenty of its elegant drooping yellow racemes (Cultural Commendation); Cattleya Gaskelliana rubra, a very richly-coloured form; the pretty new C. Batalinii, the chaste white C. Gaskelliana virginalis, Renanthera matutina, Zygopetalum intermedium, Saccolabium Hendersonianum, Cypripedium Farishii, C. × macropterum, C. × Youngianum, Oncidium macranthum, Sobralia xantholeuca, Dendrobium formosum giganteum, &c.

R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell (gr., Mr. H. J. Chapman), showed Masdevallia corniculata, M. demissa, M. Gaskelliana, M. trichæte, and M. muscosa.

From the Royal Gardens, Kew, came cut examples of the Kew hybrid Disas, which are now making such a grand show in the lobby of the Orchid-houses there; they comprised Disa × Premier (Veitchii × tripetaloides), D × kewensis (grandiflora × tripetaloides), and D. × Langleyensis (similar to that raised by Messrs. Veitch) (racemosa × tripetaloides); their elegant spikes of numerous carmine or magenta-rose flowers proclaim them among the best garden subjects of recent times (Vote of Thanks).

C. J. Lucas, Esq., Warnham Court, Horsham, showed the pretty white and green Ornithocephalus grandiflorus (Botanical Certificate).

The Right Hon. Joseph Chamberlain, Highbury, Moor Green, Birmingham (grower, Mr. H. Burberry), showed cut spikes of Miltonia vexillaria highburyensis, a variety of the M. v. superba class, and with very rich maroon blotch and lines at the base of the lip.

W. Thompson, Esq., Walton Grange, Stone, Staff. (gr., Mr. W. Stevens), showed Cattleya Gaskelliana, "Nellie," a beautiful white form with a small purple spot on the front of the lip (Award of Merit), and a very beautifully blotched variety of Odontoglossum crispum.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed Cattleya Gaskelliana "Mrs. De B. Crawshay," a pure white variety with a slight marking of rose on the lip; four grand forms of Odontoglossum Harryanum and O. Pescatorei, with a very strong and much-branched spike.

J. W. Temple, Esq., Leyswood, Groombridge (gr., Mr. Bristow), showed a fine dark form of Cattleya Warscewiczii, with four flowers on a spike; a very large light-variety of the same; two plants of C. granulosa Du Buyssoniana, and a small plant of Fernandesia robusta.

F. Wigan, Esq., Clare Lawn, East Sheen (grower Mr. W. H. Young), showed Cypripedium × Wiganianum, a good flower, of unknown origin; C. × macropterum; and Dendrobium Leeanum atro-purpureum, a very rare and beautiful variety.

C. W. Fincken, Esq., Hoyland Hall, Barnsley (gr., Mr. J. Milburn), staged a fine form of Cattleya Rex, with a four-flowered inflorescence.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent Phajus Henryi, with rose-pink flowers, darker on the edge of the lip, which bears a prominent yellow callus.

Chas. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed his fine and richly-coloured Lælio-Cattleya × Ingrami, Cypripedium × T. W. Bond (Curtisii × hirsutissimum), a very fine hybrid; and cut flowers of a striped form of Cattleya Mossiæ.

Reginald Young, Esq., Sefton Park, Liverpool, sent a cut spike of a very richly-coloured Cattleya Warscewiczii; a similar form being sent by W. Ellis, Esq., Hazelbourne, Dorking (gr., Mr. Masterton). Mr. Young also sent flowers of Cattleya granulosa; and Dr. Davis, Barming Heath, Maidstone, Kent, showed a very fine variety of Odontoglossum cristatellum.

Fruit Committee.

Present:—Philip Crowley, Esq., in the chair; and Messrs. T. F. Rivers, Harrison Weir, Rev. W. Wilks, Geo. Bunyard, G. W. Cummins, Jas. Cheal, Geo. Taber, T. Saltmarsh, A. Dean, J. A. Laing, G. H. Sage, F. Q. Lane, H. Balderson, and Dr. Robert Hogg.

A splendid collection of Cherries and Strawberries, grown outside, was sent by Mr. Owen Thomas, gr. to Her Majesty at the Royal Gardens, Windsor. The following varieties of Cherries were of first-class quality: Archduke, Dowaton, Frogmore, early Bigarreau, Reine Hortense, Florence White Heart, Late Duke, Bigarreau Napoleon, Elton, Governor Wood, Monstrous Bigarreau, Knight's Early Black, Black Eagle, Black Tartarian, and May Duke. The Strawberries included La Grosse Sucrée, Prince of Wales, Sir Chas. Napier, Viscountess Héricart de Thury, Aromatic, Keen's Seedling, Laxton's Noble, Waterloo (good, though early), Sir Harry, The Countess, Dr. Hogg, Sir Joseph Paxton, Unser Fritz, and James Veitch. Two seedling Melons were included, one obtained from a cross between High Cross Hybrid and a seedling, and another from High Cross Hybrid and Countess; but perhaps these will be exhibited on a future occasion. Extraordinary Walburton Admirable Peaches of immense size were also included in this collection (Silver Knightian Medal).

Messrs. T. F. Rivers & Son, Sawbridgeworth, showed some capital orchard-house trees in pots, including Belgian Purple and Jefferson's Plum, Bigarreau Monstueuse de Mezel, Bigarreau Noir de Guben, Bedford Prolific Cherries, and two splendidly-cropped trees of Early Rivers Nectarine from the cold-house (Silver Knightian Medal).

Messrs. J. Veitch & Sons, King's Road, Chelsea, contributed a fine collection of fruit, consisting of Cherries, Gooseberries, Strawberries, Raspberries, &c. The Cherries were produced from pyramids in the open, though they might easily have been mistaken for orchard-house fruits. There were twenty-three varieties staged, and the following were especially good:—Pale-coloured: Frogmore Early Bigarreau, Cleveland Bigarreau, Early Red Bigarreau, Mammoth, and Governor Wood; deep red: Early Red Gem, Baumann's May; Duke section: May Duke, Archduke, Empress Eugénie, and Nouvelle Royale; deep black: Black Eagle, Black Hawk, Knight's Early Black, and Bigarreau de Chreken. A spray of May Duke was sent, to show an extraordinary crop. There were six varieties of Currants, Mammoth, La Versailles, and Cherry red—all splendid reds; and one dish of capital White Dutch. Amongst twelve good dishes of early Gooseberries, the following were very fine:—Early Green Hairy, Early Sulphur, Green Overall, Bright Venus, and Forester. Dishes of Superlative Raspberry, and of Gunton Park, and Lord Suffield Strawberries, were also shown (Silver Knightian Medal).

Votes of Thanks were accorded to Mr. J. Miller, gr. to Lord Foley, Ruxley Lodge, Esher, for very good dishes of Brown Turkey Figs, Violet Hâtive and Elruge Nectarines, and Grosse Mignonne and Royal George Peaches; also to Mr. G. T. Holden, Rhyl, North Wales, for a collection of Cucumbers; to Mr. A. Harwood, St. Peter's Street, Colchester, for Red Companion Gooseberries; and to Dr. P. H. Emerson, Claringbold, Broadstairs, for a few vegetables, such as Carentan Carrots, Turnip-rooted Mustard, Florence Fennel, Turnip-rooted Parsley, and Agua dulce Beans.

Messrs. Steel & Son, Ealing Dean, sent bine and fruits of a Raspberry; and Colonel Archer Houblon, Welford Park, Newbury (gr., Mr. Ross), had a seedling Melon. A variegated Tomato plant was from Messrs. Collins & Gabriel, Waterloo Road, London.

Lecture on Cactaceous Plants.

In the afternoon a lecture was read by W. Singer, Esq., of Frome, Somersetshire. Mr. Singer, in commencing his paper, briefly described the reasons that impelled him to take up the cultivation of this class of plants. The bizarre appearance presented by most of the species, the beauty of their flowers, their slow rate of growth, and the fact that it was practicable for an ordinary amateur to grow a good number of varieties with a comparatively small area of glass. Considerable efforts were made by Mr. Singer to obtain a representative collection, most of the plants being got through foreign nurserymen. Incidentally, it was remarked that correspondence with the Botanic Garden authorities in Australia proved that there are few species indigenous to that part of the globe. A collection of about six hundred varieties was at last obtained. The lecturer, addressing himself to the question of compost most suitable to the plants, remarked upon the unanimity of British writers upon the subject, in recommending the cultivators to strictly avoid any manure, and said that this advice was contrary to the practice of growers abroad. Letters were then read from many large growers in different parts of the world, in which they described the mode of culture followed. In many points these differed greatly, and even in the nature of the compost employed; but just as the Britishers were unanimous in proclaiming against the use of manure in any quantity, so the foreign writers were equally unanimous in favour of its use. Mr. Singer said he had no doubt whatever that it was correct practice to use something better than the very poor soil recommended by the English writers. Ventilation was alluded to as a more important point than compost, and the lecturer said that even during the whole winter the plants should receive plenty of air, and, to enable the cultivator to follow this practice with safety, the hot-water-pipes should be kept sufficiently warm. On

the continent it was the practice to place the plants outside during the summer, and shelter them only from the north wind. At this period they might have water freely and overhead, but in the winter it was essential that they be not wet, indeed, the plants would only require root-waterings during such season, about once a month. Of insects Mr. Singer mentioned the mealy-bug as being by far the worst enemy of these plants, and they are liable also to thrips and scale. Various methods were then described, by which mealy bug could be destroyed, and the opinions of the foreign growers freely quoted. Fir Tree oil, pure alcohol, very strong pepper, and a dipping solution made from flowers-of-sulphur and soap, were recommended in turn, and each of them required the greatest care that they do not injure the plants.

Upon the completion of the lecture, the chairman called upon Dr. Morris to open the discussion, and during some very interesting remarks, he said that the culture of the plants was mainly a question of heat and moisture. Without a sufficiency of the former they would not succeed, and a little too much of the latter was sufficient to kill them.

Mr. W. Watson said that these plants would stand very much more moisture than was generally supposed. The plants would live if watered all the year round, the same as Pelargoniums, but to induce them to flower it became necessary to give them all possible light and sun, and to keep them dry for a season. Mr. Watson thought they could never be flowered freely in this climate, but the blooms, when they could be secured, would in some measure compensate the grower by their extreme beauty.

Mr. Irwin Lynch mentioned a practice employed by some cultivators with considerable success, of planting the species out [In beds or frames? Ed.] during the summer, and lifting and re-potting in the autumn. Such a method required the greatest care, or plants might be lost through making gross, unripened growth, which might afterwards decay.

EALING HORTICULTURAL.

July 4.—The 30th annual exhibition of this society took place on the above date, in the beautiful grounds attached to Hanger Hill House, and presented a large and creditable display.

Plants:—For a group arranged for effect in a space 12 feet by 6 feet: 1st honours were secured by Mr. W. Roberts, gr. to J. Harris, Esq., Braemar, with a bright well-grown beautiful and very tastefully disposed collection.

Groups, 6 feet by 4 feet: a pleasing arrangement from Mr. C. Edwards, gr. to W. Owen, Esq., The Elms, took 1st prize.

Foliaged plants lent a feature to the exhibition. For six specimens, Mr. C. Long took the premier position with some fine plants, his Crotons being admirably coloured.

In the class for four foliage plants, the prizes were taken by Mr. C. Edwards, Mr. W. Roberts, and Mr. T. Wiseman, with very creditable specimens.

For a specimen stove or greenhouse plant, remarkable for handsome foliage, the 1st prize was taken by Mr. R. Dean, Ealing.

For six Ferns, honours for very good specimens were divided between Messrs. S. Wickenden and W. Roberts. Four Ferns, 1st, Mr. W. G. Rickerd, gr. to T. Lilley, Esq., The Croft; 2nd, Mr. C. Long. Six specimen Coleus, well-grown and coloured plants, secured prizes to Messrs. C. Long, S. Wickenden, and Mr. J. Beasley. Some very fine specimens of Caladiums were shown by Mr. W. Roberts.

Foliage Begonias were a pretty feature, the chief prizes being taken by Messrs S. Wickenden and W. G. Rickerd; whilst in the flowering section, some excellently-flowered examples were contributed by Messrs. J. Beasley and C. Long.

Four flowering plants: Mr. W. Roberts gained 1st prize for some fine specimens.

Mr. Long secured the premier position for a specimen Fuchsia, and also for four Fuchsias in flower with tall well-furnished examples showing high culture.

Some very freely-flowered Gloxinias were sent by Mr. J. Beasley, to whom was awarded the 1st prize.

Mr. Beasley's 1st-prize bedding Pelargoniums were well done.

Cut Flowers.—The 1st prize for eighteen Roses (Gold Medal of the National Rose Society), was taken by Mr. C. Edwards, gr. to W. Owen, Esq., with a beautiful lot of flowers.

Fruit in collections and single dishes made an interesting and nice display, the principal exhibitors being Mr. S. Wickenden, Mr. C. Edwards, and Mr. W. G. Rickerd.

Vegetables, too, were abundantly and well shown, Mr. W. Roberts taking 1st prize (offered by the society), for a creditable collection, whilst that offered by Messrs. Sutton & Sons for a collection was well won by Mr. C. Edwards.

The cottagers, as usual here, made a very good display of vegetables, their productions comparing very favourably with those sent by professional growers.

WORTHING.

July 4.—This is a show more particularly for cottagers and school children, although several larger classes are included. The competition was so keen and numerous that the committee felt constrained to double the prizes among those for children. Wild flowers and table decorations were exceptionally good; so also were the groups and the Grapes. In the open classes for a group not exceeding 60 sq. feet, Mr. J. Rolfe, Mr. C. Short, and Mr. G. Collins were successful. Mr. Short was also 1st for six Exotic Ferns, for Begonias, Gloxinias, and Petunias. Mr. J. Rolfe and Mr. A. Gadd were other prominent prize winners for plants. There was only one competitor for Roses in the open classes, and Mr. A. Slaughter had matters entirely his own way. Mr. Laker and Mr. Johnson took first honours respectively for white and black Grapes. Miss E. F. Shiffner, Lewes, was 1st for Carnations; Mr. Short for herbaceous flowers, and Mrs. Johnson for table decorations.

Amateurs.—For six plants, Mr. G. Heasman was 1st; Dr. E. S. Blaker, for Begonias; Mr. W. Court, for Pelargoniums; and Mr. Heasman, scored again for foliage plants. For twelve cut Roses, Dr. E. S. Blaker was a good 1st; Mr. H. Hargood and Mrs. Duncan following; but Mr. H. Hargood was 1st for six varieties. Mrs. Newington was a capital 1st for a bouquet, also for table decorations. For wild flowers, Miss N. Holden was 1st; the Misses C. & M. Snewin, in the class for thirty varieties with botanical and common names attached, had a grand lot. Mr. Heasman was 1st for a collection of vegetables, for Currants, and for Potatos.

CHERTSEY, WALTON, AND WEYBRIDGE HORTICULTURAL.

July 5.—The twenty-ninth annual show of the above was held at Ashley Park, Walton, the residence of J. S. Sassoon, Esq. The entries were more numerous than on any previous occasion, and the productions generally of great merit. Mr. Sassoon's gardener, Mr. Cook, was 1st for an ornamental group; and Major Brown's gardener, Mr. Carpenter, was 2nd. For groups big and little there were no fewer than eight competitors. Mr. F. Hopkins, Mrs. Wodderspoon's gardener, was 1st in a smaller class of groups; and Mr. Cheeseman, gr. to P. Reddell, Esq., Walton, was 1st for eight stove and greenhouse plants, his plants including a fine Dendrobium thyrsiflorum with thirty racemes; Mr. Cook was 2nd in this class, and 1st in that for four specimens and for foliage plants.

Ferns were numerous and good, the best six exotic species coming from Mr. Hopkins, and the best four hardy species from Mr. Millican, gr. to H. Cobbett, Esq., Addlestone. Mr. Cook had the best Caladiums—handsome plants. Freely-flowered Fuchsias, Gloxinias, and Achimenes were shown, and numerous were the exhibits of cut blooms of herbaceous perennials and Roses. Fruit was of good quality if not large in quantity, Mr. T. Osman, gr., Ottershaw Park, having the best six dishes.

Vegetables were plentiful, and Mr. J. Tomline, Mrs. Goldingham's gardener, was 1st for eight kinds.

AYLESBURY FLORAL AND HORTICULTURAL.

July 5.—This Society, which was established as far back as 1822, held its annual exhibition in the Corn Exchange on the above date, the spacious floor space of two large buildings being required to accommodate the exhibits. At the top of the Exchange were two large exhibits of choice plants, foliage and flowering. One sent by Mr. J. Smith, gr. to the Earl of Rosebery, Mentmore; the other from Mr. Jacques, gr. to Baron F. de Rothschild, M.P., Waddesdon Manor. The Malmaison Carnation, which may be regarded as the flower of the Rothschild family, was present in force; choice Palms, Caladiums, Ferns, predominating in both cases. Other miscellaneous exhibits consisted of some boxes of garden Roses from Mr. Charles Turner, Royal Nursery, Slough; Carnations, Picotees, and other flowers from Mr. John Walker, Thame; and a basket of Ferns from Messrs. Ingram, Whitfield & Co., nurserymen, Aylesbury.

About thirty of the leading classes were open to all. The best collection of plants arranged for effect, was shown by Mr. E. T. Mackrill. Miss Smith-Dorrien had the best collection of flowers in pots; Messrs. Ingram & Co. the best collection of plants, cut flowers, and fruits; Mr. E. T. Mackrill the largest and best collection of plants; the best six specimens of stove and greenhouse plants were from Mr. Robins, gr. to Colonel E. D. Lee, Hartwell House; some capital specimens of single Begonias came from Mr. T. Gurney; double Begonias from Miss Smith-Dorrien, who also had the best six specimens of Achimenes, admirably grown and bloomed; also the best six Coleus. Bedding Pelargoniums, large, well-grown, and flowered specimens, were a good feature also. In the members' division Mr. Shrimpton, gr. to Lady A. de Rothschild, took the 1st prize with a very fine collection of stove and greenhouse plants; and Mr. C. Threlfall had the best six Ferns.

Cut Flowers in the open classes were represented by very fine cut Roses, in thirty-six varieties, from Mr. J. Mattock, nurseryman, Oxford, and Mr. John Walker; but one of the most effective stands was that for six varieties of cut flowers, six of a kind, Mr. J. Walker taking the 1st prize with an excellently-arranged stand; and in a class for another collection of cut flowers, Mr. John Walker was also 1st. Roses were fairly well shown by amateurs.

Mr. Leopold de Rothschild's special prize for a collection of twelve dishes of fruit was won by Mr. Robins, who had excellent Grapes, Peaches, Nectarines, Strawberries, Melon, &c. Mr. Shrimpton took the 1st prize for three dishes of black Grapes, having well-finished Black Hamburgh. There were classes also for Peaches, Nectarines, Strawberries, and Cherries, and the more common hardy fruits.

Vegetables were extensively and finely shown. Messrs. Sutton & Son's special prizes for six dishes brought a good competition, Mr. Robins being 1st; Mr. W. Earl took Messrs. Webb & Sons' leading special prize for the same number of dishes; and Mr. L. N. Simms that of Messrs. James Carter & Co. Potatos, Peas, Beans, Carrots, Turnips were numerous. Table decorations of various kinds, ladies being the principal exhibitors of them, were also an interesting feature.

THE NATIONAL PINK (MIDLAND SECTION).

July 10.—So fine a display of laced Pinks was made in connection with the Wolverhampton Great Floral Fête on the above date that it served to recall the time when, thirty years ago, the flower was in the ascendancy in the Midlands. A considerable portion of tabling was filled with flowers, though the border varieties, which it was anticipated would be largely shown, were only sparingly represented.

There were three stands of laced Pinks in twelve varieties. Mr. A. R. Brown, Handsworth, Birmingham, was placed 1st with some excellent blooms, consisting of Princess Louise, very fine; Minerva, very fine; Arthur Brown, new, extra fine; Captain Kennedy, Ernest, Lustre, Harry Hooper, Bessie, Bertha, Emmeline, Amy, and Empress of India. Mr. C. F. Thurstan, Penn Fields, Wolverhampton, was a close 2nd, having some excellent blooms also, viz., Robert Houlgrave, new, very fine; Modesty, Princess May, new; Duke of York, Mrs. Richards, Amy, Dr. Braide, very pretty, having a wire edge of lacing, like a light-edged Picotee; John Dorrington, Empress of India, Boiard, and two unnamed seedlings. There were six stands in the class for twelve blooms in not fewer than six varieties: Mr. A. R. Brown was again placed 1st, with Boiard, Minerva, Bessie, Amy, Princess Louise, Arthur Brown, Ernest, Empress of India, Godfrey, and a few duplicates. There were five competitors with six distinct varieties: Mr. C. F. Thurstan taking the 1st prize with excellent blooms of Robert Houlgrave, Duke of York, Dr. Braide, Princess May, Amy, and a seedling. There were six stands of six blooms in not fewer than three varieties: Mr. C. F. Thurstan being again 1st with two blooms of Robert Houlgrave, Amy, Modesty, and two seedlings.

The best red-laced Pink was Robert Houlgrave, from Mr. C. F. Thurstan, it was also selected as the premier Pink in the show, and in addition was awarded a Certificate of Merit; it is a superb new red-

laced variety. The best purple-laced was Arthur Brown, a very fine new variety, and it was also awarded a Certificate of Merit. It was shown by the raiser, Mr. A. R. Brown.

The best six bunches of Pinks, border varieties, came from Mr. C. H. Herbert, who had Mrs. Lakin, white; Bertram, Amy, and Boiard, laced varieties; Ernest Ladhams, and the fine rose variety, Lord Lyons. Mr. C. H. Herbert had the best bouquet of Pinks, well arranged; Mr. M. Campbell being 2nd. A Certificate of Merit was also awarded to Princess May, a very attractive pale purple laced variety.

WOLVERHAMPTON HORTICULTURAL.

July 10, 11, 12.—Unsettled weather attended this great exhibition, still there was a very large attendance of visitors.

For sixteen stove and greenhouse plants, Mr. Cypher, Cheltenham, was 1st with a fine lot, especially an Aphelexis prolifera Barnesii, 7 feet in diameter, and marvellously well flowered; a grand Statice profusa, Ixora Williamsii, Erica ampullacea Barnesii, Anthurium Scherzerianum, Cycas circinalis, C. revoluta, and good Kentias; Mr. W. Finch, gr. to James Marriott, Esq., Coventry, was 2nd. with an excellent lot of plants, especially Crotons Queen Victoria and Disraeli; Ericas depressa, tricolor, and impressa; and Ixora Fraseri; Mr. J. Mould, Pewsey, in whose lot was a magnificent Kalosanthes coccinea, 7 feet through, 3rd.

For six stove and greenhouse plants in flower, Mr. Cypher was 1st, with Ericas Cavendishii and ferruginea major; Phœnocoma prolifera Barnesii, and Ixora Pilgrimii, all fine.

For six fine foliage plants, Mr. Cypher was 1st, with Kentia australis, Dasylirion acrostichon, Encephalartos villosus, and others.

Six Stove and Greenhouse Plants, Amateurs.—In the Classes for Gentlemen's Gardeners in the counties of Staffordshire, Warwickshire, Worcestershire, and Salop, in the above class, 1st, Mr. Finch, with a finely grown Phœnocoma, an Erica impressa, and a fine Croton, Prince of Wales, amongst them.

For eight Exotic Orchids, Mr. Cypher was 1st; amongst his plants were fine examples of Oncidium macranthum, Cattleya Mendeli, and C. gigas.

Groups.—Seven of these were arranged, each in a space not exceeding 450 square feet, and here Mr. Cypher was 1st, with a superb group, consisting of Palms, Orchids, Crotons, &c., perhaps rather heavy with flower; and he was closely followed by Mr. Edmunds, gr. to the Duke of St. Albans, Bestwood Park, Notts, whose arrangement was a trifle heavy and lacking the brightness of the first prize group, and a few more good flowering plants would have probably given him the first place.

In the class for a Group of Plants in a space not exceeding 400 square feet, Mr. Lovatt took the 1st prize with a somewhat dull and over-crowded exhibit, and this may be said of all the groups in this class.

In the *Amateurs' Classes* several groups were staged, and the other classes were well filled. Bouquets of wild flowers made by children were a very pretty display.

Roses were a striking feature of the exhibition, and of excellent quality. For seventy-two blooms, distinct varieties, Mr. B. R. Cant, 1st; Mr. F. Cant, 2nd; Messrs. Perkins & Sons, Coventry, 3rd.

For forty-eight distinct varieties, Messrs. D. Prior & Son, Colchester, 1st; Mr. B. R. Cant, 2nd; Messrs. Perkins & Sons, 3rd.

For thirty-six distinct varieties, the Rev. J. H. Pemberton 1st; Mr. B. R. Cant 2nd.

For twenty-four distinct varieties, Mr. B. R. Cant 1st, and Messrs. Townsend & Son, Worcester, 2nd.

For twelve new varieties, distinct, 1st, B. R. Cant; 2nd, F. Cant. For twelve dark Roses, one variety, 1st, B. R. Cant; 2nd, F. Cant. For twelve light Roses, one variety, Messrs. Townsend & Son 1st, B. R. Cant 2nd; all with Mrs. John Laing.

For twelve Teas, distinct, Messrs. Prior & Son 1st, Mr. F. Cant 2nd.

A special class for the most decorative arrangement of Roses brought out two exhibits; Messrs. Townsend & Sons 1st; Mr. Coombs, gr. to the Earl of Dudley, Himley Hall, 2nd.

For thirty-six Roses, distinct (amateurs), the Rev. J. H. Pemberton 1st, Mr. H. Robbins 2nd.

In the classes for bouquets, &c., Messrs. Perkins & Sons, Coventry, were deservedly 1st in the three classes.

Pansies and Violas.—Special prizes were offered for a collection of Pansies and Violas, a handsome Gold Medal as a 1st prize being given by Mr. Paul Lutz of Wolverhampton. Two fine and extensive exhibits were staged, Mr. S. Pye, florist, Garstang, Lancashire, who was 1st with a beautiful display; Mr. A. Lister, florist, Rothesay, 2nd. Several new varieties were exhibited in both collections. In the class for smaller collections, Mr. M. Campbell, florist, Blantyre, was 1st with an admirably set-up collection.

Fruit.

Open Classes.—For four bunches of Grapes, distinct, Mr. Goodacre, gr. to the Earl of Harrington, was 1st; his Black Hamburgh and Muscat Hamburgh were good, but Foster's Seedling and Muscat of Alexandria were not quite ripe. Mr. C. Froud, gr. to the Rev. Canon Coventry, 2nd; his Black Hamburgh Grapes were very fine. Mr. Bannerman, gr. to Lord Bagot, with small bunches of good quality, was 3rd.

For two bunches of White Grapes, Mr. McIndoe, gr. to Sir J. W. Pease, Bart., Hutton Hall, was 1st, with Muscats, rather small in berry and bunch; the Rev. Canon Coventry 2nd.

For two bunches of Black Grapes, Mr. Goodacre was 1st, with well-coloured Black Hamburgh; Mr. J. Wilkes, gr. to Mrs. Meakin, Stone, 2nd.

For a collection of ten varieties of fruit, Mr. Goodacre was 1st, with good Black Hamburgh and Foster's Seedling Grapes, an excellent Queen Pine-apple, a Melon, fine Cherries, Peaches, Nectarines, Figs and Strawberries; Mr. Bannerman, gr. to Lord Bagot, 2nd. There were seven entries in this class. Messrs. Laxton Brothers sent their new Strawberries.

In the fruit classes for gentlemen's gardeners there was a strong competition for six varieties. Mr. Bannerman was 1st, with good Grapes and Peaches; 2nd, Mr. J. Read.

Vegetables.—Gentlemen Gardeners' class for a collection of vegetables, not fewer than eight varieties: Mr. J. Read, gr. to the Earl of Carnarvon, was 1st; and Mr. T. Postings, gr. to Mrs. Wright Bozcott, Rudge Hall, Wolverhampton, 2nd.

There were numbers of honorary exhibits. Mr. H. Eckford, Wem, had a charming collection of Sweet Peas.

Messrs. Hewitt & Co., Solihull Nurseries, Birmingham, had a fine collection of hardy herbaceous blooms, amongst them the very pretty Lathyrus latifolius Turneri. Mr. J. H. White, nurseryman, Worcester, had a fine display of Emily Henderson, Sweet Pea, new bedding Petunia Brilliant, Iris Kæmpferi varieties, Lilium dahuricum Sappho, brilliant in colour, and the lovely Escholtzia tenuifolia. Messrs. Shuttleworth & Co., Bradford, sent a small collection of Orchids. Messrs. Thomson & Co., Sparkhill Nurseries, Birmingham, had a fine group of border Pinks, herbaceous flowers, and a fine collection of Delphiniums. Messrs. Clibran & Sons, nurserymen, Altrincham, arranged a fine display of cut blooms of hardy flowers, including some good Cannas. Mr. Thos. Ware, of Hale Farm Nurseries, Tottenham, sent a very fine display of double and single flowered tuberous Begonias; and Messrs. B. S. Williams & Co., Holloway, contributed a bank of new and rare plants, including some new Dracænas, Cypripediums, the beautiful Odontoglossum vexillarium Cobbianum, Tillandsia Zahnni, Sobralia macrantha lilacina, Bertolonias, &c. Messrs. Birkenhead, The Nurseries, Sale, Manchester, staged a bank of choice Ferns, including the rarely-seen Adiantum palmatum, Davallia tenuifolia Veitchiana, Pteris cretica sempervirens, and Adiantum macrophyllum albo-striatum.

Mr. Joseph Toury, Wolverhampton, had an extensive display of patent rustic garden vases.

Several Certificates were awarded to new Violas, Pansies, and other objects.

The exhibition, acknowledged by all to be a very fine one, was admirably managed by Messrs. W. A. Green, sen. and jun., and the committee.

ROYAL CALEDONIAN HORTICULTURAL.

Edinburgh, July 11.—The summer show of this Society opened under favourable weather on Wednesday last in the Waverley Market, which, upon entering from the gallery, presented a gay and lively appearance, although some of the classes were not competed for strongly. Roses, as might be expected, were the principal feature; and although the season is later than last year, the entries are numerous, and the Roses of good colour and form. In the nurserymen's classes, the prize for the 48 distinct varieties was keenly contested, the premier position being gained by Mr. Hugh Dickson of Belfast. Messrs. D. and W. Croll were also successful exhibitors, taking no fewer than twelve 1st prizes, some of their exhibits being remarkably fine.

The tables of plants did much to relieve the glare of colour, some of these being tastefully arranged, Mr. G. Wood taking the 1st prize for this in the gardeners' class. Messrs. Methven had a fine table of flowering and foliage plants, amongst which were Liliums, Palms, the edging of Caladium agyrites being very effective. Messrs. Laird & Son also arranged a table of Violas, Pyrethrum, and stove and greenhouse plants.

The table of Carnations from Messrs. Laing & Mather was quite a centre of attraction, the variegated Germania, Winter Cheer, Duchess of Fife, and several others being very prominent. Fuchsias, which were arranged along the centres of the tables, were well grown and flowered. Amongst the Ferns, Adiantums were especially good, fine specimens of the A. cuneatum gracillimum being noticed. Large specimens of British Ferns were numerous, the first and second prizes being strongly contested.

Orchids were very thinly represented, the successful competitor for four specimens being Mr. W. Sharp, Freeland, Forgandenny, his plants, though small, being well-flowered, his Epidendrum vitellinum majus and Cattleya Sanderiana being worthy of note; the prize for twelve trusses of Orchids being also secured by the same exhibitor.

The Chrysanthemums from Mr. McMillan attracted considerable notice, and were awarded a Certificate of Merit by the judges.

In the classes for fruit, Grapes took the prominent place, the colouring and size of berries in both Black Hamburgh and Madresfield Court being remarkable. The 1st prize exhibit for the collection of eight dishes comprised two kinds of black Grapes, Peaches, Nectarines, Melon, Figs, Cherries, and Strawberries, and was staged by Mr. Smith, Oxenford Castle, Dalkeith.

Vegetables were anything but numerous, the best collection coming from Mr. W. Hope, Tallabelton House, Perth, all being well shaped, and of good growth.

Tomatos, Cauliflowers, and Cucumbers were also deserving of mention, but were not numerously exhibited.

In the nurserymen's competitive classes, Messrs. Cocker & Sons, Aberdeen, secured the 1st prize for the collection of alpine and herbaceous plants, not fewer than fifty distinct species; Mr. M. Cuthbertson being 2nd. These tables were much admired, as were also the cut flowers of herbaceous plants from the same exhibitors. The Palms and Conifers arranged upon pedestals between the tables did much to relieve the bareness of such a large building. The show, which closed on Thursday, was well patronised, the band of the Black Watch playing selections upon both days.

MARKETS.

COVENT GARDEN, July 14.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Calceolarias, per doz.	3 0	6 0
Crassulas, per dozen	9 0	24 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Ericas, various, p. dz.	9 0	24 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	8 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	4 0	8 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Geraniums, p. dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Lobelias, per dozen	3 0	4 0
— small, per doz.	1 0	2 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	4 0	8 0
Musk, per dozen	2 0	4 0
Nasturtiums, p. doz.	2 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	8 0	12 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0
Spiræas, per dozen	6 0	12 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cherries, half-sieve	3 0	6 0
Figs, per dozen	1 0	2 0
Grapes, 1st quality, black English, per lb.	1 6	2 0
,, Guernsey, per lb.	0 9	1 0
,, English, 2nd quality, p. lb.	0 6	1 0
,, Muscat, per lb.	2 0	3 0
Grapes, Muscat, 2nd quality, per lb.	1 0	1 6
Melons, each	1 6	2 6
Peaches, large, p. doz.	9 0	12 0
,, small, per doz.	2 0	4 0
Pine-apples, St. Michael, each	2 6	5 0
Strawberries, outdoor, per doz. lbs.	3 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl....	2 0–	3 0	Orchids:—		
Bouvardias, per bun.	0 6–	1 0	Cattleya, 12 blms.	6 0–	12 0
Carnations, 12 blms.	1 0–	3 0	Odontoglossum crispum, 12 blms.	2 0–	4 0
— doz. bun. ...	2 0–	4 0	Pelargoniums, scarlet, p. 12 bun.	3 0–	6 0
Cornflowers, 12 bun.	1 0–	2 0	— 12 sprays ...	0 4–	0 8
Eucharis, per dozen	2 0–	4 0	Pinks, doz. bun. ...	1 6–	4 0
Gardenias, per dozen	1 0–	3 0	Pyrethrums, 12 bun.	2 0–	6 0
Gladiolus, doz. bun.	3 0–	6 0	Roses, Tea, per dozen	0 6–	2 0
Iris, dozen blooms ...	0 6–	1 0	— coloured, p. doz.	2 0–	4 0
Lilium Harrisii, doz.	2 0–	4 0	— yellow (Maréchals), per doz.	1 6–	6 0
— candidum, 12 blooms ...	0 3–	0 6	— red, per dozen ...	0 6–	1 0
— candidum, 12 bunches ...	12 0–	18 0	— Moss, French, doz. bun. ...	4 0–	8 0
Maidenhair Fern, per 12 bunches ...	4 0–	6 0	— outdoor, doz. bun.	3 0–	9 0
Marguerites, 12 bun.	1 6–	3 0	Spiræas, 12 bunches	4 0–	6 0
Mignonette, 12 bun.	3 0–	6 0	Stephanotis, dozen sprays	1 6–	2 0
Myosotis, or Forget-me-Not. doz. bun.	1 6–	3 0	Sweet Sultan, 12 bu.	2 0–	3 0
Pæonies, doz. bun....	6 0–	9 0	Tuberoses, 12 blms.	0 4–	0 6
Pansies, 12 bun. ...	1 0–	2 0			

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

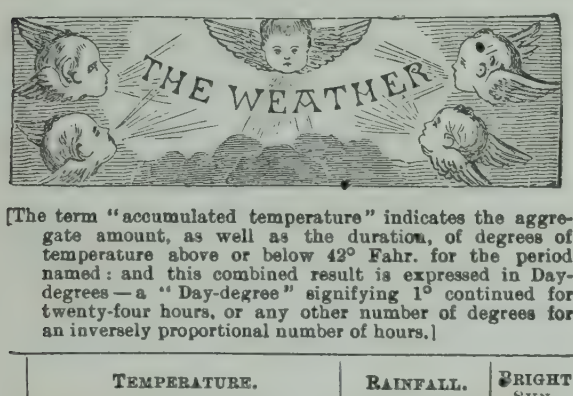
	s. d.	s. d.		s. d.	s. d.
Beans, Broad, p. sieve	2 0–	2 6	Mushrooms, per lb.	1 0–	1 3
,, French, lb. ...	0 6		Peas, per bushel ...	2 6–	3 6
Cauliflowers, p. doz.	1 0–	2 0	Tomatos, per lb. ...	0 5–	0 6
Cucumbers, per doz.	2 0–	3 0			

POTATOS.

Potato market not quite so firm. Prices vary from 7*s.* to 11*s.* per cwt. Old Potatos finished.

SEEDS.

LONDON: *July* 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market devoid alike of business and of interest. Clover seeds are neglected. The new French Trifolium, being good and cheap, attracts rather more attention. For Mustard and Rape seed the inquiry is small. As regards Canary seed, the market gets stronger every day. Very bad accounts continue to come to hand of the new Turkish crop. Hemp seed keeps steady. No change in either Peas or Haricots. The Board of Trade returns give the imports into the United Kingdom of Clover and Grass seeds for the first six months of this year as 196,945 cwt., value £198,336, as against 182,968 cwt., value £156,764, for the corresponding period of 1893.

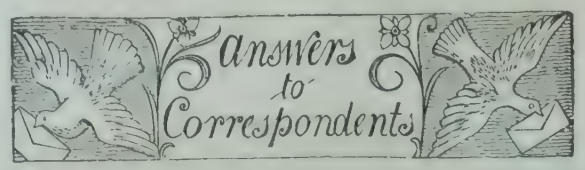


[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending July 7.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	100ths Inch.		Ins.		
0	5 +	123	0	+ 212	— 51	7 +	119	28·8	25	35
1	3 +	124	0	+ 23	+ 8	6 +	108	19 0	47	37
2	4 +	138	0	+ 91	— 51	3 —	107	12·7	53	34
3	4 +	149	0	+ 139	— 100	4 —	97	11·7	63	38
4	3 +	144	0	+ 139	— 79	4 —	101	11 7	57	35
5	3 +	153	0	+ 146	— 119	1 —	95	12 5	63	39
6	3 +	126	0	+ 81	— 69	6 +	122	28·3	37	33
7	4 +	143	0	+ 182	— 122	1 —	114	17·5	48	35
8	2 +	132	0	+ 156	— 81	4 —	110	18·2	58	40
9	3 +	123	0	+ 61	— 33	3 +	126	21·4	31	31
10	2 +	126	0	+ 139	— 67	5 +	119	21 8	36	34
*	2 +	139	0	+ 241	— 18	3 +	112	15·3	61	45

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

ABIES CONCOLOR: *H. F. E.* The loam is either too retentive of moisture, or the bed is badly drained; the plants are damping-off at the root. Take them all up, and prick off those which have healthy roots into a bed of sandy loam, with some drainage beneath it.

BOOKS: *H. J. C. The Art of Perfumery* (G. W. S. Piesse), published by Longmans & Co., London, will furnish just the kind of information you require.—*J. G. C. My Gardener*, price 2*s.* 9*d.*, by H. W. Ward; published by Eyre & Spottiswoode, East Harding Street, E.C.

CARNATION: *A. R. S.* Yes, a good flower; buff ground, with red stripes.

CORRECTION.—RELATIVE VALUE OF GRAPES, p. 18—By mistake, the maximum value for Cultural Merit was given at 3 instead of 5, as it should have been. *W. W.*

DESIGNS FOR FLOWER BEDS: *A. M. W.* Try Messrs. J Carter & Co, High Holborn, W.C.; and Messrs. H. Cannell & Sons, Swanley Junction.

DOUBLE AND TEN-WEEK STOCKS: *Learner.* Ten-week Stocks, Cheiranthus annuus (Mathiola annua) can be seeded in beds in the open air. They should be planted out or pricked off as soon as they have made four true leaves, not waiting longer, as Stocks of all kinds having but few side-roots, seldom can be got to succeed if they are allowed to stand in the seed-bed till more than this number of leaves form. When flowers appear, retain only those plants which have flowers with 6 or 7 petals, these producing a large percentage of double flowers. The sowings should take place in March and April if seed is to be saved. The plants should occupy a sunny position. If they are grown in pots, a stage against a sunny wall is very suitable, and if it have a roof of glass, oiled canvas or boards for protection in wet weather, it is an advantage. Much depends on careful watering, and no water should be afforded before the soil in the pots has become pretty dry. At first a fine rose may be used, and when a crust has formed the spout of the watering-can only. In dull or wet weather scarcely any water may be afforded. The enemies to guard against are a small white caterpillar and the Turnip-fly or flea (Haltica nemorum), which devours the young leaves; and against which only clean water may be used by means of a syringe. Biennial species of Stocks are managed as regards seed saving in the same manner. Seed may be sown in May or June, the latter month is perhaps the better for raising plants for spring-flowering, as when sown earlier a weak bloom often comes in late autumn or early winter, at a period therefore not favourable for seeding. When of the desired size, the seedlings must be pricked out in a shallow cold frame, and planted in the open in July, at 9 inches to 1 foot apart. After planting, several good waterings will be required, and the soil kept stirred on the surface. Planting in pots takes place in September and October, throwing those away which show signs of being quite single.

EMIGRATION: *Perplexed.* We know nothing personally of the enterprise you mention, but we are disposed to place confidence in it. Apply to the Emigration Office, Broadway, Westminster. By no means part with your capital, wherever you go, till you have made yourself reasonably sure of your prospects.

FRUIT OF NECTARINES CRACKING: *M. F.* Probably a fungus—Fusicladium dendriticum—which feeds on the skin, and kills it; the pulp continuing to grow, splits the skin.

GRAPES: *An Anxious One.* The berries have the "spot," specimens of which we have very often brought under our notice this year. See replies this week to other senders. Shanking is also carrying off the berries of your bunches wholesale. That is usually due to a bad state of the roots overcropping, or a severe check to the Vines inflicted by the sudden removal of a large quantity of foliage and shoots. You should examine the border late in September, and if the soil be in a bad state from some cause or other, make a new border, well furnished with the means of drainage.

GRAPES, DISEASED: *H. F., G. C., and many others.* Spot, due to a fungus (Gloeosporium læticolor). See p. 44.

NAMES OF PLANTS: *C. W.* Platystemon californicus, annual, nat. ord. Papaveraceæ.—*Cynosurus.* 1, Festuca pratensis; 2, Lolium perenne; 3, Aira cæspitosa; 4, Poa pratensis; 5, Bromus giganteus; 6, Arrhenatherum avenaceum.—*M. L.* Some of the labels were detached. 1, Neottia nidus-avis, brown; 3, Orchis conopsea, small; 4, Orchis maculata; 5, Orchis maculata; 7, Geranium pratense; 8, Lychnis flos-cuculi; Listera ovata, green; Habenaria bifolia, white. All except No. 7 and 8 are British Orchids, not uncommon in some places. There are several other British Orchids. —*H. Henkel.* Anguloa uniflora.—*Lucy Burton.* Rhamnus catharticus, Buckthorn; berries purgative.—*T. C. H.* 1, Pyrus Aria; 2, Cratægus tanacetifolia.—*G. H. S.* Lactuca Plumieri.—*G. M.* Clitoria dentata.—*J. L. McK.* Eucomis punctata and Liriodendron tulipiferum.—*W. R.* 1, Sempervivum montanum; 2, Funckia Sieboldi variegata.—*C. G.* 1, Polygonum aviculare; 2, Ranunculus lingua; 3, Senecio silvaticus; 4, Hieracium Pilosella; 5, Crepis biennis; 6, Chrysanthemum segetum; 7, Heracleum Sphondylium.—*W. D. H.* 1, Stachys betonica; 2, Spiræa salicifolia; 3, Nepeta violacea.—*H. H.* Ceanothus azureus, Cistus ladaniferus, Maxillaria tenuifolia.—*A. S. G.* 1, Cyperus longus, probably; 2, Ophiopogon Jaburan variegatus; 3, Maranta Makoyana; 4, Fittonia Pearcei.—*C. B.* Good specimens, carefully packed and numbered. Thank you. 1, Thalictrum aquilegifolium; 2, Veronica incana; 3 Phacelia bipinnatifida; 4, not recognised; 5, Agrostemma coronaria; 6, Symphytum officinale. —*Poppy.* 1, Galega officinalis; 2, Platystemon californicus; 3, Lasthenia glabrata; 4, Nepeta violacea; 5, Salvia pratensis.—*J. T. L* 1, Coccoloba Platycladon; other, next week.—*J. B.* 1, Alstrœmeria aurantiaca; 2, Galega officinalis alba; 3, Œnothera Youngi of gardens; 4, Campanula persicifolia alba, double-fl.—*W. H. Mitton.* Silene nutans.—*Sir C. W. S.* Next week.

ODONTOGLOSSUM ALEXANDRÆ: *A. H. H.* When the new pseudobulb is about fully grown, afford rather less warmth, and water, and more air.

PHALÆNOPSIS SPOTTING: *W. Johnson.* From the information you supply, we should certainly say that the cause of damage to the leaves of your Phalænopsis is a too high temperature, especially if the heat you mention (a maximum of 100° Fah.) is in any way approached at night, at which time 65° would be ample if the temperature outside admits of its being kept down to that. Contributory circumstances may be the sun's rays through defective or bad glass, and the fumes of the white-lead you speak of as being used as shading if inside the house. We should never recommend paint or white-lead for such a purpose. Canvas blinds are the only really good shading, unless the continental lath shading be used. Where a wash is used, "Summer Cloud," or skim milk and whiting are the best, as they are inodorous.

POTATOS: *A. J. S.* The disease is that known as dry rot, concerning which little is known beyond what is described and illustrated in our columns, December 20, 1884, fig. 135, and January 3, 1885.

TOMATO: *J. D.* Affected by a fungus like that which affects the Potato. Burn the plant immediately, and syringe the others with weak Bordeaux Mixture, taking care not to use it if the fruits are ripening.

TULIPS: *J. R. H.* Yes, bulb-mite. Take off, and burn the old scales. The bulbs seem sound. Try steeping in Quassia-water.

VEGETABLE TERATOLOGY: *Ina.* Out of print long since; it is now very scarce. The German edition, published a few years since, may be had from Williams & Norgate, Henrietta Street, Covent Garden.

COMMUNICATIONS RECEIVED.—W. A. Green.—J. B.—G. M.—M. L.—J. D.—J. W.—W. M.—M. D—C. R. H.—E. J. B.—W. & N.—W. E. Br.—Barr & Son.—Ed. Smith, Walkerville. —S. A.—"Dicksons."—J. Clarke.—G. B.—J. G. C.—W. A. C. —T. F.—N. E. B.—H. M.—J. D.—E. C.—D. T. F.—W. A.—S.—H. W. W.—J. R. J.—W. H. W—A. C. F.—A. D.—L. V. A. B., Belgium, next week.—E. J. B.—W. M—J. D. —A, B, F, M.—A Discontented Gardener.—G. M.—W. G.

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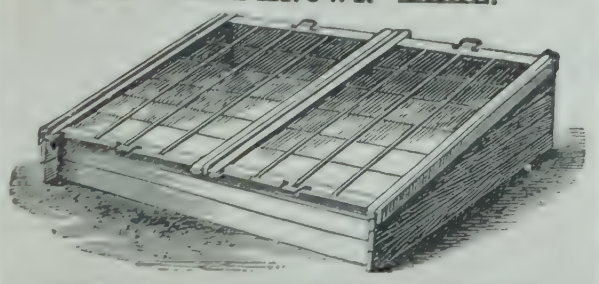
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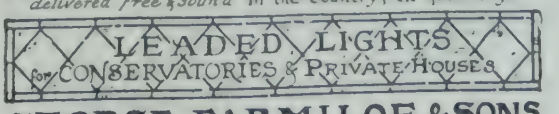
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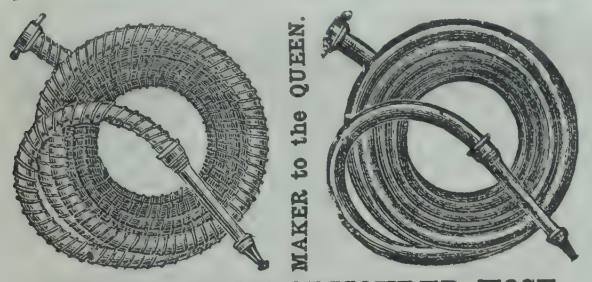
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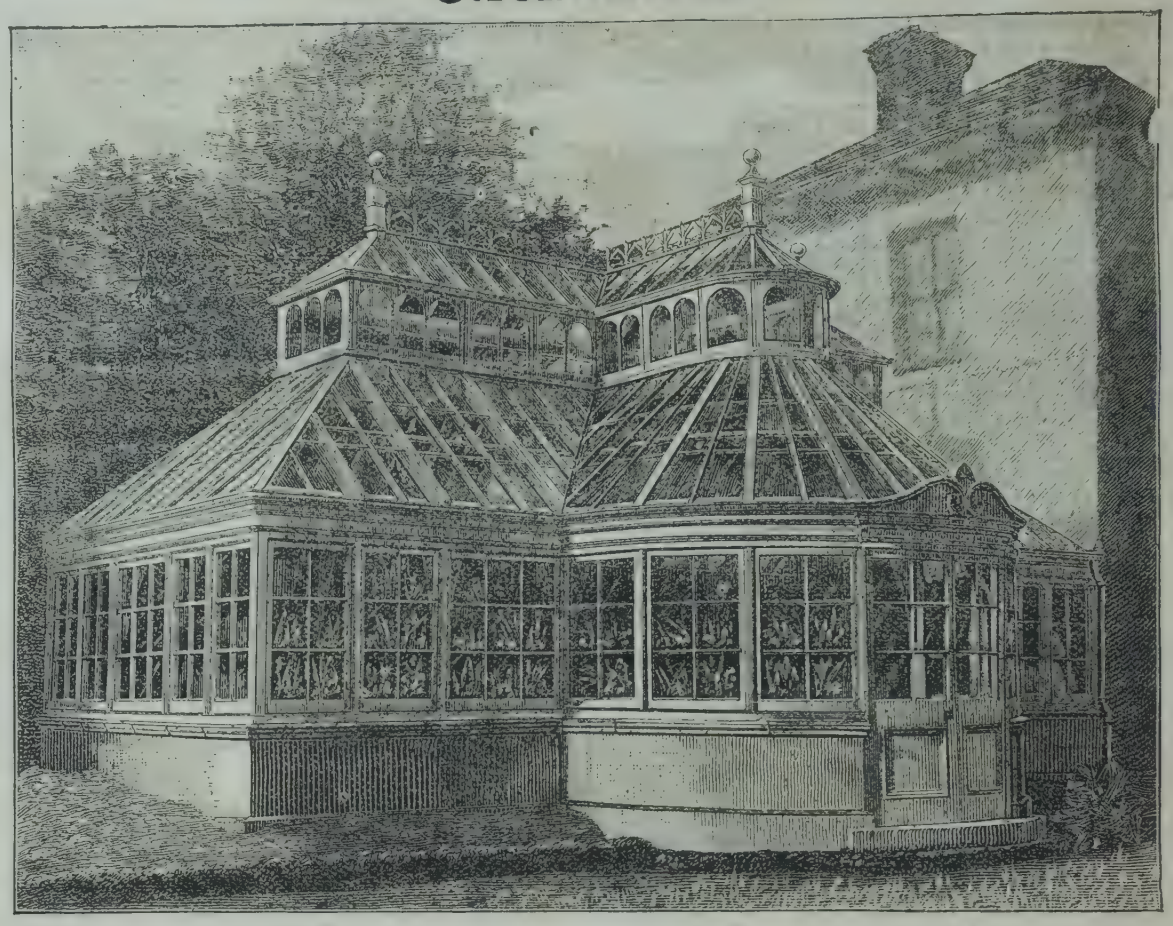
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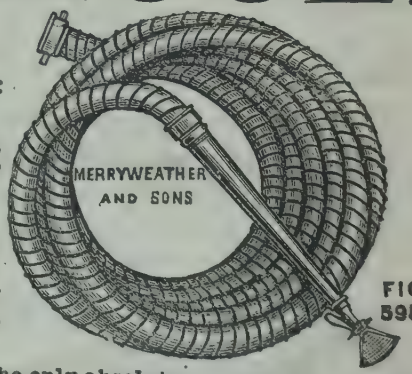


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SUTTON'S SEEDS, GENUINE ONLY DIRECT FROM
SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W

PANDANUS VEITCHII, beautifully variegated, in 48's, 18*s.* per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

BUNYARD'S KENT STRAWBERRIES.
Best plants of finest sorts. New LIST free.
GEORGE BUNYARD AND CO., Old Nurseries, Maidstone.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

EUCHARIS AMAZONICA. — Established from an importation received last spring. Strong and healthy. Price on application.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath. Uxbridge.

Peaches, Nectarines, and Melons.
JOHN NATHAN, Jun., Long Market, Covent Garden, is open to RECEIVE CONSIGNMENTS of the above on COMMISSION. Terms 5 per cent. References, any London Fruit Broker, or London & County Bank, C. G. Branch.

LOVELS' YORKSHIRE STRAWBERRIES.
Rooted Runners of
Noble, Thury, Paxton, President, and others at 6*s.* 9*d.* per 100, carriage paid. Sample dozen, 1*s.* List free.
W. LOVEL AND SON, Strawberry Nurseries, Driffield.

PRIMULAS! PRIMULAS! PRIMULAS!
26th year of Distribution.
Williams' superb Strain, 1*s.* 6*d.* per dozen; 10*s.* per 100.
CINERARIAS, same price; also DOUBLE WHITE PRIMULAS, 6*d.* each. Package and Carriage free for Cash with Order.—JOHN STEVENS, The Nurseries, Coventry.

Amaryllis Seed for Sowing Now.
B. S. WILLIAMS AND SON have just saved a quantity of AMARYLLIS SEED, from Choice Plants of their Unrivalled Collection, which were carefully hybridised.
Per packet, post-free, 2*s.* 6*d.*
Victoria and Paradise Nurseries, Upper Holloway, London, N.

Prize Cob Filberts and other Fruit Trees.
MR. COOPER being about to leave the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address GEORGE WAITE, the Foreman, Calcot, near Reading.

NOTICE. — MESSRS. LINDEN, Directors of L'HORTICULTURE INTERNATIONALE, Brussels, beg to inform their numerous Friends and Clients, that their English Representative, Mr. P. WEATHERS, has LEFT THEIR SERVICE. All Communications should be addressed direct to Mr. LUCIEN LINDEN, Park Leopold, Brussels.

TREE CARNATIONS.—Extra fine Stuff for winter flowering, Miss Joliffe Improved, Winter Cheer, La Neige, Mrs. A. Hemsley, and other leading sorts. Price, &c., on application.
H. B. MAY, Dyson's Lane, Upper Edmonton.

Trade.
WANTED, MARIE LOUISE VIOLETS. Must be strong and well rooted. State price per 1000 to—A. KNIGHT, May Mead, Keymer, Hassocks, Sussex.

WANTED, large PLANTS of CROTON, Mortii, Andreanum, Weismanii, Majestica, Lord Derby, and Variegatus.—State lowest price to G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

VEGETABLE SEEDS for PRESENT SOWING.—The Best Cabbages are Dicksons First and Best, and Dicksons Perfection. 6*d.* per packet, 1*s.* 6*d.* per ounce; Tripoli Onions, Lettuces, &c.
DICKSONS, Seed Growers & Nurserymen, CHESTER.

PLANTS—150,000 — Robinson Champion Drumhead CABBAGE. Extra strong 2*s.* SAVOY Drumhead, 2*s.* 9*d.* per 1000. BRUSSELL SPROUTS, 2*s.* 9*d.* per 1000.
BRADLEY BROTHERS, The Nurseries, Bardney, Lincoln.

FERNS, &c.—5000 Adiantum pubescens, in thumbs, ready for potting, at 9*s.* per 100; Pteris tremula, in 48's at 4*s.* 6*d.* per dozen; Aralias, at 4*s.* 6*d.* per dozen.
PALMS: Kentias, Belmoriana and Fosteriana, and Seaforthias, in 48's, at 4*s.* per dozen; in 60's, at 3*s.* per dozen.
Packed free at the above prices for cash with order.
B. PRIMROSE, Blackheath Nurseries, St. John's Park, Blackheath, S.E.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 38 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 10 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

Important to Mushroom Growers.
CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchant, Southgate, N. Established 1797.

STROBILANTHES DYERIANUS, the most attractive ornamental foliage plant of recent introduction, was exhibited in collection, awarded 1st prize at International Quinquennial Exhibition, Ghent; price 1*s.* 6*d.* each, 12*s.* per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

ORCHIDS.—Many rare and choice Cattleyas, Cypripediums, Odontoglossums, &c., always in stock Inspection invited. CATALOGUE free.
W. L. LEWIS AND CO., Chase Side, Southgate, London, N.

Hyacinths, Tulips, Crocus, Lilies, &c.
C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

BEESON'S MANURE,
Crushed Bones and all High-class Fertilisers.
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10*s.* per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

AGENTS WANTED in Districts where not already represented, to SELL SPENCER'S New "ELECTRIA" GUANO. A liberal Commission allowed.—Apply, ISAAC SPENCER AND CO., 2, High Street, Hull.

NETTING for TENNIS BORDERING.—Good colour and specially prepared, with line attached to net top and bottom throughout; easy to erect or to take away; 25 yards long, 3 yards wide, for 7*s.* 6*d.*, carriage paid.
HENRY J. GASSON, Net Works, Rye.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

SALES BY AUCTION.

Tuesday Next.

THE COVENTRY HALL COLLECTION of ORCHIDS, and Others,

For SALE, without the least reserve, in consequence of the owner having sold his estate, and removing from the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY NEXT, July 24, at half-past 12 o'Clock.

Among this Collection and others for Sale will be found some wonderfully well-grown specimens, and extra grand varieties of CATTLEYAS, such as—

Cattleya Mendeli, many with flower-sheaths
,, Gaskelliana, in bud or flower
,, labiata autumnalis, all with flower-sheaths
,, Schofieldiana
,, intermedia alba
,, Schroderæ [men
,, Bowringiana, fine speci-
,, Gaskelliana speciosa
(Award of Merit, R.H.S.)

Lælia purpurata alba
Vanda Stangeana, finest specimen in existence
Cypripedium seedlings, hundreds in one pot.
Vanda tricolor and suavis, grand specimens and varieties
Sobralia xantholeuca alba
Trichopilia tortilis alba
And many others of value.

On view morning of Sale, and Catalogues had.

Peckham Rye, S.E.

Close to the Honor Oak Station on the L.C.D. Railway.

IMPORTANT UNRESERVED SALE of choice ESTABLISHED ORCHIDS, PALMS, CROTONS, and other beautifully-grown DECORATIVE PLANTS, by order of Messrs. E. D. Shuttleworth & Co., who are relinquishing the cultivation of Orchids.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Albert Nurseries, Peckham Rye, on THURSDAY, July 26, at 11 for 12 o'Clock precisely, by order of Messrs. E. D. Shuttleworth & Co., the whole of the choice collection of

2000 ESTABLISHED ORCHIDS,

well grown, and consisting principally of 1000 Odontoglossum crispum, Cattleyas, Oncidiums, Cypripediums, Cœlogynes, Lælias, Dendrobiums, &c.

Also a fine assortment of DECORATIVE PLANTS, comprising 150 Cycas revoluta, 1000 Palms, consisting of 50 Specimen Kentias, in three varieties; Latania borbonica, Phœnix Rupicola, Cocos Weddelliana, and others; Asparagus in three varieties; Araucaria excelsa and A. glauca, Adiantum Farleyense, A. cuneatum, Gymnogramma Wettenhallianum, Dracænas and Crotons in great variety, Caladiums, &c.; Azalea indica, large plants; and other Greenhouse Plants.

May be viewed two days prior and morning of Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday Next.

100 Lots of EULOPHIELLA ELISABETHÆ, and other imported ORCHIDS, received direct, for Unreserved Sale; also a collection of ESTABLISHED ORCHIDS, the property of a Private Gentleman, comprising 300 Odontoglossum crispum, Cattleyas, Lælias, and others, and imported plants of Oncidium incurvum, Stenia pallida, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 27, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 27, at half-past 12 o'Clock, an importation of STENIA PALLIDA, a charming Orchid with evergreen foliage and large golden yellow flowers, the lip spotted with red, very rare, and difficult to import. The plants offered are fresh as when collected.

Also healthy fresh imported plants of the pretty ONCIDIUM INDIFOLIUM, IONOPSIS PANICULATA, EPIDENDRUM STENOPETALUM, with rose Barkeria-like flowers. TETRANICRA, new species (?) of curious growth and elegant flower; ASPASIA VARIEGATA, various EPIDENDRUMS, BRASSAVOLAS, and SCHOMBURGKIAS, from Nicaragua; and six established plants of the pretty scarlet LÆLIA MONOPHYLLA, in flower or bud.

On view morning of Sale, and Catalogues had.

TO DUTCH BULB GROWERS AND ENGLISH BUYERS.

MESSRS. POPE AND SONS wish to call the attention of the above to their SALES of BULBS, which will be held every TUESDAY and THURSDAY, commencing THURSDAY, August 23.

FLORISTS, and others requiring large quantities of Bulbs, cannot do better than give these Sales a trial, as we are sure (from a life-long experience of the Trade) that the Bulbs usually sold are good, sound, and true to name, and at Prices that cannot be touched in the Trade.

To DUTCH BULB GROWERS.—We shall be open to receive Consignments of good sound Bulbs, true to name, for Sale by Auction, and shall always do the best possible for all Senders, and send Account of Sales and Cheques immediately after the Sale.

POPE AND SONS, Horticultural Auctioneers, 6, Phillips Street (adjoining the Market Hall), Birmingham.

WANTED, to RENT a small NURSERY, with or without House attached. West or North-west district preferred. No objection to take to Stock, &c.—Address, with full particulars, as to size, rent, lease, &c., to M., 23, Queen's Terrace, Finchley Road, N.W.

NURSERY for SALE, 5 miles from London, surrounded by Gentlemen's houses. Superior neighbourhood. Excellent business done; no market work, houses all well-heated. Very long lease; ground rent low. Price £800. L. A. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

NURSERY for SALE.—Eight Greenhouses, 60 feet by 12 feet, heated with 4-inch Hot-water Pipes, and about 50 Pit Lights, Horse and Van, Stable and Stock. Size of Land, 134 feet by 125 feet deep; on Lease.
THOS. MATTINGLY, 120, Church Road, Lower Tottenham.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.
For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

NARCISSUS BULBS.—Double White, fine strain, 15*s.* per 1000, on rail. Sample 100, by post, for 3*s.*
J. J. CLARK, Market Gardener, Goldstone, Brighton.

GREVILLEA ROBUSTA.—Strong, in 60's, fit for potting into 48's, at 12*s.* per 100.
FIELD, Florist, Fleet, Hants.

DOUBLE WHITE PRIMULAS. — Good stuff, in 60's, 30*s.* per 100.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

To the Trade.

ASPARAGUS PLUMOSUS NANUS, and ASPARAGUS TENUISSIMUS, fine healthy stuff, in various sizes. Price per dozen or 100 on application.
H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

To the Trade.

PRIMULA SEEDS, just harvested, Red and White, first-rate strain. For price, &c., apply to—
A. BROOKES, Grove Nursery, Upper Edmonton, London, N.

ORCHIDS.—Splendid plants at reasonable prices. Send for Special List.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

Cheap Offer.

POLYPODIUM AUREUM.—Good stuff, in 60's, ready to pot into 48's, 12*s.* per 100, £5 per 1000.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

FOR SALE, two Large Specimen PALMS, Cycas revoluta.—The pair have upwards of ninety good leaves. Cheap, 15 guineas.
SELWAY, North Wilts Nurseries, Swindon, Wilts.

DOUBLE WHITE PRIMULAS, in 60's, ready for 48's, 5*s.* per dozen; 35*s.* per 100.
G. BENNETT, Florist, Hanwell.

PRIMULAS, Double White, strong plants for potting into 48's.
25*s.* per 100. Cash with order.
D. ANDERSON, Teddington Nursery, S.W.

Sow Now for Early Flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES.
☞ The finest strain of Pansies in the World. ☜
Introducer and Grower of the leading Novelties.
CATALOGUE, free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

CUTHBERT'S BULBS for EARLY FORCING.
ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.
R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.
Bulb Importers, Seed Merchants, &c., Southgate, N.
Established 1797.

TO NURSERYMEN, FLORISTS, GENTLEMEN'S GARDENERS, and OTHERS.—To be disposed of, through want of space, a SPECIMEN CAMELLIA TREE, Double White Fimbriata, size 8 feet high by about 6 feet through, now a mass of buds.—For price and further particulars, apply to W. J. FARLOW, Stone, Staffordshire.

PALMS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s.* per dozen; six sorts of PALMS, in 48's, 9*s.* and 12*s.* per doz.; Large KENTIAS, in 60's, 5*s.* and 6*s.* per doz.; eight sorts of PALMS, in 60's, 4*s.* and 5*s.* per doz.; do. in large thumbs, 3*s.* per doz., 20*s.* per 100; ARALIAS, in 48's, 5*s.* and 6*s.* per doz.; twelve best sorts of FERNS, 12*s.* per 100; ASPARAGUS PLUMOSUS NANUS, 18*s.* doz., in 48's; variety of FERNS in 48's, 5*s.* & 6*s.* doz. Free on rail. Cash with order.
LANE AND MARTIN, 227, Brixton Road, London, S.W.

To the Trade only.

MESSRS. THOMAS CRIPPS AND SON, The Tunbridge Wells Nurseries, Kent, beg to offer the undermentioned strong, healthy stuff, in pots:—

FREMONTIA CALIFORNICA, 5*s.* each.
CLEMATIS, Madame Edouard André, scarlet, 2*s.* 6*d.* each; 24*s.* per dozen.
ARAUCARIA EXCELSA, in 48-pots, heads 6 to 7 inches high, 15*s.* per dozen.
EUCALYPTUS GLOBULUS, nice bushy stuff, 6*s.* per dozen.
CISTUS LADANIFERUS, strong, 6*s.* per dozen.
LIGUSTRUM japonicum macrophyllum marginatum aureum, 9*s.* per dozen.
ESCALLONIAS Ingrami, macrantha, Philipiana, Montevidensis, sanguinea, and rubra, 6*s.* per dozen.

EXHIBITIONS.

CARDIFF HORTICULTURAL SOCIETY.
President:—THE MAYOR.
The SIXTH ANNUAL SHOW will be held on WEDNESDAY and THURSDAY, August 15 and 16.
Prizes and Specials, £300. Entries close August 7.
H. GILLETT, Secretary.
66, Woodville Road, Cardiff.

KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE HORTICULTURAL SOCIETY.
ANNUAL SHOW, on WEDNESDAY, August 22, 1894.
PRIZES OVER £200.
Application for Spaces for Sale of Implements, Articles, &c. to be made to the Secretaries.
Schedules may be had on application to—
F. H. JULLION, A. W. COTTLE, } Hon. Secs.
Kingswood.

SHREWSBURY GREAT FLORAL FÊTE,
August 22 and 23, 1894.
SCHEDULES now ready. £720 offered in Cash Prizes.
ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CUT FLOWERS.—CUT FLOWERS.
We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.
POPE AND SONS, 6, Phillips Street, Birmingham.

Special Cheap Offer.

PALMS, PALMS, PALMS.
Send for Price List.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

FOR SALE, a fine SPECIMEN PALM (Chamærops humilis), also large FERN (Dicksonia), and various other Plants.—Apply to
A. C. T., Cressy House, 203, Goldhawk Road, London, W.

BULBS for AUTUMN FLOWERING.—DESCRIPTIVE LIST on application, of Beautiful and Rare Species of Autumn and Winter CROCUSES, and Autumn-flowering MEADOW SAFFRONS, producing a beautiful effect in September—FLOWER OF THE WEST WIND (white); LILY OF THE FIELD (yellow). Autumn-flowering SCILLAS and SNOWFLAKES, GUERNSEY and BELLADONNA LILIES.
BARR'S DAFFODIL CATALOGUE, ready in August.
BARR'S GENERAL BULB CATALOGUE, ready September 1.
BARR AND SON, King Street, Covent Garden, London.

FERNS and DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* per 100; Stores, 6*s.* per 100; large ditto, in 48's, 10 best selling sorts, 6*s.* per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronde), 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly (bushy), 16*s.* and 20*s.* per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6*s.* per dozen. Ficus, Palms, Dracænas, Pelargoniums, Hydrangeas, 1*s.* each. Spiræas and Heliotrope, 9*d.* each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

ORCHIDS! ORCHIDS!

JOHN COWAN & Co. (LIMITED),

Have just completed a New Illustrated Descriptive and Priced CATALOGUE of their large and splendid STOCK of ORCHIDS, a copy of which will be sent, post-free, on application.

The Co. are also constantly receiving fresh importations of Orchids from various parts of the world. Particulars of each importation, as it arrives, will be sent, post-free, on application to the Company,

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

The Co. have also an immense Stock of TEA and other ROSES in pots, and a large General Stock of STOVE and GREENHOUSE PLANTS. Catalogues, post-free, on application.

GREEN SPHAGNUM MOSS. — Fresh Gathered. Clean Picked and Squeezed, 5*s.* per bag, over 70 lb.—JOHN BYRNES, Cliff Brow, Kendal.

GLASS! CHEAP GLASS!
In Stock Sizes.
15-oz., per 100 ft., 8*s.* 6*d.* { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 11*s.* 9*d.* { 14×12, 20×12, 18×16, 24×16, 16×12, 16×14, 20×16, 24×18, &c.
1½ × 3 Prepared Sash Bar at 5*s.* per 100 feet.
Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½*d.* per foot run; 2×7 at 1*d.*
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free. THE CHEAP WOOD COMPANY, 12, BISHOPSGATE STREET WITHIN, LONDON, E.C.

CRIMSON PERPETUAL-FLOWERING CARNATION, "URIAH PIKE."

Awarded Four First-class Certificates, besides the Silver-Gilt and Silver Medals of the R.H.S.

Come and see my magnificent stock of this noble flower, much the largest and best in existence. A veritable CARNATION FEAST. Thousands of Plants and Millions of Flowers ready for Sale.

Price :—48's, 5s. each, 50s. per dozen ;, 60's, 2s. 6d. each, 24s. per dozen.

Terms, cash with order. N.B.—Coloured Plate post-free on application.

Special Prices per 1,000 or 10,000.

GEORGE MAY, THE NURSERIES, UPPER TEDDINGTON, MIDDLESEX.

ROYAL HORTICULTURAL SOCIETY, 117, Victoria Street, S.W.

NOTICE IS HEREBY GIVEN, that a SPECIAL GENERAL MEETING of the Fellows of the Society will be held at the Society's Offices, 117, Victoria Street, S.W., at 2.30 P.M., on TUESDAY, July 24, 1894, for the purpose of adopting and confirming (or otherwise) a new Bye Law on the subject of Life composition in lieu of Annual Subscription.

By order of Council,
W. WILKS, Secretary.

NOTICE IS HEREBY GIVEN, that the PARTNERSHIP which has for some time past been carried on by Obed Oldfield Dale and Robert Carl Friedrick Theodor Gülzow, under the firm of R. GÜLZOW AND CO., at Melbourne Nurseries, Bexley Heath, in the County of Kent, in the Trade or Business of Nurserymen, was this day DISSOLVED by mutual consent, and that the Business will hereafter be carried on by the said Robert Carl Friedrick Theodor Gülzow alone, who will Discharge the Debts and Liabilities of the said Business.

As witness our hands this 24th day of June, 1894.

OBED O. DALE,
R. C. F. T. GÜLZOW.

CROSS'S GARDEN FERTILISER.—For Vines, Pot Plants, Fruit Trees, Vegetables.

MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.

ALEXANDER CROSS AND SONS, 79, Mark Lane, London.

C. BEESON'S MANURE.—Composed of Blood and Bone. The Best Fertiliser for all purposes. Sold in tins, 1s., 2s. 6d., and 5s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.

"12, Knowle Road, Brixton, London,

"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.

"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at Home and Abroad.

Agent for London :—J. GEORGE, 14, Redgrave Road, Putney, S.W.

Agent for Channel Islands :—J. H. PARSONS, Market Place, Guernsey.

Sole Makers :—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.

Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

INSECTS on PLANTS and FRUIT TREES cheaply cleared by CALVERT'S CARBOLIC SOFT SOAP. The best preparation. Highly recommended by users. In 1 and 2 lb. Jars at 1s. and 2s. each; 4 and 7 lb. Tins at 3s. and 5s. each, at Chemists, &c., or Tins sent post-free for value.

F. C. CALVERT AND CO., Manchester.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

KILL
FEED
SMOKE
SPRAY

FOR PRICE LIST

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WRITE TO

The "Stott" Distributor Co., Ltd., Barton House, Manchester.

WALTON HEATH YELLOW FIBROUS LOAM.
WALTON HEATH YELLOW FIBROUS LOAM.
WALTON HEATH YELLOW FIBROUS LOAM.

As supplied to the Sandringham Estate of H.R.H. the Prince of Wales.

For special low rates for WALTON HEATH LOAM and REIGATE SILVER SAND, apply to—

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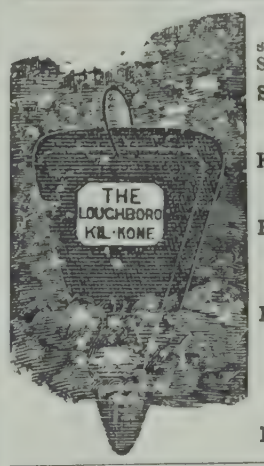
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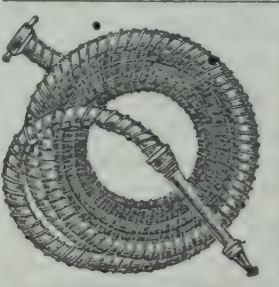
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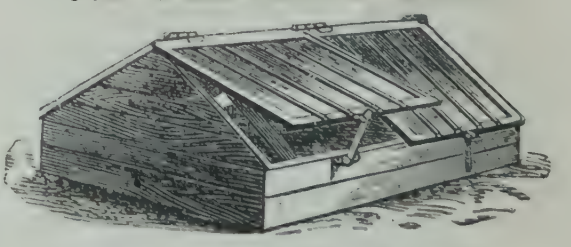
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⅝ ,, best quality ...	45	0	½ ,, extra stout ...	27	5
⅝ ,, extra stout ...	52	0	⅝ ,, best quality ...	28	0
¾ ,, best quality ...	52	0	⅝ ,, extra stout ...	33	0
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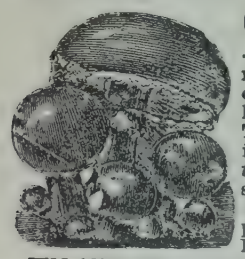
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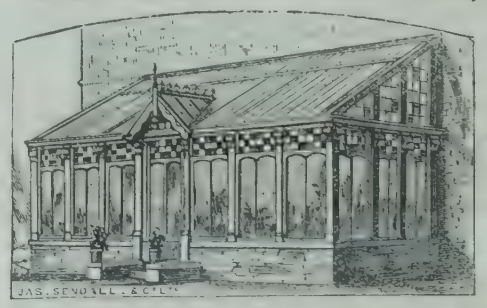
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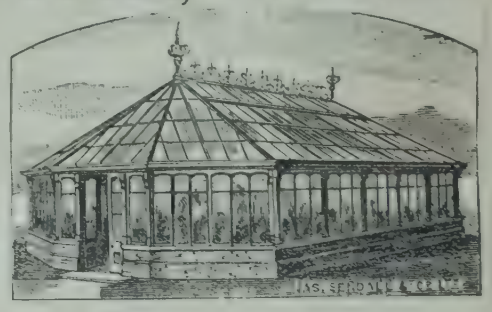
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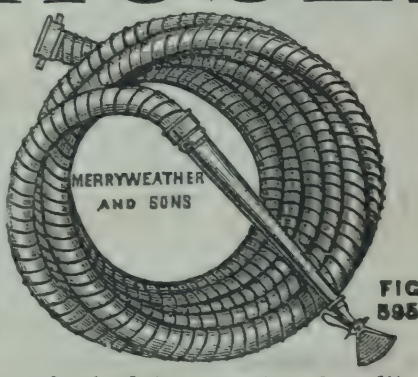
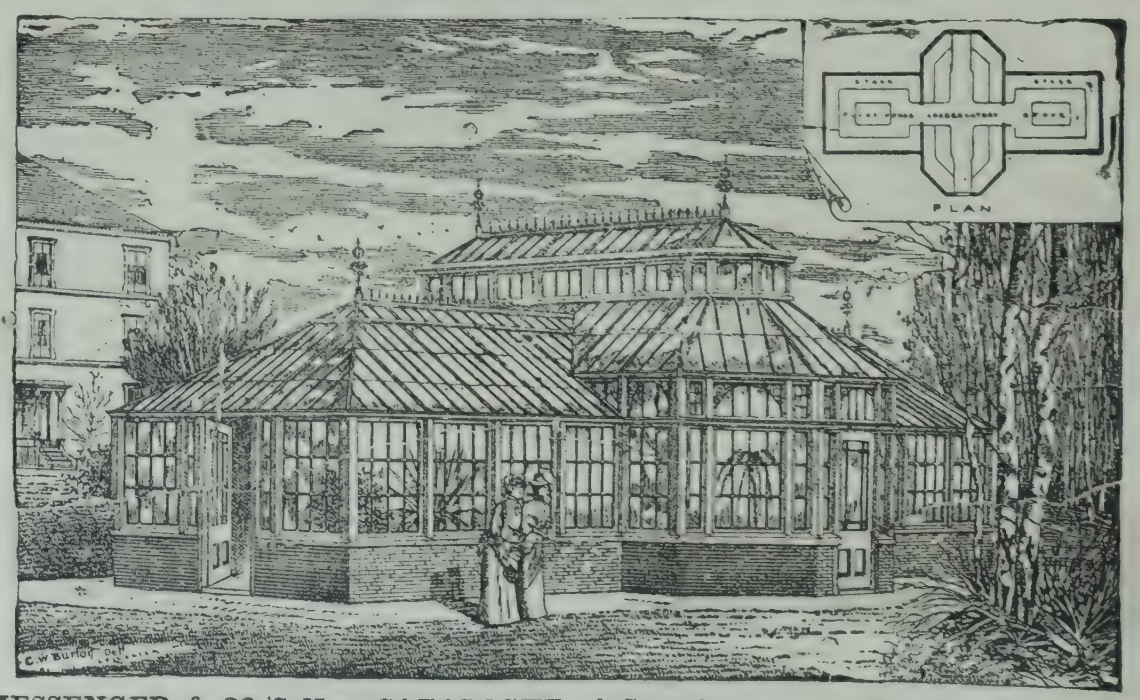


FIG 595.

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ONION.

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THE
Gardeners' Chronicle.

SATURDAY, JULY 21, 1894.

ROSES.

THE great Rose event of the year has come and gone. It has falsified the criticisms of some, shown how unstable were the forebodings of others, and has fully justified the decisions of the committee of the Society in fixing the date; neither attending to the suggestions of those who would have made it a week later, or of those who would have thrown it back to the previous Saturday. It is true that the extreme north and the extreme south were but feebly represented, but from all other parts of the country exhibits were sent in large numbers, and in some of the classes an unusually large number were contributed, forming a very striking contrast to the exhibition of last year, when a very large percentage of the prizes was not awarded, as in only some half-dozen cases were they withheld this year. We cannot wonder that the extreme south should have been but feebly represented, when we recollect that a month had passed since the date at which the Isle of Wight shows had been originally fixed, though here it is worthy to note that the Rev. G. Jeans, who won the gold medal on June 13 for Isle of Wight Roses, was able to take a 1st prize at this exhibition also. But the Exeter and Torquay contingent made no sign; and in the same way, although some of the northern men did put in an appearance, their time had evidently not come—some had been hampered by the severe frosts of May 20, and others who had not suffered from that, did suffer from the very high cold north-easterly wind which followed very close upon it. I do not think that the general character of the flowers exhibited was up to the average; there were but few boxes over which one would wish to linger with the conviction that it was one of the finest boxes of Roses ever exhibited. The same may be said of individual blooms; there were very few of such exceptional merit as we have sometimes seen, while I do not think that there was any one Rose which stood out prominently wherever exhibited, as we have sometimes seen. We have had years which were Charles Lefebvre years, or something of that kind, but I cannot note any one Rose which was particularly good this season; of course, I do not mean to say that there were not some very fine blooms, such as the Marie Baumann which obtained a Silver Medal for Mr. B. Cant, or the fine Bride which won the same distinction for Mr. Geo. Prince.

I think one of the most remarkable features of the show was the manner in which East Anglia carried off the chief honours: out of some fifty classes, the growers, professional and amateur, carried off twenty-two 1st prizes and most of the special prizes given; this is a very remarkable record, showing, I think, conclusively, that notwithstanding the dry character of the climate, and the manner in which it is

sometimes swept by winds from the German Ocean, it is evidently a part of our island which Roses love. It is curious, too, to observe, that while the 1st prizes in the hybrid perpetual section, or rather any variety section, go to nurserymen residing in the eastern counties, the 1st prizes for the amateur section go elsewhere, showing, I think, what I know to be the fact, that perhaps with one exception there are no very large amateur growers residing there. In the Tea and Noisette section the 1st prize for professionals is carried off by growers in other parts of the country, while in the amateur divisions East Anglians have it all to themselves. Mr. Berners was especially successful, carrying off the Tea Challenge trophy, the Boscawen Memorial Cup, and the Turner Memorial Cup; while Mr. Orpen carried off the Harkness Challenge Cup and the piece of plate presented by Rev. F. R. Burnside. East Anglia may thus be well proud of its achievements, and has shown a record which it will be difficult to beat.

A great deal of interest always attaches to the Challenge trophies; both of these have gone to different quarters to what they did last season. Mr. Frank Cant, after a severe contest, was adjudged the professional one; and Mr. S. P. Budd of Bath has at last obtained the cherished object of his ambition, which has for the past four years been in the hands of Mr. E. B. Lindsell of Hitchin. The Tea trophy, as I have already said, was gained by the Rev. Hugh A. Berners, on whom fortune has unquestionably smiled this year. The Silver Medals presented for the best H. P. or H. T., and the best Tea or Noisette, were gained by Mr. B. R. Cant for a grand bloom of Marie Baumann, of great depth and brilliancy of colour; and by Mr. George Prince, for a lovely bloom of great purity and depth of The Bride. In the amateur division, Mr. S. P. Budd gained the Medal for a very beautiful bloom of a Rose quite unknown to me, and, indeed, to all with whom I have had an opportunity of speaking on the subject—it is called Margaret Boudet; it was raised by Guillot in 1888, but this is the first time, so far as I know, that it has been shown, so that I fear there must be something delicate in its constitution. The Medal for the best Tea was awarded to the Rev. A. Foster Melliar for a good bloom of Souvenir d'Elise, but which was not at all comparable to the grand bloom of Madame Cusin, which gained him the same distinction last year. There was a pretty good display of new Roses; but what a change has come over us entirely in this respect! Formerly we looked across the Channel for Roses to exhibit in this class; but of the twelve with which Mr. F. Cant won the 1st prize, the following were of home origin:—Duke of Fife (a sport), Marchioness of Londonderry (I cannot say that I admire the colour of this flower, there is an ashen-grey tint about it—at least, this year it is not pleasant), Margaret Dickson, Spenser, Violet Queen, Medea (American), Charles Gater, and Mrs. Harkness (a sport); while in the amateurs' division for six, only one of them, Caroline Testout, was of foreign raising. So far as I could see, there was nothing remarkable in the French ones exhibited. It was with feelings of grim satisfaction that I observed what a miserable exhibition the Hybrid Teas made of themselves. Although there were thirteen entries, nine of which were, I believe, set up, there was only one that obtained a prize, and that was a 2nd one; and I think no one would say that the exhibition would have been much the worse had there been no such class. The truth is, that this division is not wanted, and the sooner that all the Roses now included amongst Hybrid Perpetuals, Hybrid Teas, and Bourbons are merged into one class the better will it be for exhibitors and the public. Several new seedling Roses were exhibited in competition for the Gold Medal, beside Marchioness of Downshire, with which Messrs. Alex. Dickson & Sons, Newtownards, gained the Gold Medal (a Rose of very pleasing shade of pink), the same firm also exhibited Mrs. Edward Mawley; Messrs. William Paul & Son, their pretty Rose Clio, H.P.; Messrs. Cooling & Sons, Bath, a pleasing light flower somewhat in the style of Spenser; and Mr. Alex. Hill Gray a pretty button-hole Rose, Allister Stella Gray, a flower somewhat of the style of William A. Richardson.

Of the garden Roses exhibited, it is hardly possible to say too much, and the ever-increasing interest of the public in them was shown by the crowds which surrounded them during the day. I do not think that such a box of thirty-six as that contributed by Messrs. Paul & Son, of Cheshunt, has ever been set up before; it contained beautiful groups of W. A. Richardson, of the intensest orange tint (would that we could get it always to remain in this condition instead of going off into white), L'Idéal, with its indescribable tints of colour; Rosa Mundi, Rugosa, Perle d'Or, Camoens, &c. Messrs. Cooling, of Bath, whose stand obtained the 2nd prize, had also some beautiful flowers. Amongst amateurs, Mr. Orpen clearly carried off the chief honours with a very beautiful stand, containing the following flowers:—Clare Jacquier, Ma Capucine, Gloire de Polyantha, Crimson Rambler, Maiden's Blush, Ma Paquerette, L'Idéal, Rose d'Or, W. A. Richardson, Gustave Regis, York and Lancaster, Marie Pavie, Madame Cecile Brunner, Anna Marie de Montravel, Crimson China, Mignonette, Bardon Job, and Perled'Or. Mr. Cuthell, of Dorking, had a very beautiful box of single Roses, conspicuous amongst which was the large white Macrantha, beautifully pure and clear, and with its yellow stamens making a conspicuous object. Roses arranged for decorative purposes in space 5 feet by 3 were also much admired; the 1st prize going to Mr. Cuthell, occupying the same position as he did at the Windsor show, Mr. Mount being 2nd, as he was also at that show.

The arrangement of the exhibition was somewhat different from that on former occasions, and was admitted on all hands to be a great improvement on that of previous years; the exhibition occupied the two transepts, instead of being, as last year, confined to one side in itself—a great improvement, as there was no congestion, and this improvement was still further increased by the show being broken up into sections. This took away the formality of the two long rows of boxes, while at the same time it afforded the public a freer access to the tables, so that it was possible to view the flowers with some degree of comfort. The officials of the Crystal Palace did their best to make all run smoothly, and when it is recollected that barely an hour is given to the nearly eighty judges for the performance of their task, and that these judges have to be collected, assigned their positions, and send in their awards in that time, it is I think very creditable that so large an exhibition containing sixty classes should have gone off without a hitch. The exhibition may be said therefore to have been on the whole a successful one, and may well inspire feelings of confidence amongst the members of the National Rose Society as to its onward progress. *Wild Rose.*

New or Noteworthy Plants.

BRACHYSTELMA CAFFRUM, *N. E. Br.*

Although containing a considerable number of species, it is very seldom that a Brachystelma is to be met with under cultivation, and it is a pleasure to record that a very pretty little species of this Asclepiadaceous genus is now flowering at Kew. It is a native of the neighbourhood of King William's Town, South Africa, and was sent to Kew by M. Bolus in 1892. It has recently been described in the *Verhandlungen des Botanischen Vereins der Provinz Brandenburg*, vol. 35 (1894), p. 54, under the name of Tapeinostelma caffrum, Schlecter, but has no claim to a new generic title, as in all details of structure it is identical with Micraster of Harvey. The latter name, however, has been merged in Brachystelma by Bentham in the *Genera Plantarum*, and rightly so in my opinion, as the corona and habit are as in typical Brachystelma, the only distinction being that the corolla has no tube. There is, however, great variability in this genus—as in many other Asclepiadaceous genera—in the development of the corolla-tube; some species have a tubular corolla like a Campanula, between which and a broad saucer-shaped or rotate corolla there are several gradations, and the whole evidently form one very natural and easily-recognised genus. Whilst only a few distinct forms are known to the botanist, it seems easy to group them into distinct genera, but as more and more become known it is often found that the supposed distinctions break down at every point, and this is especially true among Asclepiads, in which order genera have been inordinately multiplied.

Brachystelma caffrum has a tuberous rootstock, slender scaberulous stems, 3 to 5 inches long, spreading on the ground and bearing several pairs of small leaves, which are 2 to 8 lines long, including the very short petiole, 1 to 4½ lines broad; they are mostly ovate-acute, the uppermost sometimes lanceolate-ovate, and the lowest orbicular-ovate, rather thick, glabrous, with the margins and midrib beneath scaberulous, or sometimes sparsely scaberulous beneath. The flowers are lateral between the bases of the leaves, solitary or rarely two from the same node. The pedicels are ½ to 1½ inch long, erect, and scaberulous. The sepals are 1 line long, lanceolate acute, sparsely scaberulous. The corolla is rotate, 5 to 6 lines in diameter, fleshy, and of a bright clear yellow, the lobes are 2 to 2¼ lines long, 1½ to 1¾ line broad, ovate acute, flat, glabrous with minutely ciliolate margins. Corona yellow, formed of a thick fleshy truncate ring ¾ line high, with 5 linear, obtuse, inflexed lobes, incumbent on the backs of the anthers and not produced beyond them.

The flowers stand up well above the trailing stems, and although not large are cheerful and attractive—so long as the nose is kept away from them, for their odour is by no means agreeable. *N. E. Brown.*

Orchid Notes and Gleanings.

FLOWERING OF VANDA TERES.

For over five-and-twenty years we have flowered successfully and abundantly this very pretty Orchid, which has the reputation, as a Scotchman would put it, as being rather "doure" to flower sometimes. We have just now a few plants which show collectively over a score of their lovely inflorescences of mauve, terra-cotta, orange, &c. Some of these trusses have on each three or four individual flowers.

I often thought I should like to send you a description of how we manage to grow and flower this plant; or, perhaps, I should be safe to say, how the plant manages to grow, flower, and take care of itself. In these days of keen criticism, when one begins to write a paper on any subject, and to protect oneself from unkind hits afterwards, it would be safest perhaps to begin with some such remark as that. We are convinced mostly that all things have gained their present state of perfection through an endless series of improvements, for in these times of

ever-quickening speed, and the multitudinous requirements of our own business, one has not always time or inclination to stop and smack our whip at every village cur that chooses to run out and bark and bite at our heels. Apologising for this digression, I will now proceed with my description of the culture of Vanda teres; but am afraid, when finished, critics may say my preface is longer than the subject-matter of the plant in question. Our Vandas were originally planted in 7-inch pots, which form their basal rooting medium still; these were placed along the back bench of a plant-stove, which had about 4 feet of wall up to the glass. To the wall was fastened some wire netting, between which was stuffed a little moss. The Vandas ran up and rooted into the moss, flowering every year freely at the ends of the shoots. They are now clear of the brickwork, and run up the glass roof with the greatest agility. Anyone who does not mind having too much of even a good thing, might, in the way above stated, create a most lovely bank of Vanda which, when in flower, I would back to be in beauty and loveliness nearly equal to the banks of flower one sees along some of the Devonshire lanes. *W. Miller, Combe Abbey.*

Cattleya labiata Gaskelliana.

The question is often asked which of the large-flowered Cattleyas are "labiatas," and which are not? In this case it is very easy to reply, for the above is a true Cattleya labiata, and one of the freest to grow and easiest to flower. In many gardens it is the best and showiest flower of the season, and in the Orchid-house of T. F. Blackwell, Esq., The Cedars, Harrow Weald, some two dozen plants of this variety are at the present time well furnished with flowers. One plant has white flowers with crimson lip, and the others have varying shades of rose and crimson. The plants form part of a large importation made some years ago, and Mr. J. Dinsmore, the gardener at the Cedars, says that the number of spikes steadily increases every year, as does also the quality of the flowers in a slight degree.

OXFORD BOTANIC GARDENS.

Some fine specimen trees of the following species and varieties were noticed in the first week of June, 1894. One of the finest examples of the highly ornamental Ornus europæa, the Manna or Flowering Ash, stands in these gardens. This species is sometimes called the Silver or Round-leaved Ash; Pavia flava, Ailanthus glandulosus, Ostrya vulgaris, Pyrus domestica, P. intermedia, P. communis pendula, Sophora japonica, very fine; Taxodium distichum, Gingko biloba, Salisburia adiantifolia, fine tall specimen of the Maidenhair Tree; Acer Negundo fraxinifolium, Gymnocladus canadensis, Cratægus Aronia, Viburnum prunifolium, Fraxinus pubescens, F. excelsa, Virgilia lutea, Fagus sylvatica var. asplenifolia, a fine sample of the Fern-leaved Beech; F. s. cuprea, a magnificent sample of the Copper Beech, near the gate entering to the new block of houses and corridor; Quercus macrocarpa, Taxus baccata, two fine trees standing together; Betula alba pendula, Cydonia vulgaris, Morus alba, Ptelea trifoliata, Prunus macrocarpa, very fine; a fine tree of the true golden variety of common Yew; Acer monspessulanum, Juniperus virginiana Cytisus Laburnum var. quercifolia, Rhus multifida, Rhamnus catharticus, Pyrus Aria, Cratægus oxyacantha, and C. o. punicea; and the two very useful, late flowering species, Cratægus odoratissima, and C. tanacetifolia, the Tansy-leaved Thorn. A good example of Cerasus serotina was also seen in the garden.

Wall Climbers in the Open.

Few botanic gardens are more snugly enclosed with walls, or more surely sheltered with shrubs or trees than these. The Bath Botanic Gardens have no walls, though their position and environments with trees and shrubs afford them good protection. Still, a few walls afford the best possible for the growth of many climbing and other plants that delight in their shadow or shelter. For example, a whole wall clothed with Roses would possess much botanical interest, and prove of great practical value; and such graceful plants as Tamarix elegans in bloom in the Bath Botanic Gardens in the last week of May would be earlier, as well as more fairy-like, loosely trained over the face of a wall. Few plants are more beautiful on the face of the wall at Oxford than a vigorous wild hardy plant of the common Tamarix gallica in the early days of June, and that in virtue of its foliage alone. There are also several Roses, Vines, and Figs on these fine walls, imparting their own peculiar characters of verdure and beauty, and also affording striking contrast to other climbers or clothers—Magnolia conspicua, M. grandiflora, Virginian Creepers, Ivies, Clematises, Buddleia globosa, Rhamnus utilis, Japan Medlar, Ficus carica, Ephedra distachya, Colletia horrida, Ceanothus azureus, and others; Rose Charles Lefebvre, Periploca græca, Akebia hexaphylla, Bambusa Metake, Rubus frutescens flore-pleno; a very fine old Wistaria sinensis, Japanese Honeysuckles, some golden and other Ivies, Polygonum complexum, Weigela (Diervilla) rosea, Menispermum canadense, Bupleurum fruticosum, Deutzia crenata flore-pleno, Jasminum floribundum, Philadelphus coronarius, Cratægus mexicana, Cotoneaster nummularia, Lonicera discolor, Syringa Emodi, Forsythia suspensa, Thuia japonica, T. j. variegata, Caprifolium chinense, common white Jasmine, Colutea arborescens, Clematis montana, Vitis labrusca, Euonymus japonica, Caragana arborescens, Actinidia polygama, Lycium barbarum, Pimelea, Sarsaparilla edulis (?) (rather severely cut by the frost), Genista ætnensis, Tamarix gallica, Cydonia japonica, Pyrus japonica, Chimonanthus fragrans, Maclura aurantiaca, Bridgesia spicata, &c. Choisya ternata, a very beautiful pure white, sweet-scented shrub, in full bloom on June 1, foliage fresh and beautiful.

Several Roses, as already stated, were noted on south and other walls, some of them not named. Among the named, Rosa multiflora, Reine Marie Henriette, Fortune's Yellow, and a Banksian that looked like Fortune's large white. In another part, side by side, grew the perpetual Rosieriste Jacobs, and the Tea, Madame Lambard; and close to the back entrance were some bushes of old-fashioned and Scotch Roses. *D. T. F.*

KEW NOTES.

Plants in Flower.—The following bulbous plants are now in flower in an unheated frame on the south side of the T range, where a collection of such bulbs as require protection in winter has been established several years:—

Bravoa Bulliana.—This plant was described in the *Gardeners' Chronicle* in 1884 (ii, p. 328) by Mr. Baker, from a specimen grown in a pot by Mr. Bull, and afterwards sent to the Royal Gardens to be cultivated. It is much stronger now than it was then, for instead of the leaves being 6 inches they are 1 foot long by 2 inches in width, and the peduncle is 5 feet instead of 2 or 3 feet. The flowers are in pairs on the upper part of the peduncle, and they are 1½ inch long, tubular below, then suddenly widened and campanulate, with six short recurved lobes, the width across the top being fully 1 inch. The flower is of a dull plum-purple colour outside and yellowish-green inside. The species is a native of Mexico.

Bravoa geminiflora is flowering near the first-named plant, and is a very different-looking plant, its tall slender scapes of nodding, tubular, bright orange-red flowers of small size being decidedly ornamental. It is a plant which deserves to be generally grown for conservatory decoration, and in sheltered sunny borders in the warmer parts of the country. It would be quite hardy in Cornwall, southern Ireland, &c. The Kew plants have scapes 3 feet high, and they have been in flower nearly a month. This species was introduced from the mountains of central Mexico more than fifty years ago.

Crinum abyssinicum.—This plant has been in cultivation at Kew since 1883, when Herr Max Leichtlin presented some plants, but it has not flowered till this year. It is distinct, with subdistichous, glaucous-green, channelled leaves 2 feet in length, and at the base 2 inches wide, narrowing gradually to the apex. The scape is nearly cylindrical, 1 inch wide at the base, 18 inches long, and it bears an umbel of six pure white flowers, in size and form like those of C. capense (longifolium). It has done well planted out in the cold frame.

Hymenocallis Amancæs, the Peruvian Daffodil, is in fine health, and flowering freely in the frame, where it is planted close against the back wall in heavy loam, and is moist all the year round. The leaves are 2 feet long, and the peduncles more than 1 yard high, bearing umbels of large pale-yellow tubular flowers, suggestive of Narcissus Emperor, but more graceful in appearance. Several other species of Hymenocallis are in flower in the same frame, viz., H. calathina, which is quite a hardy plant at the foot of a wall at Kew; and H. Harrisiana, an elegant, free-flowering, easily-grown bulb, which is perfectly happy in an unheated house or frame.

Kniphofia Northiæ is represented at Kew by a group of large healthy plants, which are now flowering in a corner facing south, between the Victoria and Orchid-houses. Its glaucous-green, broad, recurved, keelless leaves are in themselves sufficiently attractive to win the notice of all who know a noble foliage plant when they see it; and its thick spikes of green and red flowers are not without interest, albeit they are inferior to those of most garden Kniphofias. I believe that in a sheltered place in a deep soil in such a place as Falmouth, this species of Kniphofia would attain to the dimensions almost of Agave americana. *W. W., Kew.*

AN AMATEUR'S GARDEN,
BRAEMAR, EALING.

It has been well said that "a beautiful garden is a place of pleasant labour and of happy restfulness, and that the more it can be filled with perfect pictures, the more it gives delight to the eye and solace to the mind, and the nearer it approaches to the making of an earthly paradise."

Ealing is deservedly noted for its well-kept villa gardens, of which Braemar may be taken as a good type. That "it gives delight to the eye and solace to the mind" of the courteous owner, J. Harris, Esq., a busy City man, is beyond dispute, a state of affairs that is very creditable to his gardener, Mr. W. Roberts.

The whole place, glass, lawn, kitchen garden, &c., is only about three-quarters of an acre in extent, but the best use has been made of it. A peep into the glass structures revealed examples of good culture amongst the various occupants. Mr. Harris's gardener is a very successful exhibitor at the local Flower show.

Caladiums are made a specialty of, and are grown well, and to large dimensions. Here, for instance, amongst other fine specimens, is C. Louise Duplessis, in a 16-pot, plant 6 feet across, deep red rays and veins, on a white ground, green margin. A grand plant of Cissus discolor arrests attention, by reason of its fine colouring. Dracænas are likewise well-coloured. D. Massangeana is similar in habit to D. Lindeni, but with a broad band of yellow down the centre of the leaf. Adiantum decorum, 4 feet 6 inches across, is not often seen in better condition than here.

Gloxinias, a "sprinkling" of Orchids, the useful Streptocarpuses, and other well-grown greenhouse-flowering plants, gave the necessary bit of colour in association with the foliage plants.

Outside, things were beginning to look gay. Roses, as a rule, do well at Ealing; the soil seems to just suit them. At Braemar, the late frosts did not improve matters amongst these plants, but still there will be a respectable show of bloom in due time. Some fine patches of Viola Blue King in full flower had a very attractive appearance, associating

well with the deep green of the well-kept lawn. One of the best of white Pinks, Mrs. Sinkins, was flowering profusely in large clumps in the borders, as were the Marguerites (much in request for cutting purposes), the groups of stately Delphiniums, Foxgloves, Pyrethrums, and plants of similar character.

Plums on walls are a capital crop, the principal varieties grown being Victoria, The Czar, Jefferson's, and Belgian purple. Peaches and Nectarines are also showing well. Amongst Apples, the best bearers are found in Wellington, Lord Suffield, Stirling Castle, Norfolk Bearer, and Cellini Pippin. Bush fruit, Gooseberries, Raspberries, and Currants are bearing extremely well; the late frosts, however, did considerable damage amongst the Strawberries. *J. B.*

A TRAVELLERS' NOTES.

(*Continued from p.* 11.)

South Australia—Fruit Culture.—A question of great importance to the colony is the cultivation of fruit; to its exceptional size and appearance I have already referred. The quantity planted appears, at present, too great for the markets so far opened, it being a general belief that gathering does not always result in profit. Mr. Holtze of the Botanic Garden, has bought a 60 lb. case of Tomatos for 2*s.*; Muscat of Alexandria Grape (frequently picked, as is much of the fruit, rather too early), will fall to 1*d.* or 1½*d.* per lb., though the first in the season's market realise 1*s.* to 1*s* 3*d.* per lb. Mr. Ind, one of the oldest residents of the colony, who remembers when the site of Adelaide was under survey, grows one of the chief collections of fruit; his Orange plantations are exceedingly fine and very extensive.

In many of his quarters the plants are twenty years' old, round, even bushes, 15 to 18 feet high, in perfect condition. Planted 24 feet apart, they are extensively irrigated, a requirement offering no great difficulty to this gentleman, the Torrens River running by his grounds. Vines, for wine, he has naturally gone in for largely. They are planted 7 feet apart each way—840 to the acre. His large experience has led him to believe Doradilo is the best Grape for the purpose, and he has therefore planted but few others. Almeria, a Californian variety, is also used; it has a loose bunch and tough skin, and is insipid in flavour. It is a good white, and a fair dessert variety for four months. Under favourable conditions paying results should be obtained three or four years after planting. Pruning begins after April, and the plants are stopped three times before Christmas. Such Vines should yield half a hundredweight each. Black Grapes he does not cultivate, finding them more difficult, and frequently very unsatisfactory to pack for market. Black Prince has been tried, but will not bear after ten or fifteen years old, and the berry cracks after one night's rain. Of this variety he informed me that he had 20 acres; it promises well as a packer. Frontignac fetches the highest price of any wine-grape in the colony, viz., £7 per ton. What a difference to West Australia, where they pay £10 per ton!

Black-spot and sparrows are two dangerous pests; the latter peck holes in the berries, ruining a very considerable percentage of the fruit; the danger of affecting the flavour of the wine when such berries pass into the press is obvious. On black-spot lime and sulphur have no effect, but a solution of sulphate of copper has been found, if not to destroy the fungus, at least to retard its growth, and minimise the evil.

To the other colonies Mr. Ind ships largely; but, owing to the difficulty of getting the shipping companies to store fruit on deck, he has ceased sending to Europe. Some, including Mr. Ind, do not believe in cool chambers, experience having proved deck storage to be more efficient. The best Pear in the orchards here is naturally Williams' Bon Chrétien, locally known as The Duchess. Bishop's Thumb and Vicar of Winkfield, are, however, carrying enormous crops this season.

A plantation of half-standard Apricots, forty-five years old (dating almost from the birth of the colony), is now suffering much from a fungus. Mr. Ind has seen his trees and fruit in perfect condition devastated in sixty hours, the leaves bared in innumerable places, and the fruit spotted.

I also visited the vineyard and extensive cellars of Sir Samuel Davonport. Here Doradilo is much grown; Mataro, on the contrary, does not yield equally good results, though it bears well, and when blended, gives colour; Aromar, a brandy Grape, from the Montpelier plains, is much employed; Serret Bourret is found good, and the soil is considered particularly suitable for Grenache. Muscat of Alexandria and Wortley Hall Seedling, of which I tasted some very fine fruit, as well as Sultana, for drying purposes are all grown. The branches of the plants are kept very short, with the exception of such as Cabenet, the Bordeaux Claret Grape, which yields the best results when long-pruned. In this respect the system is different to that followed in West Australia, and I am almost inclined to think it better.

Sir Samuel's Olive trees are very fine, and he manufactures a considerable quantity of oil, the granite-crushers, lever-presses, and receptacles for which are of the highest order. I may here mention, so numerous are the Olives round Adelaide, that this industry would probably assume great proportions but for the labour of gathering. To any observer a little beneath the surface, there seems to be no question that what the Australian Colonies require is men more than money. As it is, 30*s.* to 40*s.* per week wages to Olive-gatherers will not permit of competition with the cheap labour of Italy.

Grubs (such as I referred to in the vineyards of Western Australia), feed on the young buds of the Vines. Sir Samuel has tried many expedients, and finds a small regiment of fowls the best antidote and the least costly. The grubs bury themselves in the day, and are duly scratched up by the poultry.

The free distribution of Vine-cuttings by the Forestry Department of the Government is in vogue. Last year, the quantity distributed amongst small planters (in addition to the 20-acre plots of land they obtain free), is estimated at 700,000, and the year previously at 1,000,000. Local nurserymen scarcely view this arrangement with pleasure.

The colony suffers as much from acclimatised weeds as it does from such acclimatised animal-pests as rabbits and sparrows.

Gorse, Briar, Artichoke, Prickly Pear, and Bramble, grow and multiply to an alarming extent. Stone Thistle, a species of Centaurea and Bathurst Burr, Xanthium spinosum, fatal to the fleece of sheep, are much dreaded, and the law has rendered it criminal for land-owners to permit its existence on or near their estates.

Stink-weed, I have seen, despite the lack of rain for five months till a few days since, render whole fields, now lying fallow, green and verdant. This, however, can be ploughed in, and to a certain extent grappled with, if done before seeding. *Jas. H. Veitch.*

(To be continued.)

COLONIAL NOTES.

TECOMA SMITHII×.

In your number of Nov. 25, 1893, at page 649, there is an illustration of the shrub "Tecoma Smithii," and it is stated that it is desirable that something more definite should be known of the origin and history of this beautiful plant than has been recorded up to the present, &c.

As I was the raiser of the above-named plant, I will give its history:—

It was raised in my nursery in the year 1882, and is a cross between Tecoma velutina and Tecoma capensis, the former being the seed-bearer. It cannot be relied upon to come true from seed, and all the plants that I send out are grown from cuttings, as I found that not more than from 25 to 30 per cent. come true; even then, they vary in some degree from the original plant. I have raised some hundreds of seedlings and flowered them (in some cases six months after sowing) in 3½-inch pots. Some come precisely like Tecoma capensis in leaf and flower, others of a dull yellow colour, some have much larger flowers than others. I have not as yet raised one with the leaf and flower exactly like Tecoma velutina, which is strange, considering it was the seed-producing plant. It was named after myself by the Horticultural and Floricultural Society of South Australia in 1883, and awarded a Certificate of Merit by that Society, and also by the Royal Horticultural and Floricultural Society of Victoria in the same year. I may state that it is in flower here all the year, and I exhibited it here at the Gardeners' Society for thirty-six monthly meetings in succession.

It is quite distinct from Tecoma velutina, which is in flower here about five months in the year, and loses its leaves in the cold weather much more than Tecoma Smithii×, which retains its splendid foliage all the season, and is a most beautiful shrub, growing to the height of about 10 feet. I have the original plant now in full flower, and this is about our mid-winter. The illustration on p. 649 of the *Gardeners' Chronicle* is a good one. I have grown trusses of flowers of it 11 inches in diameter. *Edwin Smith, Clifton Nursery, Walkerville, near Adelaide.*

FLORISTS' FLOWERS.

THE CARNATION AND PICOTEE.

The tendency with a number of large-flowered varieties is to split the calyx on one side, causing the petals to hang down in an irregular mass. These the growers term "pod-bursters"—a misnomer, as the pod is in the centre of the flower, and between the pod and the calyx are the petals; these, if very numerous, split the calyx in the course of their development, but if the gardener will slit the calyx a little in two or three places on opposite sides before a split occurs, the flowers will most likely open in a proper manner; moreover, it is easy to tie a strip of matting or put a small india-rubber ring round the calyx. The rings can be purchased at the price of 6*d.* per 100; they should be slipped over the flowers when these show colour. Our plants in pots have been removed to the greenhouse in order to develop their flowers in perfect condition and fit for exhibition; but as soon as the flowers are cut, the plants will be placed again out-of-doors. It is a singular fact that the flowers upon pot plants are liable to be injured beyond recognition owing to the attack of thrips, which do but little harm to Carnations when planted out. They should be fumigated with tobacco when placed under glass, to destroy the thrips and green-fly. Some persons, when they see the Carnations and Picotees in bloom in a greenhouse, jump to the conclusion that the plants have been always growing there, and that the florist's type of Carnation is a tender plant requiring greenhouse culture. The very reverse of this is the case, as the florist gets his plants outside as soon as the flowers fade, unless they are required for seed, when it is necessary to keep them under glass till the seed-pods are fit to be gathered. The time has now arrived when it will be necessary to propagate as much stock as possible of the scarce varieties; it is not easy to layer all the growths produced at the base of the plants, for some are too small for layers, others are too high upon the plant to be brought down, and in such cases it is better to strike them as cuttings. They may be planted in small flower-pots filled with sandy soil, and be placed under bell or hand-glasses till rooted, when they may speedily be inured to the open air, and afterwards planted in beds. As the finer varieties come into flower, the best blooms should be selected for cross-fertilisation. The pollen of one variety ought to be carefully transferred from one to the other, and the object intended by the cross ought to be clear to the operator. He must work for a set purpose. Many recent introductions are tall growers, and one object of the florist should be the production of varieties with the same quality of bloom, but of dwarfer growth, which can only be accomplished by selecting as seed or pollen-parent varieties of lower growth; but one of the leading characteristics ought to be the rich colours or fine form of the flowers. For planting out in the garden, many persons prefer flowers of one colour, and do not care for flaked and striped varieties. Yellow and buff-coloured flowers are also held in high estimation. Variety is charming, and the field is so boundless that every taste may be gratified. Those who grow the flaked and bizarred Carnations and the Picotees may cross fertilise all of them, keeping them in their classes; and they will obtain from the seedlings many fine selfs of all sorts of colours. From the scarlet bizarre Carnations, maroon and scarlet selfs will be obtained; from the

pink, crimson, and purple bizarres, those colours will be obtained plentifully in the self forms, so with the scarlet, rose, and purple flakes. All those colours will be produced as selfs. The same remark holds good with the Picotees. Many selfs will be obtained of the same colours as are found upon the edges of the flowers. Cultivators of Carnations from seed must have much patience, it not being possible to obtain flowers in a few months after sowing the seeds, as it requires one season to grow the plants to a flowering size, and then these will not flower well till the following year. Seedlings sown in the spring should now be planted out where they are to flower; and the beds of those already planted out should be kept clean, the ground being well hoed, and the plants freed from green-fly, which cripples them very much, but is only troublesome in hot dry weather. There is still much room for improvement in the class of yellow-ground Picotees, that is, flowers with a clear yellow ground, and a margin of scarlet, crimson, rose, or red of various shades. It will be many years before we are able to obtain the same degree of high class quality in the yellow ground varieties as we now have in the white ground, notwithstanding that so much improvement has already been made, not only in the quality of the flowers, but in the vigour and habit of the plants. The newer yellow ground varieties have now a more vigorous constitution than many of the flakes and bizarres. *J. Douglas.*

WOOD-SILK.

FROM the time of the "grand old gardener" to the present day the vegetable kingdom has been largely drawn upon for the supply of material to construct the clothing of mankind. The ancient Egyptians made linen which is not in texture excelled by that fabricated in the looms of the present age; and the ancient Briton coloured his tight-fitting suit with the dye yclept woad. Taking this word, and altering *a* to *o*, we have the name of the material from which the newest thing in silk is being derived—wood-silk! Cotton, jute, and flax waste, have all been tried, with a certain amount of success—silk from the wood of the Juniper and Oak trees has been taken in hand at Bradford, and forced to yield silk of good quality, which washes well and takes the dye splendidly. Roughly, the process of transformation may be thus described: the wood is pulped in strong nitric acid, and then forced by hydraulic pressure through pinholes in a steel plate into water under certain conditions. This treatment has the effect of solidifying, or turning into a thread, the pulp projected through the aforesaid pinholes. The threads thus formed are first wound on spools and then thrown into a thread of the required strength and size. The material is then ready for the weaver; but there was much danger of chemical action destroying the resulting silk. Friction in manipulation was likely to lead to disastrous consequences, as the material is allied to gun cotton in its nature. To avoid all danger a process called denitration is gone through, which renders the silk non-combustible, the material losing none of its tenacity or lasting properties, whilst the chemical expressed from the mass can, we believe, be used over and over again.

We have said that after being thrown into the yarn condition the silk is ready for the weaver—rather should we say the dyer, who has a most tractable material placed in his hands. The wood-silk has been spun, dyed, woven, and shown in Bradford; and soon, we are informed, a large mill will be set to work in turning out another brilliant example of what may be had from the vegetable kingdom, once we find the key to its secret chambers. The new material, we are told, can be placed on the market at half the price of that supplied by the Mulberry per the Italian worm.

CASTLE BORO, ENNISCORTHY.

A PLEASANT drive of 6 good Irish miles from the busy town of Enniscorthy, and we reach Castle Boro, the delightful seat of Lord Carew, and one of the finest places in County Wexford. The Castle, a spacious and imposing structure of grey granite, is built on an eminence in the centre of the extensive and well-wooded park, and commands a magnificent view of mountain and woodland. On the south front, a series of terraces lead down to the lake, and these, with their tastefully laid-out flower-beds and neatly-planted shrubs, seen in the height of their summer glory, present a sight not soon to be forgotten. To the right of the Castle are the extensive glasshouses, all modern structures, comprising vineries, Peach-houses, plant-houses, forcing-houses, Melon-pits, &c., and containing a large and interesting collection of plants, every one of them "a picture of health." Further to the right are the extensive vegetable and fruit gardens, containing a choice collection of hardy fruit trees.



FIG. 9.—CASTLE BORO, ENNISCORTHY.

In the Park there is a splendid collection of hardy Coniferæ, and also many noble specimens of deciduous and ornamental trees. The estate of Castle Boro is one of the best wooded in the whole of Ireland, the forests carrying many hundred acres of valuable timber, and extending for many miles. The gardens and woods are under the management of Mr. John McLennan, his lordship's head-gardener and forester, in whose hands many improvements have been carried out during the past few years, and to whom we are indebted for affording us a most enjoyable "look round" one of the prettiest places in the south of Ireland. *E. L. E.K.*

PUBLIC PARKS AT NEWCASTLE-ON-TYNE.

(*Continued from vol. xv., p.* 814.)

Leazes Park.—The Leazes was anciently called the Castle field, and according to a tradition, by Grey, was the gift of King John to the townsmen of Newcastle. The portion enclosed is about 35 acres, but the contents in 1731, when a plan was made for the Corporation, was 127 acres 2 roods and 17 perches. The larger portion is absorbed by recreation grounds, and by the moor, which is one of the most extensive "lungs," covering in all over 1000 acres, to be found in England. There was some difficulty in finding out the origin and meaning of the name, but it apparently simply means pasturage. Brockett says that in many parts of the kingdom it is spelt and pronounced leasons; Sax. læsive—a pasture, a common; Norm. Fr., leives, lesus—pasture-ground. The whole of this acreage, over 1000 acres, belongs to the freemen of Newcastle. Bourne thus describes it as "formerly the inheritance of divers persons, owners thereof, who were accustomed from ancient time to take the forecrop there at or before Lammas Day, and after that, by an ancient custom, all the burgesses of this town used to put on their kine, and used the same in pasturing of them till Lady Day in Lent yearly, and then to lay the same for meadow again till Lammas."

The Leazes Park was laid out and opened twenty years ago. It is situated on the north-east portion of the town, and is very much exposed to the blasts. The difficulty with tree-life has been the contention against wind rather than smoke. Now, however, that the beltings are up, the nurse-protection opens up a wider field for introducing greater variety of both tree and shrub life. The best trees are Sycamore, Lime, Service, Ash, Thorns, Rowans, Huntingdon Willow, Wych Elm, Crabs of sorts, and Cherries; Laburnums do moderately well, Weigelas do excellently, and Spiræas of sorts, and Philadelphus, and Lilacs, all do and flower well in their seasons. Beech at one time has been a great Newcastle tree, but the altered conditions of climate have put an effectual stop to its growth, and young ones cease to be introduced freely. The Copper Beech is both a bad wind and a smoke tree, so that the variety that we look for in colour among deciduous trees cannot be had here. Prunus Pissardi is planted to take its place, but that species is ill at ease under wind-pressure. Physical conditions suit most of the trees of the wood admirably, but atmospheric conditions, in the shape of wind and smoke, step in and arrest their progress.

There is evidently considerable care taken by the park superintendent, Mr. Moffat, in keeping the principal subjects well nursed. Without that, many trees would not grow so kindly, and with the exposure the risk of being uprooted would increase. The beltings are pretty well distributed. If anything, there is a want of boldness of lines in the original formation of both walks and borders, and a consequent depreciation in effect of the evergreen undergrowths that confront these marginal borders.

The best evergreen here is the Holly, and the two best-doing Hollies are Shepherdii and Hodginsii. There are laurifolia and some of the silver and gold-blotched sorts, but unless they happen to be in salient positions they are not up to much. On the contrary, the two large green-leaved ones named above are good everywhere. The English Yew is doing well where it is under shelter, without it it gets bronzed at the stem and leaf extremities, and requires the returning summer to recuperate. Rhododendrons, wherever well prepared, or rather provided for in the shape of comfortable living quarters, do well. The dry season has injured some of the ponticum groups even to the extent of being unsightly, but these common fellows are being exchanged for hybrids, which are hardier, and do better under good living. The grouping system is undoubtedly the better way of cultivating this division. Singly, this plant is not much to look at, especially in exposed localities; in groups the species is most effective, and in public parks overgrown plants can be thinned out with impunity and planted in new quarters, which are always cropping up and require furnishing. The Aucuba is invaluable as a town bush, and here it is doing in every way satisfactorily, its fine gold and green-blotched leaves being effective at all times, but particularly in the dead of winter. There are a few other evergreen shrubs of a nondescript character. The Colchican and Caucasian Cherry-Laurels are the more prominent of the large-leaved, light-green kinds, but the winds affect them so, that many of their leaves look as if they had been drawn through boiling-water. Even the broad-leaved Privet, which would be evergreen in cosy and sequestered nooks, was robbed of its leaves here the past winter, or, mainly so, and what was left was maimed with the windy blasts—this, however, is exceptional.

No Coniferous plant of any kind seems to prosper; even the Austrian Pine does not grow kindly, and when it gets up it has to be supported, so that it is scarcely worth the toil. If it were rising above its fellows, it would surely be blown down.

The grass has been well laid down, and is in a capital state of keeping; and the beds for ornamental subjects that are cut out for decorative bedding, are all upon geometric lines. The subjects are such as are in use in general parks, and bulbs come in to do spring duty for gay colouring. The bowling-greens are capacious and well kept, and the games played here are upon Scotch lines, viz., level green, bowling in rinks, not as in central England, greens with raised centres, diagonal bowling, &c. The work of keeping these greens in order is a laborious one, but it brings in some remuneration, as players are charged a trifle.

Coming to the question of income, from that and other sources, the Leazes has been self-supporting. The revenue last year from all sources was £883 7*s.* 10*d.* This seems a large sum to draw from the public, but it was so. Over £500 was taken from skaters alone. There is a splendid lake in the centre of the grounds, of nearly 5 acres in extent, and during frost this lake is covered with skaters. There are also some twelve or fourteen boats for boating, which brought in a revenue of over £200; and there is bowling. All these recreations have to be independently paid for, the Charter of the town Moor Committee reserves certain valuable rights, enabling them to recoup themselves, to a large extent, without a murmur from the public, who go in for these amusements and pay. As an instance of a fortunate speculation, on the great gala night, when the Duke and Duchess of York were married, the Chairman of the Town Moor Management, Joseph Baxter Ellis, said they netted, with that and other galas for the year, £489, after paying for bands, illuminations, and such-like—a splendid take certainly. With £350 of that sum they have built a fountain, set down in the centre of a new auxiliary lake, and lit it up with electric light to illuminate the lake for skating after darkness set in. This is good business, because it draws the people, and out of their combined threepenny-bits swells the revenue. This enables the committee to enrich this park with natural greenery in a way in which it would not likely be done without a valuable asset of this kind. The new lake now completed is about 2½ acres, and being provided with the electric light, is sure to command plenty of skaters in the dark nights of winter, when the ice is safe. There is not the space for getting the outlines of this lake so bold or sweeping as is desirable, but Mr. Moffat has done the best he could with the ground at his disposal. This lake being in the best protected corner of the park, will give much wider scope for greater variety of both trees and shrubs. It is exceedingly desirable that in all public parks the greatest variety practicable should be acquired. The beauties of tree and plant-life may not be appreciated by all, but the greater bulk of towns-people are admirers, and to their credit be it said, they are also in a measure protectors of natural beauties, be they impersonated in either leaf or flower. Children are apt to pilfer, but a watchman with the police garb frightens them from either plundering or marauding. Experienced park caterers have to watch how they dispose of their plants in ornamental grounds. By the side of this lake, instead of having sloping banks on the high side, interspersed with shrubs, rock-stones are improvised, and such trailing plants as Ivies, Periwinkles, Cotoneasters, which is a grand clamberer over and in amongst the chinks of stones, and brightens up the dullness of short days by its numerous crimson berries.

The walks are broad, and in time will be all asphalted. It is expensive work doing an extensive park in this way, but the comfort of promenaders has to be considered, and when the work is once well done, there is little or no upkeep or expense in any way afterwards. The Derbyshire spar makes a bright surface on the top of the asphalte. The principal walks have been already done, more particularly those from the cemented terrace, which will be 100 yards long by 20 yards broad, with fine open balustrade, and flights of steps to the dress-ground below. From this terrace, when weather permits, there is a good view of Newcastle and its surroundings. A very good sample of the bedding system may be seen in the parallelogram on either side of the flights of steps. What a beautiful and useful ground-work plant is the Antennaria tomentosa even in winter it looks like grey gravel, and in summer its shade of colour is much enhanced.

There is nothing in the herbaceous low-growth way that beat Irises, they are as hardy as plants can be. The alpine Auriculas are also chief of their class, and the Wallflower in dead of winter mocks at the blast in the sturdiness of its growth, and in the plenteousness of its flowering. In fine, this park is gaining rapidly in ornamental importance every year, and the house property building round about it is of a better character, drawing better rents, and consequently larger rates to the town exchequer.

Viator.

NOLINA LONGIFOLIA.

Amongst the variety of names under which this plant is known I have adopted that which is given by Baker in his work on the *Arborescent Liliaceæ of the Riviera*, although, I believe, at Kew it is to be found under the name of Beaucarnea.

In the Riviera gardens it is to be found under the names of Dasylirion (which is the most common), Pincenectitia, and sometimes Bonapartea. It is one of the most decorative plants of these gardens, and when seen in large specimens it forms a very prominent feature. The accompanying illustration (fig. 10) is taken from a plant 10 feet in height, with a head consisting of fourteen growths, and carrying five fine panicles of flowers. As a rule, it is rare to find more than two or three spikes at one time. It often occurs that it flowers when only a few feet high, in which case it rarely makes a fine specimen, as it at once commences to branch and becomes bushy. The allied species of Dasylirion, D. acrotrichum, D. glaucophyllum, D. juncifolium, and others all thrive and flower well, the former being met with in most gardens.

The Araucaria excelsa shown in the background is worthy of note as being one of the finest specimens of the Norfolk Island Pine to be found in the Riviera; and, furthermore, it is this year bearing three fine cones for the first time. It measures 63 feet in height, and has a spread of foliage of 37 feet at its base. Its actual age from a seedling is 23 or 24 years, which gives an idea of the rapid growth it makes under favourable conditions.

The two largest specimens which I have met with are at the Villa Les Palmiers, near Nice, which are over 70 feet in height; diameter of trunk at base, 32 inches; and with a spread of foliage of over 50 feet. Their age is just over 30 years. They have fruited annually for the last four or five years. Although gigantic specimens, they have been very much damaged by winds, and have lost the

uniform appearance which is characteristic of this tree. The trees in most gardens have of late years been attacked by a minute white scale, which, owing to the densely-packed leaves along the branches, is almost impossible to exterminate, and in a short time they present a blackened appearance, and in this way many fine specimens have been destroyed.



Fig. 10.—Nolina longifolia (Beaucarnea), at Villa Valetta, Cannes. (see p. 66.)

A. Bidwilli and A. braziliensis attain large dimensions, and produce cones, and, in fact, all the Araucarias flourish, with the exception of A. imbricata, the soil not being suitable to its requirements. *Riviera.*

Nursery Notes.

Roses at Messrs. Wm. Paul and Son's, Waltham Cross.

This is one of the most important of English Rose nurseries, and throughout the summer and autumn a visit is well repaid. Every new kind of value is grown on a large scale, and those interested in seedlings will find many kinds of great promise, some of the recent acquisitions of the firm being in full beauty. Varieties are not grown here sparingly, but one sees their true value by the large masses of each kind, which afford a guide as to its effect in the garden. Much disappointment occurs through visitors to exhibitions selecting their Roses there; as it is impossible to tell the character of a variety from a few cut blooms. One should know something about its habit, freedom in flowering, and other essential points. A Rose shown by the Waltham Cross firm on more than one occasion is the new hybrid China Duke of York, which is beautiful as a dwarf, and also as a half-standard, some plants of it being weighed down with the deep rosy informal flowers, variable, however, in colour, and reminding one of those of L'Idéale. That it is good as a pot plant was shown by their specimens exhibited at the Temple Show. We have seen lately a hybrid Tea called Marquis of Salisbury, a variety that we think will get popular, because so brilliant in colour, the flowers rich crimson, and effective. It is not exactly an exhibition Rose, but a group of it in the garden would be especially bright, and its flowers valued for cutting. As it is of little use to give names or descriptions of varieties already in cultivation, the present notes concern kinds new, or comparatively so. Amongst Teas, we saw several of promise. One of these was named Madame Baronne Berges, an improved Homère it might be called, the flowers full, sweetly-scented, and white-tinted with tender rose. A beautiful Tea is Corinna, raised by this firm, and frequently exhibited by them: the flowers are full, and display a variety of subtle shades, flesh coloured touched with rose, fawn, and copper—a Rose the colour of which it is almost impossible to describe with any degree of accuracy—is in hardy vigorous growth. Another variety raised here and of great merit, is Medea, which, doubtless, is known to the majority of Rose-lovers; its sweetly-scented flowers are delicate lemon in colour, with canary-yellow centre, the growth of the plant, as in the other case being robust. François Menard is a promising continental Tea, very rich in colour, a shade of crimson, lighter in the full globular centre. There appears to be a reaction in favour of dark-coloured Tea Roses, although one usually associates with this section the delicately tinted kinds. Souvenir de Madame Sableyrolles is a variety not much known, and its name is certainly not attractive, but the flowers are very fine, the broad petals tinted with salmon-rose. Rows of that good hybrid Tea named White Lady, raised by Messrs. Wm. Paul, were of note, the strong-growing plants producing large, creamy-white, full-centred flowers. Papa Gontier is a Tea Rose of deep colour, the long well-shaped buds being valuable for cutting, whilst the plant forces well—the colour is rich crimson; another Tea-scented variety, rich rose, with deeper-coloured buds, being Antoine Mermet. A very delicately-coloured variety is Souvenir de Lady Ashburton, the colour varying, but usually of a soft salmon-rose shade. Two hybrid Teas of note raised here are of climbing habit, one is named Princess May, this being of the Gloire de Dijon race, but not so vigorous in growth; its flowers are distinct in colour, being rose, full and large, whilst it is a variety of value for pots to force early in the year. The other kind is named Pink Rover, which has been shown well this season by the firm. This we anticipate will become a popular garden Rose, the habit described as semi-climbing, the fragrant, full, and large flowers of a bright pink colour, deeper in the centre.

A hybrid Tea Rose thought much of is Grand Duc de Luxembourg, which as seen in this nursery is very handsome, the flowers like those of Viscountess Folkestone in shape, and of a lovely rose and white tint. It is free, strong in growth, and quite distinct.

Amongst hybrid perpetuals it is difficult to select varieties when all are in such vigorous condition, but of the new kinds Clio, raised by this firm, is certainly the best; it takes rank with the finest introductions of recent years, rows of plants being a mass of flowers. The plant grows remarkably quickly and strongly, making quite a dense bush, and the foliage is robust; the flowers are large, sweetly-scented, of quite exhibition standard, and snowy-white, with a

delicate rosy tint in the centre. Comtesse B. de Blacas is a promising new kind, the flowers bright rose, sweet, and borne in profusion on sturdy shoots. Caroline Testout is now fairly well known; and another new H.P. likely to become popular is La Fraicheur, which has long, well-shaped buds, the expanded flowers being of very clear rose-colour, more carmine, however, in the centre. Gen. Baron Berges is a good garden Rose, its stout petals of a deep red colour; and Madame Bois we also noticed flowering freely, this being a variety of merit, but not much seen—it is a good H.P., the flowers reminding one of those of Victor Verdier, and bright rose. La France of '89 bears very large Pæony-like, rosy-red flowers, showy, and quite different to those of La France. We may mention that this name is only one example of many that might be quoted as to the confusing nomenclature adopted by foreign raisers. That fine variety, Margaret Dickson, was flowering freely, and special note may be made of the dark-coloured kinds, which seem unusually fine in all nurseries, especially Reynolds Hole, a Rose that does not always appear to advantage.

The polyantha Roses are grown in masses in this nursery, all the principal varieties being represented. A new kind, named Mme. E. A. Nolte, is of note; a very dwarf-growing kind, the flowers at first of a yellow shade, passing with age to a delicate salmon-rose tint, whilst they are not too large. A great fault of many varieties of this section is that the flowers are getting far too large for true polyanthas. Crimson Rambler is blooming in profusion; and very fine at present is Bardon Job, a seedling H.P. from Gloire des Rosomanes: the flowers are of no value for exhibition, but are extremely fine in the garden, being semi-double, and brilliant crimson. A good garden Rose, that is not often seen, is Camoens, the plants strong and remarkably free, the flowers rose in colour, a distinct and bright shade.

We noticed a fine piece of climbing Teas, such as Climbing Niphetos, on the Grifferaie stock, which is especially suitable for this Rose; also plots of standards and own-root plants. Amongst China Roses, the variety Madame Laurette Messimy was as bright as any, the flowers distinct, and bright rose, suffused with a yellowish shade. We are glad to see that the China, Bourbon, and such old-fashioned sections as these are becoming more popular every year for gardens, and when well-planted, they are effective. The Austrian Briers (Rosa lutea), are grown in quantity, as the demand for this class is increasing. The plants when well-grown make fine bushes, especially the showy Harrisoni and Persian Yellow; and another class of note here consists of the Scotch Roses, baskets of which have been shown earlier in the season by the firm. The plants make dense compact bushes, smothered with neat flowers, varying in colour from shades of yellow to crimson.

Each section of the Rose is fully represented, and in the foregoing notes merely a few of the more promising new varieties have been pointed out as a guide to those who do not yet know them. *Visitor.*

HYBRID SWEET BRIARS AT MESSRS. KEYNES, WILLIAMS & CO.'S.

Having heard a good deal about Lord Penzance's Roses at the Castle Street Nursery, Salisbury, I paid a visit to that nursery on the 6th inst., and was shown a batch of 2500 of them, and in full flower. Each of the nine varieties averaged 3½ feet high as they were growing side by side in rows 4 feet apart, and at nearly the same distance from each other in the rows. They were in fine condition, clean, vigorous, graceful in habit of growth, and profusely covered with single or semi-double flowers, varying in colour from pure white, pale yellow, and terra-cotta to crimson, thus adding beautiful and delicate shades of colour to the lightness and elegance of flower, which, combined with their pale green, handsome, and fragrant foliage, seemed to fit them for a place in any garden.

Perhaps there is no method of displaying these hybrid Sweet Briars to better advantage than to plant them singly or in groups of three to five on the lawn, in which position there are several fine graceful specimens of about 10 feet high at Lord Penzance's place, Eashing Park, Godalming. The plants are not only telling objects when in bloom, but also in the autumn when laden with their clustered bunches of yellow hips. The nine varieties consist of the following, viz., Amy Robsart, graceful in habit, and producing lovely rosy-pink flowers of the true Sweet Briar type, with great freedom; Anne of Gierstein, of free growth, of a graceful habit, with large foliage, and dark crimson flowers; Brenda, with peach-coloured flowers, having bright yellow anthers; Flora McIvor, large pure white flowers, shaded with rose, useful for cutting, their beauty being increased by the sprays of young fragrant foliage which show up between the flowers. Lady Penzance, in my opinion the best and most distinct variety of the whole batch, the result of a cross between the Sweet Briar and Austrian Copper Briar. The flowers are of a beautiful soft copper tint with a metallic brightness; at the base of each petal is a patch of yellow, which seen around the clear anthers, forms as it were, a halo, giving the flower a charming effect—flowers and leaves are nicely scented. Lord Penzance is a seedling from Sweet Briar crossed with Rosa Harrisonii; it is a good grower and free bloomer, the flowers passing from a soft shade of fawn to a greenish-yellow slightly toned with delicate pink in the centre. Lucy Ashton is a free erect-growing variety, producing abundantly pretty white, pink edge flowers, which, in point of size, are inferior to the other varieties named; the foliage is very fragrant. Meg Merrilies has a surprisingly robust habit, large foliage, and showy crimson flowers. Rose Bradwardine is a robust growing variety and profuse bloomer, the flowers perfect in shape and of a decided rose-colour. *H. W. W.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

BULBOPHYLLUM AND CIRRHOPETALUM.—The species of this genus do not receive as much attention from growers as their merits entitle them to, but as they constitute a numerous group of beautiful and singular-looking flowering-plants, some of them should find a place in every extensive collection of Orchids. When seen for the first time, the delicate mechanism of the lip of Bulbophyllum barbigerum, the remarkable B. comosum, B. Dearei, B. grandiflorum, B. Lobbii, and its variety, siamense, &c.; and the striking umbrella-like spread of the brown satiny sepals of Cirrhopetalum ornatissimum, C. Mastersianum, C. Collettii, the distinct C. picturatum, C. Thouarsii, C. O'Brienianum, C. Cumingii, and the extremely curious C. Medusæ always attract attention. All of these plants will grow freely when suspended close to the roof-glass of the warmest house; and they, therefore, should be planted in Teak-wood baskets or shallow pans, filled to about three-fourths of their depth with clean crocks, and a layer of sphagnum-moss above these, upon which the plants are placed, filling up to the rhizome with ordinary Orchid compost, taking care to mix a reasonable quantity of small crocks with it, as the plants when in full growth require an almost unlimited supply of water. The proper time to re-basket Bulbophyllums or Cirrhopetalums is when the new growths have fairly started, which usually occurs very soon after flowering. As a rule, the plants are not often attacked by insects, but an occasional sponging of the leaves becomes necessary in order to maintain them of a healthy clean colour.

AERIDES AND SACCOLABIUM. — Amongst Orchids which bloom at this part of the season, none is more beautiful than Aërides and Saccolabiums, and their sweet perfume is another attraction, which is the more remarked in the early morning. It is well known among cultivators that in consequence of the free-flowering properties of these plants, and the retention of all the spikes on the plants for an unreasonable length of time, many are quite ruined; and to prevent such disastrous results, it is advisable to cut off the flower-spikes as soon as they are fully open, placing them in water, where they will last for equally as long a time as when left on the plants. After carrying a heavy inflorescence it frequently happens that a plant of Aërides will shed some of its lower leaves, and such plants I would not hesitate, even in the height of summer, to lower in the manner advised in a former Calendar, as I have invariably found that the further the more distant bottom leaves are from the moist sphagnum-moss the greater the tendency to lose their vitality. Another method of dealing with such plants is to remove the old sphagnum moss, and fill the vacant space up to the rim of the pot with additional drainage materials, covering these with living sphagnum moss well up to the bottom leaves, and carefully peg down on to the sphagnum the long straggling roots, which in time form others that will root into it, thus helping the plants towards recovery. The treatment afforded should include more dense shading from sunshine, frequent damping between the pots, and very careful watering at the roots.

VANDAS.—Those of the suavis and tricolor group lose their leaves sometimes, this usually occurring in the summer months. It is mostly attributable to over-flowering, a very hot dry close atmosphere, and other causes. All that these plants need are a well-balanced intermediate temperature, a constantly moist atmosphere, and enough water at the root to preserve life in the sphagnum moss. Abundance of fresh air is at all times necessary for Vandas, therefore the ventilators nearest to them, whether at top or bottom, should never be quite shut. On no account must the plants be disturbed at the present time, the proper season for repotting them being at the end of the autumn.

AGANISIA CŒRULEA. — This beautiful blue-flowering Orchid, once considered difficult to cultivate, is worthy of the attention of amateurs. Being of scandent habit the plant should be fixed on to a block of wood, or to a Teak raft, and hung up in a very high place in the Mexican-house or in a plant-stove, and the roots and foliage when in full growth frequently syringed, and at other times sufficient moisture afforded to keep the pseudobulbs plump. With this sort of treatment no trouble need be experienced in growing or blooming the plant. Other plants requiring similar methods of cultivation are Angræcum imbricatum, Renanthera coccinea, R. matutina, Aracnanthe Clarkei, Aërides cylindricum, and Angræcum Chailluianum, all of which, with the exception of Renanthera coccinea, grow luxuriantly when placed in a shady part of the East Indian house, if well syringed several times daily during hot weather. The Renanthera succeeds in a more sunny position than any of the others. Any of these requiring new blocks or rafts should be seen to at once, as the plants are commencing to make roots freely.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

FIGS IN POTS.—The early forced trees will now, in most gardens, be ripening their second crop of fruit for the season, and will need careful watering, not overmuch being afforded, but sufficient in quantity to keep the leaves from flagging. Figs with their roots in pots should be well supplied with nutriment, and I find nothing better than a handful of artificial Vine Manure given once a week, sometimes varying it with clear soot-water and guano; clean water being supplied at other times. There need be no fear of over-strong growths from heavily cropped trees in pots, provided they are once a year taken out of the bed in which they are kept plunged, cutting off the roots that have grown through the holes in the pots. The syringe should be freely used to keep red-spider in check, except just when the fruit is ripening. Sulphur in the water helps to keep this pest in check, but it is an undesirable substance to employ, as it gets on the hands and clothes; and those who grow Figs like, at times, to come into the Fig-house and partake of the fruit fresh from the tree, find sulphur an abomination. Our Fig trees are syringed twice a day, the water used being of about the same temperature as the air of the house. As the water applied with the syringe descends by means of the stem to the roots, this must be taken into account when affording water to the soil, as must also the fact that the trees are plunged in a material which hinders evaporation from the pot; still, these plants are easily managed if due attention be paid to small matters which may seem trivial to unthinking persons. A favourite variety of Fig here this season is Pingo de Mel, a recent introduction of Messrs. Veitch & Sons—it is large, green, quick-ripening, and very sweet and good; also the variety Grosse Verte is a nice one for pot-cul-

ture. It is a good plan at the present season to syringe, damp-down, and close the house with a sweltering heat, sprinkling a small quantity of guano about the floors, &c. A gentle heat should be kept in the hot-water apparatus, so as to permit of air being afforded at night by means of the upper sashes or ventilators, opening these after the house has been closed for two or three hours. An improvement in the flavour of the fruit, and in the healthiness of the foliage, follows from this practice. There can be no doubt that the best way to ensure good crops of Figs is to grow the trees in pots under glass. They may not always do just as you wish, but with proper regard paid to their requirements, the crops are usually satisfactory; and with two houses, each holding about two dozen trees, a dish of Figs can always be obtained.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

VEGETABLE MARROWS.—These plants require occasionally, even in showery weather, thorough root-waterings, for notwithstanding the appearance of the soil at the surface may indicate moisture, it will be dry below. Cut the fruits when large enough for use, and the crop will be larger than if the fruits were allowed to grow to near their full size. Where the plants have space to ramble, no stopping will be needed, but where that is not the case crowding must be avoided by cutting out redundant growth. Those trained on trellises or other supports should have their shoots secured with strong ties of matting. Liquid manure may occasionally be afforded to plants in full bearing, and after warm dry days a damping of the foliage with the syringe in the evening does good.

CARROTS.—The drawing of young Carrots for kitchen use will by this time have accomplished most of the thinning that is necessary. In order to avert attacks of the Carrot-maggot, strew over the beds a dressing of wood-ashes mixed with nitrate of soda, which may be left on the surface or lightly hoed in. Sow seed of Early Horn and any other small, quick-growing variety for drawing whilst young; the ground, if heavy, having some refuse soil from the potting-shed, together with sand, wood-ashes, and soot forked into it; and should the weather be too dry to favour quick germination of the seed, shade the beds with mats.

TOMATOS.—Keep the lateral shoots pinched off as fast as they show, and where the leaves are large, and form a too dense shade, cut them in half, doing this by degrees, so as not to cause a too great check to growth. Fasten the plants securely, but not tightly, to stakes or other supports; and if the soil is dry afford a thorough watering, but not applying liquid or other manure till the crop of fruit is set and the plant in need of support.

ONIONS.—The land upon which it is intended to sow Onions should have a good dressing of rotten dung if it be poor, and be well dug, allowing it to lay as dug till sowing-time, when a dressing of soot and wood-ashes may be hoed into it.

WINTER SPINACH.—A first sowing of this generally important vegetable may be made, the ground being dug, and a day or two afterwards stirred with a digging-fork, to enable the birds to find the grubs. Before sowing, dress it with soot, forking or raking this in. The drills may be drawn rather shallow, at $1\frac{1}{4}$ to $1\frac{1}{2}$ foot apart, sowing the seeds thinly and evenly. When the plants are sufficiently advanced to handle, thin them out to 3 inches apart, and eventually to 6 inches. The ground, if not tenacious and very moist, should be lightly trodden before the drills are drawn, so as to ensure a firm seed-bed.

PEAS.—The points of the shoots should be nipped off when the last flowers are set, and thus induce a free swelling of the pods. Applications of liquid manure may be needed, to enable the plants to finish their crops satisfactorily. Late varieties ought not to be allowed to suffer for lack of water at the root, as this is a frequent cause of mildew.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

POINSETTIAS.—So as to ensure fine heads of bracts in the winter months, the striking of the cuttings should not be delayed after this date. The exudation of the milky juice of the cuttings is stopped by dipping the wounded ends into finely sifted silver-sand and charcoal-powder; and a hot bed with mild bottom-heat is a suitable place in which to strike them. Whilst in the cutting stage moisten the foliage twice a day, and shade them from the sun so that the leaves may not flag in the least. Plants which were rooted earlier should be growing in pits and frames, and the forwardest of them which may need shifting may be put into 5-inch pots, using as a potting soil rich loam and leaf-mould, and plenty of sand. After potting the plants, stand them near the glass, and afford a fair amount of ventilation, but avoid cold draughts. Green-fly, which often infests the plants, can be prevented from doing much harm by syringing the foliage late in the evening once a week with soot-water, a mild fumigation on two consecutive nights being given should the insects have established themselves in large numbers.

POT ROSES.—With an abundance of Roses in the open air, the Rose-bushes in pots are apt to be overlooked, but if good returns are expected from them, the treatment best calculated to give them should be afforded. If the pot-plants are standing on a thick bed of coal-ashes, in a fairly sunny position, let them not be crowded, but stand them wide enough apart to permit a considerable amount of direct sunlight to reach them. Any that have not been repotted this season will benefit by an application once a week of well-diluted farmyard manure-water, to which a small quantity of soot is added, the strength of the manure being increased when the foliage gives evidence of renewed vigour. To maintain a clean and healthy appearance in the plants, syringe them sharply twice a week. If mildew should show itself, use as an antidote the Bordeaux Mixture, or other safe fungicide.

GLOXINIAS.—When some particular variety is to be increased, leaf-propagation should be adopted, and use made of deep seed-pans half filled with crocks, over which a layer of moss should be laid, and the pan filled up with a light porous soil. The full-grown leaves, with about half-an-inch of leaf-stalk, and the ribs left entire, should be cut from the plant, and inserted round the edge of the pans, allowing them to slightly overlap each other. Stand the pans in a Melon or Cucumber-pit or house in somewhat shady part.

HINTS ON CURRENT OPERATIONS. — Zonal Pelargoniums, owing to the dull weather, will drop many of their petals, which, if many are grown, causes much labour in keeping the show-house tidy; but the plants should be cleared of these and decaying flower-trusses daily. Zonals which have not been recently repotted should be afforded liquid manure, or if that be not practicable, some inodorous artificial kind put in the form of powder on the soil. Frequently re-arrange the plants in the houses, and apply manure in some desirable form to those which need it.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

THE PRUNING OF APPLES AND PEARS.—The growth of trees having been checked by the cold weather in May, the usual pruning must be postponed till such time as more and healthier growth has been made, thus avoiding a check to the fruits, which are small for this part of the season. Exception may be made in the case of trees not in bearing which are making strong growth; the pruning of which, which may be carried out piecemeal by cutting some of the shoots (those that will not be required to form the crown) to three or four leaves, and in about one week afterwards completing the operation, but leaving the leading shoots intact till the winter pruning.

STRAWBERRIES.—Finish the layering of those varieties which are usually late in forming runners, remembering that the earlier in the season the plants are planted out, the heavier will be next season's crop of fruits. The earliest-layered runners will soon be ready for planting out; and where the land intended for making new plantations was prepared as directed in a former Calendar, by trenching and well manuring it, and then planting it with early Potatos, it will soon be available. With land thus managed, it is merely necessary before planting to make the surface level and firm by trampling it; and the more expeditious method of levelling is to shallow dig it. Where the land may not have been thus prepared, that which has carried early Peas will be suitable; and in the event of the manure having been placed too deep for Strawberries, some well-rotted manure should be dug in deep enough to be just out of the way of the planting-trowel. Land not prepared in any way should be liberally dressed with rotten manure, placed in two layers, and be trenched two or three spits deep according to its quality. It is only by encouraging the plants to root deeply, that they escape suffering in dry weather. In the southern parts of the country certain provision should be made for planting a north border with Strawberries, so as to afford a long succession of the fruits; and during very hot weather the fruit from cooler borders is superior in flavour to that from plants exposed to full sunshine. For a number of years I have always had a north border planted with them in these gardens, from which we have usually gathered our finest fruits, the kinds being Sir Joseph Paxton and President. [The Hautbois is a variety that is excellent from a north border. Ed] Strong growers may be planted 3 feet from row to row, and 2 feet in the row.

MATERIAL FOR PACKING FRUIT.—A very suitable material, according to my experience, for packing such fruits as Peaches and Nectarines, Pears and Apples, and one that is obtainable by every gardener, is the lawn mowings after freeing them from leaves and rubbish. These should be saved, dried by being turned in the sun, and stored away in hampers. In gardens where the lawn mowings are unsuitable, the mown short grass from the cricket ground may be used instead.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

THE LAYERING OF CARNATIONS AND PICOTEES.—The present is a suitable time at which layering may be commenced. The earliest layers are invariably the best for planting out in October, and they are enabled, by being early planted, to obtain a strong hold of the soil before frosts of any severity occur. Refuse soil from the potting-bench, when finely sifted, forms a good medium for rooting the layers, soot, sand, and leaf-mould, or bone-meal in small quantity being added. Before beginning, provide plenty of small wooden hooks, and having cleared away weeds from about the plants, stir the soil lightly, then place as much of the prepared soil as will raise a mound to a convenient height round about the plant to be layered—usually, 3 inches in depth will suffice. Choose six short-jointed shoots of about 8 inches in length, remove any weakly shoots that may be thereon; and this being done, pull off the leaves from the lower part, but leaving those above, the tips of which should be gathered in the hand in a bundle and cut off. Select the clearest part of the bared shoot, and on the underside, just below a joint, cut half-way into the shoot, and pass the knife-blade in an upward direction, splitting the first joint met with in half, and continue to about half-way towards the next above it. Make a broadish shallow hole in the fine soil, and place the slit part of the shoot therein, raise the top of the shoot so as to open the cut, and put a peg gently yet firmly across the layer, filling-in with soil, whilst keeping the layer upright. When a plant has been layered, afford water with a fine-rose can, and pass on to the next. If the plants stand a good way apart, the soil may be left saucer-shaped on the top, so as to retain water, instead of being flat and allowing much of it to run to waste. Water the layers if dry weather ensue, and sprinkle them overhead after bright days, and in about six weeks they will be rooted.

THE HERBACEOUS BORDER.—Constant attention must be given to tying up the stems, shoots, and flowers, and in removing spent blooms and seed-vessels. Pæonies, Papavers, Iberis, Doronicums, Phyteumas, and Aquilegias, will need this attention; whilst others, such as Galegas, Malvas, Rudbeckias, Lathyrus, Diplacus, and Asters (Michaelmas Daisies), Lilies, Tritomas, Phloxes, &c., will require to be neatly secured to stakes. Many of the stronger-growing plants, such as Asters, Helianthus, Galegas, whose foliage prevents the soil in which they are growing being accessible to the rain, should be thoroughly soaked with weak soot or manure water. Pyrethrums of any variety which have failed to do well, or are scarce, should be taken up, and carefully divided, and having filled some 60's with a rather light sandy soil, put a piece into each, sprinkle them well through a rather fine rose, and place in a cold frame facing north, and keep close for a short time. These bits will make nice planting stuff for putting out at the end of the month of September, or for keeping in pots till the spring. The less hardy Veronicas may be treated in the same manner.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	July 24	Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

SHOWS.

SATURDAY,	July 21	Manchester Royal Botanic Society: Roses, &c.
TUESDAY,	July 24	National Carnation and Picotee Societies Show (Southern Section), in connection with the Royal Horticultural Society's Committees. Royal Horticultural Society of Aberdeen. Rose Show at Tibshelf.
WEDNESDAY,	July 25	Beckenham Horticultural Society. Burton-on-Trent Horticultural (two days). Surrey Horticultural Society, Herne Hill.
THURSDAY,	July 26	Rose and Horticultural Shows at St. Ives and Southwell.

SALES.

TUESDAY,	July 24	The Coventry Hall Collection of Established Orchids and others, at Protheroe & Morris' Rooms.
THURSDAY,	July 26	Unreserved sale of the Orchids and Plants at Albert Nurseries, Peckham Rye, by order of Messrs. E. D. Shuttleworth & Co., by Protheroe & Morris.
FRIDAY,	July 27	Imported and Established Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.4.

The utility of Herbaria.

The last report of our valued correspondent, Professor MacOwan, on the work of the Government Botanist at Cape Town, contains several passages which are as applicable north of the Equator as they are at the Cape. Professor MacOwan writes as follows of the comparative values of herbaria and of botanical and experimental gardens, a point discussed at some length by the late Alphonse de Candolle, but who, as we think, placed too low a value on a properly-administered and well-labelled garder as a means of botanical study.

Just what a great library of reference is in literature (says Prof. MacOwan), such is a national herbarium in all matters connected with the phytography of a country. What a district produces by Nature affords the key to what it may produce by art and culture, and to the indication of the special regions where experiment should be made, so as to get the best chances of success. It is often supposed that botanic gardens fulfil these conditions. They are very far from doing more than a small specimen of such work. Unfortunately, there is, we are told, not a single botanic garden in the whole of South Africa devoted to the work of trial by culture, and rendering a yearly account of experiment and result. It is significant that these institutions in their annual reports dwell most on their account sales and the money made by trading. Such more or less successful public promenades, scattered over the Colony, afford pleasure to the inhabitants of the places where they are located, but not one of them is in any sense a station for research. All but two are dependent on a more or less extensive nursery business, and are run on purely business lines, competing with a never very lucrative trade carried on by private citizens. The Colonial Botanist would be glad to see every one of them stopped from this unfair interference with private enterprise, and compelled to draw the full amount of their support from the rates of the township that benefits by them. Under present conditions, the staff must be nurserymen pure and simple, with all their faculties sharply alive to supply and demand, and, by as much as they devote time to experimental trials which do not bring in money, but only knowledge, by so much are they worse fitted for the peculiar duties of their place. The two largest municipalities in the Cape Colony have, we are told, practically wiped out the "botanic garden" abuse from their midst, and thrown the maintenance of their local pleasaunce of flower and tree upon their own local rates. But under these more equitable conditions no public pleasure garden is a fit place for either botanical science or scientific cultural trials. The formal outline of a hundred beds laid off for test cultures of rust-resistent wheats, for example, is as little ornamental as a hundred test-tubes in the chemist's laboratory. The contributory public would have none of such homely non-æsthetic work, and would treat the attempt to join the conditions of an experiment station with those of a pleasure garden, just as they would treat the combination of an analytical laboratory with an Art-gallery.

These are the considerations which make the maintenance of a Government Herbarium a matter of public concern. It provides in a very economical way for the authentic record of the phytogeographic data of every part of the Colony. What grows, and by inference what will or will not grow in any given locality, can be deduced with some approach to certainty from the accumulated facts attested by the native flora of the place. Moreover, every question as to probable economic or medicinal value of native plants comes to the herbarium, not to the botanic gardens. Every dangerous weed, every interloper creeping into our cultures like stowaways aboard ship, gets hauled up for judgment there, along with the more flagrant misdemeanants, the parasitic fungus-pests, and is tried by herbarium standards. The botanic gardens are out of it altogether. Even supposing the Government were to establish, as Mr. MacOwan sincerely hopes it will some day, one or two experiment stations, the herbarium will still be a prime necessity; the two elements of research being mutually the complement of each other. Such lists of the species peculiar to a given area are the first term in working out the botanico-geographic distribution of plants within the Colony, and represent the most useful work just now open to local botanists.

And now comes a passage with the spirit of which we deeply sympathise: "And on this point of asking for authentications of the names of plants, a work requiring much care and time, I should like to reason with the local botanist a little, or with the flower-dilettante rather. It is quite a common practice to slip into an envelope a few withered scraps of wild plants, neither dried nor packed, and ask their names. The only result is, that at the expense of the curator's labour the sender gets a set of names which he should have worked out for himself from the Flora, and is encouraged in a form of intellectual laziness."

Colonial Fruits and Woods.

As English soft fruits appear on the scene, those from the Colonies gradually shrink in bulk, and shortly disappear. Very fine have been the Grapes, Peaches, Pears, Apples, &c., forwarded from S. Africa and Australia—the Apples being specially picked samples, and their retail price having been correspondingly high. It is in this way that vendors who supply the best fruit, placed on the market in the best possible condition, will get an adequate return for their enterprise. As is pretty well known, had they been forwarded, four times the quantity of Cape fruits would have found purchasers at good prices; and the question is natural, why are not more sent on? Well, the answer is a very simple one. There were no more to send—every Peach, Pear, and Grape that could be spared from the home market were sent here. What these were like, consumers best know—as a whole, the Peaches were of a high class, and came to hand free from blemish or damage in transit; all the fruits being kept in the cool chamber at as near as possible an average temperature of 40°, and the packing being the result of some three or four years' experience. So fair have been the results of placing Cape Grapes, Peaches, &c., on the English market, that as the years progress the supply will increase; high-class Grapes are being cultivated, so also all other fruits saleable in London, and as the trees mature, the fruit will be packed and sent on here. All the great steamers of the "Castle" line (Donald Currie & Co.) are fitted with refrigeratory machinery of the best kind, and the accommodation for fruit is all that can be desired, especially in the three vessels last added to the fleet; there is no waste of power in compressing and expending air, and the internal temperature can be had at any time without the slightest inconvenience—and we are happy to think that some remarks of ours, made some year or so since, have not fallen idly. The gentlemen who manage the "Castle" line are confident of a great future for the Cape fruit trade with the mother country, and are quite ready for it.

A few words now as to colonial timber; and first we may note with some satisfaction that Sir E. Braddon, K.C.M.G, formerly Agent-General for Tasmania, has given as Premier of that colony some proof that he read his *Gard. Chron.* with care whilst in his Westminster chambers, and especially where we have had occasion to call attention to the seeming lassitude of some colonial officials in the matter of placing on the English market proper samples of the woods at their disposal in paying competition with those of countries not affiliated to the old country by ties of birth. We had hunted about in London for specimens of Tasmanian timber, in vain. The fact was recorded in these pages, and to-day there are on their way to England 300,000 blocks of Tasmanian wood fit for street paving. This fine result is due to the action of the new Premier, and is, we trust, only the beginning of a large trade with the lumberers of one of the prettiest spots on the face of the earth, whence come, as is well known, some of the best imitations of the English-grown Ribston Pippin!

Royal Horticultural Society.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, July 24, when the National Carnation and Picotee Society will also hold its annual exhibition. At 2.30 a special general meeting of the Fellows will be held at the offices, 117, Victoria Street, to consider the adoption (or otherwise) of a new bye-law relating to life subscriptions. At 3 P.M. a paper on 'Filmy Ferns" will be contributed by Mr. J. Backhouse of York. The Council would be grateful to growers of these beautiful Ferns for living specimens for exhibition on this occasion.

The National Rose Show.—The consensus of opinion of those who were so fortunate as to have witnessed the great southern Rose Show at the Crystal Palace, on Saturday, July 7, would be, we surmise, that as a show of the beautiful flower, it was charming in every way. The individual blossoms being fresh, and maintaining their freshness to the end of the day, only the professional critic would note a lack of vigour, and taken as a whole, of size, also in the blooms, whilst the general brightness of colour was maintained. The slight weakness would be traceable to those dreadful frosty chilling days of May 20 and 21, which with their withering north-east blast caused so much to go by the board which had been till then so full of promise, in flowers and fruits. This season is a late one for Roses, notwithstanding the intense heat recently felt in the south, and we may therefore expect some good blossoms for a few weeks to come, especially as the plants will be much helped and invigorated by recent rains and cooler weather. There was a considerable number of new Roses shown, but in how far their merits transcend older varieties, only time can tell. Marquess of Salisbury is a "garden Rose" of a remarkable shade of bright crimson, semi-double, with the anthers showing as soon as the flower expands. It is pretty, and if the growth be strong, it would make a showy pillar Rose, a bedder, or a wall Rose. Camoens, a H. T., is an irregularly-built, deep pink-coloured semi-double "garden Rose," the stamens not very visible. Mr. Bateman had those very nice novelties, Caroline Testout, Miss Shannon, and Dickson's Roses, Margaret Dickson, Marchioness of Londonderry, and Marchioness of Downshire — all pale varieties, and as flowers grown within 4 miles of Charing Cross they were very good examples. The same varieties were shown by Rev. J. H. Pemberton. As might have been expected, from the more favourable surroundings of Havering-atte-Bower, they were of better quality, but not so much so as one would have imagined. The fine Roses that are grown within a radius of 8 miles of Charing Cross were a surprise to all those who hold the opinion that the inimical influences of smoky London forbid the cultivation of Roses. As we are writing of clergymen's Roses, it may be here remarked that those shown by Rev. H. A. Berners, showed capital finish in every point, they were not over large, but well chosen for evenness of size — the Countess de Nadaillac, Etoile de Lyon, Ethel Brownlow, Madame Hoste, and Edith Gifford, would have taken points anywhere. It was this lot of eighteen Teas which won for the exhibitor the Amateur's Challenge Trophy. Noted among Roses as not being well-shown by amateurs, was the variety Mrs. J. Laing, the flowers always being undersized. Perhaps it is only here and there from a very large number



Fig. 11.—Cochlioda Noezliana: orange-scarlet. From Major-General Lucie Smith.

Cochlioda Noezliana.—This handsome and distinct novelty is an introduction from Peru, and named in honour of M. Jean Noezli. The pseudo-bulbs are ovate-oblong, compressed; the leaves linear-acute; scape many-flowered; sepals and petals orange-scarlet, the trifid lip of the same colour, with a yellow disc, the column violet-purple. Cochliodas are evergreen, and do best in the cool-house in suspended baskets, as the drooping flower-spikes are then seen to advantage. The plants require a compost of sphagnum-moss and peat, and liberal watering during the season of active growth. The plant from which our illustration (fig. 11) was taken is in the possession of Major-General Lucie Smith, The Acacias, Worthing, and this year carried ten spikes and 106 flowers.

of plants, that extra fine blooms can be gathered; hence the failure of small growers to produce it so finely as the large ones. Contrariwise, Ulrich Brunner and Merveille de Lyon were generally up to the mark in amateur stands, and no other Rose was more common than the pale beauty last named. The stand of this variety, shown by Rev. H. A. Berners, was the best we have remarked. The favourite, La France, is not a success this season, and but few nice blooms graced the stands. Dr. Sewell is a deep crimson flower, flattish in form, that came out in fine condition in Rev. Foster Melliar's stand, as did Souvenir d'Elise Vardon, Horace Vernet, Baroness Rothschild. Mr. S. P. Budd's Her Majesty was just of the right size, but some growers would prefer Mr. T. B. Haywood's example of this variety. At any rate, neither erred on the side of excessive size. Lady Mary Fitzwilliam was sometimes observed in great beauty, and but seldom Maréchal Neil. The flowers sent by Mr. Mattock and Mr. Prince, of Souvenir d'Elise and Countess de Nadaillac were of extraordinarily good quality, and generally the Oxfordshire flowers beat those of the eastern counties for size, form, crispness, and freshness. Nothing, indeed, could have been finer than Mr. Prince's Madame de Watteville, The Bride, Souvenir d'un Ami, Catherine Mermet, Duchess of Bedford, Comte de Raimbaud and Mons. Noman, which was seldom good elsewhere. We will conclude our remarks on this show with a short list of varieties that were seldom seen in first-class form. Alphonse Soupert, Françoise Michelon, Duchess de Morny, Duke of Teck, Margaret Brassac, Innocente Pirola, Duke of Edinburgh, Louis van Houtte, Harrison Weir, and Etienne Levet.

The Gardens at Olympia.—It has been the aim of the directors of this popular place of entertainment to provide a beautiful and attractive promenade. No fewer than 400 Lombardy Poplars have been planted, and form a magnificent screen of foliage; while the wealth of shrubs and flowering plants, very tastefully arranged in circular beds and serpentine banks, will bear comparison with any horticultural display in the metropolis. Here and there walls and fences have been covered with virgin cork, with pockets for holding plants. In picturesquely contrived grottos the plashing of the waters makes refreshing music, and from end to end are to be found hanging baskets radiant with bloom. The illumination of these gardens has been carried out on a scale never before attempted in this country; and the whole is a perfect harmony of crystal devices consistent with the Oriental character of the exhibition. The promenade is beneath a series of crystal arches illuminated by gas, with illuminated crystal temples, that at the eastern end being perhaps the largest piece of crystal work ever attempted. At the western end is a series of Turkish arches in crystal work. This well-arranged garden, which is a narrow strip running along the whole of the southern side of the building, excellently adapted as a promenade and breathing space for visitors, was furnished and planted this year by Messrs. J. Laing & Sons, Forest Hill, S.E., with a very fine assortment of Conifers, Rhododendrons, variegated and green Hollies, Aucubas, Ivies, and other Evergreens of various dimensions. Flowering plants have been profusely planted, including several beds of the finest single and double-flowered tuberous Begonias. Everything is in first-rate condition, and gives one the idea of a place that has been established for several years.

Stock-taking: June. — The more recent intelligence from both North and South America, Italy, and France, must have acted as a deterrent to those inclined to prophesy concerning trade and commerce before knowing; although the outcome of the revenue for the first quarter of the financial year must have helped to raise the expectations of those on the outlook for the trade and navigation returns for June. In them the imports side of the account shows an increase of £2 380,441, as compared with the same month last year, yet the exports show a falling off, to which attention will be drawn presently; our customers abroad are still anxious to sell in a market where prices do not show much inclination to rise, and the following extracts from the summary table of imports for the past month will be found satisfactory:—

Imports.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	£31,869,592	£34,250,033	+2,380,441
(A.) Articles of food and drink—duty free	12,462,886	13,427,241	+934,355
(B.) Articles of food and drink, dutiable	1,625,943	1,437,755	—188,188
Raw materials for textile manufactures	4,519,062	4,390,045	—129,017
Raw materials for sundry industries and manufactures	3,462,845	4,362,931	+900,086
(A.) Miscellaneous articles	1,035,136	1,111,903	+75,767
(B.)—Parcel Post ...	53,727	96,806	+43,079

It may be worth noting here that the imports of timber show an enormous increase over those for June, 1893, and that the entries for the past six months show an increase of £13,349,937 over those for the same period in 1893; and this increase is, with few exceptions, spread over the entire field. The annexed excerpts from the general figures, concerning the arrivals of fruits, roots, and vegetables, is of interest to all:—

Imports.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	39,857	38,196	—1,661
Cherries ... ... ,,	196,213	193,231	—2,982
Plums ... ... ,,	28,053	3,731	—24,322
Pears ... ... ,,	4,732	157	—4,575
Grapes ... ... ,,	5,186	4,036	—1,150
Unenumerated ... ,,	236,708	245,697	+8,989
Onions ... ... ,,	139,120	328,548	+189,428
Potatos ... ... cwt.	1,100,643	1,256,263	+155,620
Vegetables, raw, unenumerated ... ... value	£ 184,241	£ 170,550	£ +13,691

The number of minus (—) "differences" will doubtless attract attention; the "plus," of course, is on our side! Amongst the "unenumerated" fruits, are doubtless some from a country coming to the front for agricultural settlers, from this and other lands, with a superabundance of skilled agriculturists. The republic of Honduras, in the land of the mahogany tree, there are grown to perfection the Mango, Pine-apple, Custard Apple, Alligator Pear, Lemons, Limes, Oranges, Bananas. It is in the dairy-farming line that help is needed from purse and skill—the production for home-sale of milk, butter, cheese. Those of us whom this may concern, can make a note of the matter. And now as to the

Exports.

for the past month. They are less than those for June of last year by some £876 116—the deficit for the past six months being £894,465. Well, considering the bad news from the various countries noted above, the wonder is, not that there is the falling-off noted, but that it is not greater. These exports are entirely of British and Irish manufactures; if we add to them the increase in those of foreign production—£402,165—the account does not appear quite so black—shipowners, at any rate, profiting by the bulk of export. There is, of course, no getting away from the fact that the delay in passing the American Tariff Bill is one great cause of the falling off in exports, and the delay may possibly be extended over another month; and this, coupled with the present condition of things in the labour market of America, gives no encouragement to textile manufacturers here. We can only hope for a speedy reconciliation between the contending parties in the great republic, which would greatly aid in the promotion of a busy and profitable trade with this country.

English Flower Shows.—An American who has been taking notes among us, records his impressions in a recent number of *Garden and Forest*. He visited the Temple Show, whereat he says, no such magnificent spectacular effect is possible as in Madison Square, New York, but "after all, as the plants are shown for their own sake, and not for the purpose of decorating the enclosure in which they are exhibited, the loss of this general effect is not serious. But even if it had been desirable, as a study in artistic arrangement, to attempt any comprehensive picture, the material for such work was not at hand. Specimen Palms, Tree Ferns, and similar plants . . . were altogether lacking; nor were there any splendid masses and groups of decorative plants, such as the writer has often seen in Philadelphia and New York." On the other hand, our critic awards us the palm for the number and variety of the plants exhibited, and for the general cultural skill displayed. Cut Roses did not impress our friend (it was in May!), but the pot Roses excited his admiration, as well as Messrs. Smiths' Clematis. The Regent's Park show comes in for a share of praise for its beautiful arrangement, but both societies are counselled to advertise more effectively!

The Export of Vegetable Tallow from China.—The introduction of vegetable tallow from Excæcaria sebifera into Marseilles from China for candle-making has already been noticed. We now learn that this export from Hankow is a revival after a lapse of twenty years. During the last quarter of 1893 there seems to have been a very strong demand at Hankow both from natives and from foreign exporters, so that a considerable advance was expected during the early part of the present year. The quantity of vegetable tallow that could be produced, if there were a demand for it, is stated to be practically unlimited.

"The Botanical Magazine."—The plants figured in the current number are:—

Houlletia Landsbergi, Linden and Rchb. f., t. 7362.—A native of Costa Rica, not of Brazil, as at one time supposed; long known in gardens, but, nevertheless, rarely met with. The flowers are 3 inches across, the oblong acute segments yellow, thickly beset with chocolate-brown spots.

Gastrochilus Curtisii, Baker, t. 7363.—A Malayan Scitaminea, with tufted pubescent leaves, and white Orchid-resembling flowers. It was discovered by Curtis in Penang, and by him sent to Kew.

Colocasia antiquorum, Schott, t. 7364.—It is singular that no good modern figure of this plant should exist, in spite of its being one of the most widely cultivated tropical food-plants in existence. As might have been expected, it varies a great deal, and a host of synonyms has aggregated around it. The part eaten is the tuber.

Æschynanthus Hildebrandii, Hemsley, t. 7365.—A low-growing Burmese plant, with small opposite ovate acute leaves; flowers about 1 inch long, corolla curved tubular, two lipped, deep orange, with projecting purple stamens.

Spathoglottis gracilis, Rolfe, t. 7366.—A handsome yellow-flowered species. The leaves are plicated, broadly lanceolate; the flowers racemose, at the end of a long erect peduncle; each flower flattish, with five ovate oblong yellow segments, and a very deeply trilobed lip. Native of Borneo.

"The Chrysanthemum Grower's Record."—This is a small octavo volume, intended for the use of the exhibitor chiefly, and which will afford a ready means of reference with regard to the following matters, the pages being ruled and marked for the number, the name, and description of variety (what class it belongs to); cuttings, when inserted, when rooted, when potted into 60's, 54's, 48's, 32's, 24's, 16's, and 12's, for the designer evidently favours progressive repotting. Then there follows a column "when stopped;" another for first break, with two sub-divisions; and one for second break, with also two sub-divisions. Columns for indicating when the buds were visible and when taken; another for stating if crown or terminal; one for date of com-

mencing to feed; also for colour, time of housing, height, and number of shoots; and place for remarks on soil used at the final repotting, &c. The *Record* contains 192 pages, space, therefore, for remarks on that number of varieties. It is to be obtained of Mr. JASON FEARS, Hon. Secretary of the Hertford Horticultural Improvement Society, for the price of 1*s*.

"CYCLAMENS, AND HOW TO GROW THEM."—In this little manual by Mr. F. G. EDWARDS, Levenshulme, Manchester, we have a succinct account of raising and flowering the Cyclamen in the short period of twelve months. The instructions given are excellent, and embodied in plain language; the plant being followed through its various stages, from the germination of the seeds onwards. We should suppose that any hitherto unsuccessful cultivator of the Cyclamen, with this manual in the hand, could scarcely fail to achieve satisfactory results. It is a pity the author had not invited the aid of some competent assistant to revise the text before issuing the manual to the public, for it abounds with clerical errors of all kinds.

THE JOURNAL OF THE JAPANESE HORTICULTURAL SOCIETY continues to appear monthly. The contents are printed in Japanese characters, but the title-page contains press announcements in four European languages, and correspondence in these tongues is invited. It is a record of an apparently flourishing society, and to those to whom the letterpress is more interesting than instructive, the pictures, coloured and otherwise, should prove a great attraction. Some of the plates are reproduced from European journals, others are prepared by Japanese artists. Amongst other things we notice a coloured illustration of a double Ipomœa similar to those mentioned in Mr. JAMES VEITCH'S letters from Japan. These are evidently highly ornamental, and it is rather remarkable that they should be so little known in this country.

EASTER DUDDINGSTON.—We are in receipt from Mr. M. CHAPMAN of a *Catalogue of the Plants at Easter Duddingston Lodge Garden*, the property of the late CHARLES JENNER, Esq. This pamphlet, which is intended for private circulation, extends to nearly seventy pages, and is a carefully-compiled and interesting record of a miscellaneous horticultural collection. The botanical name, family, popular name, and native country of each of the 4000 species included are mentioned, thus furnishing something more than a mere list of plants, and also supplying evidence of the importance of the collection, and of the care taken to ensure correctness of nomenclature.

COTTAGE GARDENING, edited by W. ROBINSON.—We have before us the third volume of this useful periodical devoted to "poultry, bees, allotments, food, and house, window, and town gardens." It is published by Messrs. CASSELL at one half-penny a week. No one can say it is not worth the money!

ARISTOLOCHIA GIGAS.—A plant of this rare species from Guatemala is at the present time in bloom in Sir W. HENDERSON'S hot-house at Devanha House, Aberdeen. The flowers measure about 10 inches in width, and in total length nearly 3 feet.

FLOWERS AND PLANTS EMPLOYED AT A BALL.—On the occasion of Mrs. MILLER MUNDY'S ball, given at her residence, 20, St. James's Square, on the 13th inst., the rooms were profusely decorated with choice exotics, especially Orchids, every nook and corner being filled with them. Most of these plants, &c., came from Mr. MUNDY'S gardens at Shipley Hall, Derby; amongst them were some very fine spathes of Anthurium Scherzerianum. Hundreds of pounds' worth of Orchid bloom were displayed in nearly every conceivable position. The mantel-pieces were covered with plants of Adiantum Farleyense, intermixed with sprays of Odontoglossum crispum with flowers to the number of 1400. Large Palms formed a graceful canopy to the lowly-flowering plants. The general decorations on this occasion were entrusted to Messrs. WILLS & SEGAR, of South Kensington.

"NATURE NOTES."—This magazine, the organ of the Selborne Society, and edited by JAMES BRITTEN, F.L.S., contains, in the issue for July, much interesting information on natural history subjects. In the first article, by Mr. O. V. APLIN, on "The British Air Fauna: its Changes and Present Character," the author speaks of the various species of birds "lost" during the past few years. Mr. APLIN takes a more hopeful view of his subject than do some authorities (Mr. HUDSON, for instance, whose book on *Lost British Birds* forms the foundation of this paper), reporting that many species considered to be extinct still exist, and are to be found by those who know where to look, and that the disappearance of others is due less to wanton destruction by keepers, collectors, &c., than to changes in the nature of the country owing to drainage and climatic variations. The other contents of the magazine before us include articles entitled "Gilbert White in Sussex" and "In Arcadia," some book notices, and reports and announcements connected with the Selborne Society.

ROYAL BELGIAN HORTICULTURAL, BOTANICAL, AND AGRICULTURAL SOCIETY.—On the occasion of the monthly meeting of the above, on Friday, the 6th inst., Certificates of Merit were awarded to Begonia Madame Charrat (corallina × coccinea), and to Hydrangea stellata fl. roseo-pleno, shown by F. M. DESBOIS; to Cypripedium hybrid (Spicerianum × Stonei), and to C. nitidissimum (caudatum Warscewiczi × conchiferum), shown by M. ED. PYNAERT; to Pteris serrulata gracilis, shown by MM. DURIEZ BROS.; and to Begonia Président O. Bruneel ×, shown by M. TRAUGOT SZEWCZICK. A Certificate of Merit for progress in the culture of Azalea indica was given for three Azalea indica grafted on Rhododendron Cunninghamii, shown by M. T. J. SEIDEL, Dresden.

THE PICKERING LODGE ORCHIDS.—The first day of the 2nd sale was not so well attended as the previous sale days, and the consequence was that prices generally did not rule so high. The best price of the day was obtained for Cattleya Mendeli var. Blunti, 100 guineas. Sobralia xantholeuca alba, in flower, 44 guineas; Cattleya Gaskelliana alba, in flower, 38 guineas; C. crispum superbum, a magnificent specimen, 52 guineas; Sobralia Lucasiana, a fine specimen, 46 guineas; several Odontoglossum vexillarium superbum, in flower, from 10 guineas upwards; Dendrobium Statterianum, 20 guineas; Cypripedium Veitchii, 15 guineas; and many lots from 3 guineas upwards. The plants were in fine condition.

COFFEE IN NYASSALAND.—Mr. H. H. JOHNSTON tells a wonderful story of the origin and growth of the Coffee plantations in Nyassaland. When, some sixteen years ago, Mr. BUCHANAN was going out to Central Africa as horticulturist to the Established Church of Scotland Mission, the curator of the Edinburgh Botanical Gardens presented him with a sickly little Coffee tree. This tree reached the Shiré Highlands alive, and being planted at Blantyre throve mightily, flowered, bore fruit, and became the parent tree of the five millions which are now producing thousands of pounds' worth of berries. The mother tree, Mr. JOHNSTON says, is still living in the gardens of the Scotch Mission at Blantyre. *The Westminster Gazette.*

THE NATURAL HISTORY OF PLANTS.—The third part of the *Natural History of Plants*, Kerner and Oliver (Blackie & Son, London), includes chapters on the absorption of rain and dew by the leaves; symbiosis; changes in the soil incident to the nutrition of plants; the action of plants on the soil; the mechanical changes effected in the ground by plants; conduction of food; capillarity and root-pressure; transpiration; prevention of excessive transpiration; protective arrangements on the epidermis; form and position of the transpiring leaves and branches. As we have said when noticing other parts these subjects are dealt with in an attractive style, without sacrifice of accuracy. Even botanists, will find much that is new to them. How many keen-eyed plant-collectors, we wonder, know the meaning of the ridges of white hairs which pass down the stem of the common Chickweed, first on one side and at the next node shifting to the other side?

BEGONIA, BEAUTY OF EYNSFORD.—Mr. CANNELL sends us a flower of a very handsome double Begonia under this name. It is more than 4 inches across, of a pale yellowish buff colour, the petals of good substance, and rather deeply scalloped at the edges.

MR. W. H. GOWER.—It is proposed to present a "complimentary testimonial" to Mr. W. H. GOWER, long known as a student and trustworthy writer on the culture of Orchids, Ferns, and other plants. An influential committee has been formed for the purpose of carrying out the project, Messrs. PROTHEROE & MORRIS, 67, Cheapside, being the treasurers, and Mr. JAS. SEEGER, West Norwood, the secretary.

DEVON AND EXETER GARDENERS' ASSOCIATION.—The third summer outing of the members of the above took place on Wednesday, the 11th inst. The places selected for the day's outing were Haldon House, Whiteway House, Pitt House, and Teignmouth. At Haldon, the residence of T. B. BOLITHO, M.P., the party were enabled to view the many fine specimens of indigenous and exotic trees in the grounds and gardens. At the Dowager Countess of MORLEY'S residence, Whiteway, the party was invited to lunch, afterwards making a tour of the gardens, which is rich in Conifers, Magnolias, Japanese Bamboos, and inspecting the "goyle," or wild garden—a very interesting spot. The other places mentioned having been visited, and their beauties in tree, shrub, and flower duly noted and admired, the party, after dining at Teignmouth, returned to Exeter, which was reached about midnight.

HORTICULTURAL SHOW AT CLIFTON ZOOLOGICAL GARDENS, BRISTOL.—Favoured with fine weather and a large number of exhibits, the flower show promoted by the Bristol, Clifton, and West of England Zoological Society, and opened at the gardens on July 5, was not lacking in attractiveness. There was a large attendance throughout the day, and although the society's aim is to establish an attractive horticultural exhibition rather than to increase their revenue, the latter is a result which may be expected if the reputation of the show is kept up to the high standard attained this year. As compared with the previous exhibition, the entries were seventy-three in excess, being the largest number which the society have obtained, and some well-known exhibitors were to be found on the list. In point of quality the show was the best held at the gardens, and it compares very favourably with those of more mature growth.

SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—A meeting of the above was held at Shirley on the 16th inst., Mr. B. LADHAMS presiding. An instructive paper on the "Cultivation of the Carnation and Picotee" was read by Mr. F. NUTT, Southampton, well-known amongst Carnation-fanciers as a successful amateur cultivator and exhibitor. Mr. Nutt staged a fine group of plants and cut blooms to illustrate his lecture. Mr. G. Rebbeck, Mr. Green, and Mr. B. Ladhams showed cut blooms of new and old varieties of the Carnation. A hearty Vote of Thanks to Mr. Nutt for his instructive lecture, and to the various exhibitors, was given. The subject for next month will be a paper on the 'Vine' by Mr. W. Mitchell, gardener at Chilworth Manor.

THE NEILL PRIZE IN HORTICULTURE.—The Council of the Royal Scottish Horticultural Society at a meeting held on the 11th inst., unanimously awarded the Neill Prize in Horticulture to Mr. ALEXANDER KIRK, gardener to Mr. JOHN PATON, of Norwood, Alloa. The Council make an award under Dr. NEILL'S deed every second year, and with the medal goes a sum of about £30 in money. Mr. KIRK is well known as a very successful all-round horticulturist. He has been exhibiting for over twenty years at the Royal Caledonian Society's shows, as also at all the chief exhibitions in Scotland and England, and has won over 400 first prizes for fruits, flowers, and plants. One of his notable successes was at the last International show in Edinburgh, when he secured the chief honours for Grapes. *Scotsman.*

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this Society was held on July 11 in the Wood Memorial Hall. There was an exceptionally good attendance, and Mr. P. COWAN, of South Shields, occupied the chair. There were about twenty-three different specimens on the table for identification, principally herbaceous perennials. After these had been satisfactorily disposed of, Mr. MURRAY, of Oakwood, read a very interesting paper on "Gardeners Past and Present, and their Relation to other Trades." A discussion followed of an interesting character.

AMATEUR'S COLUMN.

CORNUS CAPITATA (WALL.), BENTHAMIA FRAGIFERA.—This has flowered for the first time in the twenty-five years I have had it. The flowers are yellowish-white, and about 2 inches in diameter. The bush is about 15 feet high, and as much in diameter.

ROMNEYA COULTERI.—This is now in full flower in the open air, having survived the exceptionally hard frost (19° of frost) of last January. The spreading petals of the deliciously-fragrant white flowers are 7 inches in diameter. The above recorded temperature was the lowest here since 1879.

EUCALYPTUS SPECIES.—Of these E. globulus has been killed to the ground, but is throwing up from the root. E. viminalis has been killed back to the trunk, but is sending out shoots from this. E. coriacea has had its leaves injured, but nothing more. E. coccifera is untouched. All but the last are from ten to fifteen years old, and have never been protected. E. globulus and E. viminalis were 33 feet high.

THE SEASON.—We had no frost worth mentioning in May, the lowest recorded in the Stevenson screen being 31°.2 on May 22; but we had sleet and hail on May 19, and I attribute the bad crop of Apples to this.

WASPS.—Queens, which were abundant in May and early June, seem to have quite disappeared. I have not seen one for some weeks. *A. O. W., Colwyn Bay.*

HOME CORRESPONDENCE.

CYPRIPEDIUM SPECTABILE.—I enclose some flowers of Cypripedium spectabile taken from plants growing in the natural soil, which is light. They get no protection in the winter, and are in a rather exposed situation. They flower splendidly every year, and the clumps have increased considerably during the last three years. C. calceolus and C. purpureum are growing in the same bed, and are also thriving and flowering well. *Wm. Barlas, Athole Hydropathie, Titlochy, N.B., July 5.* [The flowers sent were good and strong, and the foliage very healthy and vigorous. ED.]

THE FOOD REQUIREMENTS OF THE CHRYSANTHEMUM.—In reply to my question, viz., food requirements of the Chrysanthemum, *Gardeners' Chronicle*, p. 45, the writer still thinks the artificial manure that he recommended is in accordance with the analysis of the Chrysanthemum ash. Now, if nitrate of potash and magnesia were given in equal proportions (100 parts of both), we should be applying 47 parts of potash to 100 parts of magnesia, because there is only 47 per cent. of potash in 100 parts of potassium-nitrate, and as we are told to take two parts of magnesia to one part of nitrate of potash, we are giving magnesia in the proportion of 4 to 1. The writer pointed out that most soils used for growing Chrysanthemums contained 1 per cent. of potash; but why omit the other ingredients, which are equally as valuable as the potash? An analysis I have before me contains the following important plant foods:—Potash, 1 per cent.; soda, 2 per cent.; lime, 4 per cent.; iron, 8 per cent.; phosphoric acid, .50 per cent.; this shows at once that potash, soda, and lime are present in about equal proportions, iron in excess, and a small percentage of phosphoric acid. A fair-sized plant could be grown in a 10-inch pot filled with this soil, without the addition of any artificial manure. Now, if we look at these facts we can see that the soil contains the necessary constituents for plant-growth to a certain stage, and as the phosphoric acid present in the soil is in the least proportion, we will work out what manure we should apply from that: now, if we take 20 ounces of kainite, 25 ounces of basic slag, and 30 ounces of bone-dust, mixing these with 120 lb. of soil, we should apply part of the plant food in a way in which it would become slowly available to the plant as long as it was needed. But the above would not contain all the ingredients necessary for the full development of the plant, so we mix together 8 ounces of magnesia, 16 ounces of nitrate of soda, and 26 ounces of nitrate of potash; if this was mixed with about 5 times its weight of fine soil, and a little sprinkled over the top of the pot every week, so that the above-mentioned quantity would last ten plants in 10-inch pots the whole of their growing-season. I think we should be then giving the plant its proper food, and in the needed proportions the last-named mixture could also be dissolved in water, ¼ oz. to 2 galls. of water, and the plants watered with it every week. This way I do not approve of, as a quantity of the more soluble may be lost by careless watering.

Constituents.	Percentages. Ash of the Chrysanthemum.	Manure as above.	Recommended Manures. No. 1.	Recommended Manures. No. 2.
Potash	16¼	14½	4½	7½
Soda	10½	8½	9	15
Lime	26½	28½	13	18½
Magnesia	10¼	11	19	5½
Phosphoric acid	19½	19	19	19
Sulphuric acid	4½	11	13	38
Iron	3½	3½	1	1¾
Chlorine	3	5½	...	...
Silica	5¾	2	...	...
Nitrogen	...	6	1	3

I have written above the Ash analysis of the Chrysanthemum, the analysis of my manure, and the two classes of manures as recommended by the writer. *W. Dyke, Turnford, Herts.*

LILIUM HORSMANNI.—It is a pity that Lily names should be needlessly multiplied. The Lily shown and certificated on the 10th inst. at the Royal Horticultural Society's meeting as L. Horsmanni, is identical with that which came over to this country in quantity some years ago from Japan. I believe that at the sale they were called Thunbergianum cruentum (elegans cruentum is the name in our garden book). We grew a quantity of them; some still survive, and are much admired. Mr. Lynch, of the Cambridge Botanic Gardens, was at Oakwood two days after the Drill Hall meeting, when he saw L. e. cruentum in flower, and he agreed with me that it was identical with the one exhibited, and that the error should be pointed out. I do not know whether this species of Lily has ever been certificated as L. elegans or Thunbergianum cruentum, or atro rubrum. I think it is worth a certificate, but it should have its proper name. *George F. Wilson.* [L. Thunbergianum cruentum was certificated July 11, 1882. ED.]

NYMPHÆAS.—Latour Marliac's Nymphæas are lovely here now in our cold-water pond in the open air white, rose, peach, crimson, and yellow. Some of the Marliacea forms, such as carnea, exquisita, and chromatella are large and fine. N. odorata vars. smaller, and N. pygmæa smallest of all, with perfect little flowers each only as big as a florin. *F. W. B., Dublin.*

SCHIZANTHUS.—We have at present a splendid show of this beautiful decorative plant in the conservatory here; arranged amongst flowering double-flowered tuberous-rooted Begonias, and the effect is pleasing. For table decorations there are few flowers to excel it for lightness and grace. The cultivation is very similar to that followed with Mignonette, the seed being sown in March in 3-inch pots, and the seedlings thinned out to two or three. When in need of more space they are potted without disturbing the roots, into 6-inch pots for flowering. They require plenty of water, and also feeding with soot-water twice a week when established. The varieties grown are pinnatus roseus, Hookerii, and others. *G. Burrows, Warwick College.*

THE ROYAL HORTICULTURAL SOCIETY'S PROPOSED FRUIT SHOW AT THE CRYSTAL PALACE.—On the 4th instant I received a copy of the schedule of the great exhibition of British-grown fruits to be held at the Crystal Palace on September 29 and three following days, Sunday intervening. And at p. 3 under the heading of notes on the schedule, which "all intending exhibitors are requested to read carefully, as the interpretation of the schedule will be governed by them," and in Clause IV., it is stated that Grapes should be exhibited on inclined stands, covered with white paper, of a uniform breadth from front to back of 14 inches, depth at back 10 inches, and depth at front 2 inches. According to this, both black and white Grapes are to be shown on boards covered with white paper, and exhibitors already provided with Grape stands and boxes are, if they wish to stage fruit at the above-mentioned place, expected to put themselves to the expense of having new boards and boxes made, and, moreover, to reduce the dimensions of some of their bunches of Grapes in order to place them on the boards specified by the Royal Horticultural Society. Will Grape growers who are accustomed to stage Grapes at the Crystal Palace and other important fruit shows throughout the country do this? I think not. It would be interesting to know what specimens of Grape culture the committee of the Royal Horticultural Society had in their minds when determining the dimensions of the Grape-boards in question; they are too small, too flat, having an angle of only about 22°, and not of the right shape for Grapes travelling safely on in boxes. I certainly like to see Grapes staged on boards of uniform breadth and depth, where it can practically be done without unnecessarily increasing the size and weight of exhibitors' boxes, and consequently travelling expenses in the way of excess luggage by having all stands and boxes made large enough to hold bunches of Gros Guillaume, Trebbiano, and other large bunch varieties of Grapes. I think it would have been wise, not to say courteous, on the part of the Royal Horticultural Society, to have consulted fruit growers who are in the habit of showing Grapes, &c., regularly at the Crystal Palace shows on the matter before actually framing clause iv., p. 3. *An Old Exhibitor.*

—— I notice on page 3, par. v., in the schedule of prizes of the forthcoming fruit show of the Royal Horticultural Society, the words "kind" and "variety," are stated to be used in the following sense, Peaches, Nectarines, Apples, Plums, are distinct "kinds" of fruit (quite right); Royal George, Noblesse, Alexander, are distinct "varieties" of Peaches (this is also right). But in turning over the leaf I was surprised to find at page 5, class I., "Collection of Ripe Fruit, 15 distinct varieties, to include 2 varieties of Melons, and a dish each of the following:—Black Grapes, white Grapes, white or yellow Plums, red or black Plums, Peaches, Nectarines, Apples, Pears, and 5 other dishes of other kinds of fruit, or of distinct varieties." This is certainly contradictory, and is not likely to enlighten young exhibitors as to the real composition of the collection of "fifteen distinct varieties of fruit" to be staged for the prizes mentioned in class 1. Although not so stated, I should say that those who framed the schedule meant "fifteen dishes of fruit, to include two varieties of Melons, black and white Grapes (presumedly three bunches of each), two dishes of Plums, distinct varieties; Peaches, Nectarines, Apples, Pears, one dish of each, and five other distinct kinds of fruit; such as Pine-apple, Apricots, Cherries, Figs, and Gooseberries." *Pro Bono Publico.*

EREMURUS ROBUSTUS.—In answer to your correspondent regarding the seeding of Eremurus robustus in this country, I wish to state that a plant here threw up a splendid flower-spike this summer, and it now has twenty-two seed-vessels, all of them

near to the top of the spike. These will, I think, give good seed; they increase in size very fast indeed, and are now of the size of ordinary Peach stones. The foliage was much damaged by frosts in May, although it was slightly protected by a few sprays of Yew. *A. S., Round Oak Gardens, Englefield Green.*

DISEASES OF THE GRAPE-VINE.—I.

Downy mildew of the Americans (Plasmopara viticola, Bert. and de Toni), a fungus closely related to the one causing Potato disease, has been known

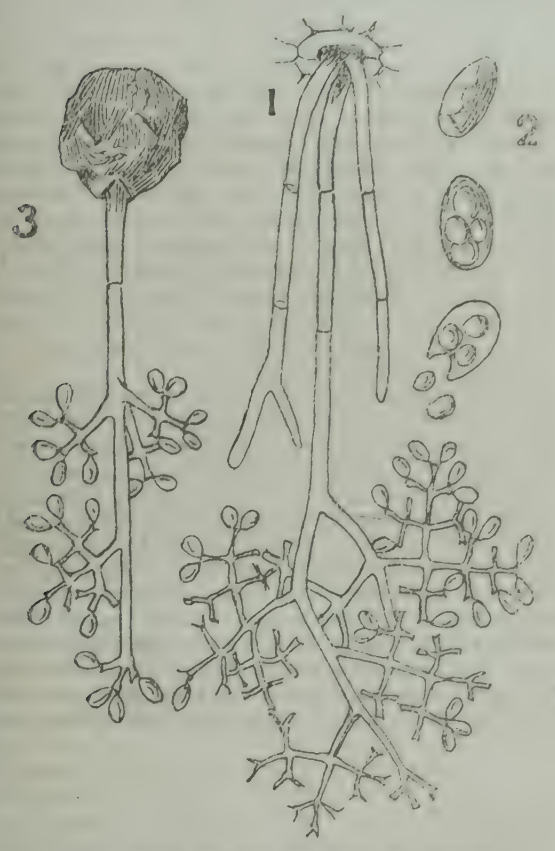


Fig. 12.—Downy mildew (Plasmopara viticola)

1, Group of conidiophores bearing conidia, issuing from a stoma on the under side of a Vine-leaf; 2, Conidia, showing the formation of zoospores; 3, an oospore, germinating and producing a branch bearing conidia. All highly magnified.

for a long time as a destructive parasite of the Grape-vine in the United States, and its occurrence during the present season at several distant centres, proves that it is established amongst us.

In its most usual form, the fungus attacks the foliage, the first indication of its presence being the appearance of pale green or yellowish spots on the upper surface of the leaf; corresponding to these spots, the fungus appears on the under-surface of the leaf in the form of white minutely-downy patches. As the disease develops, the patches on the upper surface become brown, and frequently run into each other, until finally the entire leaf shrivels as if scorched, and becomes very brittle.

Where Vines are grown on a small scale, as in this country, and where there is every facility for examining every portion of the plant, a severe attack of downy mildew can only be attributed to negligence or indifference on the part of the cultivator when once the very characteristic indications of its presence are grasped. The small, scattered, yellowish spots on the upper surface of the leaf clearly indicate the presence of the spawn of the fungus in the tissues of the leaf, where it remains concealed for some time, living and increasing in size, feeding on the substances prepared by the plant for its own use. If infected leaves are removed and burnt at this stage, the spread of the disease is checked; and furthermore, the mycelium or spawn is prevented passing from the leaf into the young shoots, where it may possibly remain until the following year, when it will break out again.

The downy patches on the under-surface of the leaves, consist of numerous-branched fruit-bearing stems — conidiophores, each branchlet bearing a minute fruit conidium at its tip. This is the asexual mode of reproduction, its object being to enable the fungus to distribute itself rapidly. These conidia grow very quickly, are produced in immense numbers, and germinate at once. When ripe, the conidia fall away from their support, and if they fall on the damp surface of a Vine-leaf, certain changes take place that need not be entered into here, but within two hours germination has taken place, the young mycelium pierces the epidermis of the leaf, and a new centre of disease, which rapidly gives origin to more conidia, is then established.

From the above account, it will be seen how important it is to arrest the progress of the disease before the conidia are produced—a thing not very difficult to accomplish where in many instances not more than half a dozen plants have to be dealt with. On the other hand, it shows the great difficulty of successfully preventing the spread of disease when once the conidia are formed; for example, spraying or syringing with water is doing an act of kindness to the fungus by carrying the conidia to healthy leaves and supplying them with the required amount of moisture for germination. Where the fungus has gained a foothold, spraying with the following solution has proved effective: i.e., one pound of pure sulphate of copper dissolved in 40 gallons of water. The spraying should be done in the evening, if done in the morning the leaves are apt to scorch. As a preventive, where the presence of the fungus is suspected, two or three applications of the above mixture are recommended, commencing before the Vines bloom.

In conclusion, it may be mentioned that the downy mildew has a second sexually-produced form of fruit, formed on the mycelium within the leaf late in the season, after the formation of the external form; the object of this second kind of fruit is to tide the fungus over the winter season; the so-called oospores remain in the dead tissues of the leaf until spring, when they germinate and produce conidia which find their way on to the young leaves of the Vine, and thus commence a new cycle of development. It will be gleaned from the above how important it is to remove and burn fallen leaves and fruit that are diseased; or as the cultivator is not supposed to know which are diseased, burn all. Perhaps at some future time, employers will consider it part of a gardener's duty to be acquainted with the symptoms and broad outlines of the diseases of plants he is expected to cultivate successfully.

As already stated, the typical form of downy mildew is confined to the foliage; but a second form, known as "brown rot" in the United States, appears to be more prevalent in this country than the typical form. The peculiarity of brown rot consists in the fact that it attacks the fruit of the Vine, and its characters are very marked, so that it can be readily distinguished from black rot and other forms of disease attacking the fruit. When the fruit is about half grown, a brown stain appears at the point of junction of stalk and fruit, the brown colour gradually extends over the whole of the fruit, but the skin remains perfectly smooth and unbroken, and there are no black points as in the black-rot. If the fruit is cut across, it will be seen that the pulp is also brown or chocolate colour; in fact, the inside of the fruit is brown before the colour shows itself outside. Microscopic examination of a diseased Grape shows the characteristic mycelium of Plasmopara viticola. As the disease progresses it shrivels, and finally its surface is covered with a crop of the conidia stage of the fungus.

The berries should be removed from the bunch on the first symptoms of disease, indicated by the appearance of a brown coloration, and all fallen diseased fruit should be destroyed. In all probability infection takes place when the plant is in bloom, and a sharp look-out should be kept for the presence of downy-mildew on the inflorescence and leaves. Spraying with the solution mentioned above, or with Bordeaux Mixture, checks the progress of the disease.—*G. Massee.* [In the case of the "spot," a second fungus, Glæosporium, sometimes makes its appearance on the berrier, as shown in a drawing by Mr. Worthington Smith at fig. 13. What relation,



Fig. 13.—Gl eosporium on grapes.

if any, exists between the two fungi is not known. "Spot" is apparently exceedingly common this year. Ed.]

IRELAND.

MARKREE CASTLE.

The rockery at this place was very gay in June, with the following really good things, which do well with us here in the west of Ireland, viz., Onosma taurica, a good strong plant of which is bearing upwards of thirty-five flowering growths, an effective plant, either on a rockery or in the borders; the plants may be increased by offshoots dibbled into sandy soil under a bell-glass the first week in September. Aster alpinus, when grown in quantity, and planted in groups of twelve or more plants, is also a telling plant. I am in favour of grouping plants rather than indiscriminately planting them singly: for one thing, there is not the liability of losing them by their being overgrown by robuster species; moreover, one or two labels are sufficient to mark the whereabouts of a group, instead of many in the case of scattered plants. Ramondia pyrenaica is another plant that does well on the shady side of the rockery, as it thrives in subdued

light and a moderately damp situation, and a crevice of a rock suits it admirably. Heuchera sanguinea thrives in our strong loam with plenty of grit mixed in it, or burnt earth may be substituted for it. This last-named material we use liberally on all seed-beds—in fact, in all places where porosity is required. In planting, we make it a rule to divide two-year-old plants into medium-sized pieces in September, the plants then becoming established before winter. A bell-glass is sufficient to protect Ramondia during the winter. I have a plant treated thus, bearing fourteen spikes at the present time. Dianthuses are lovely, especially D. neglectus, D. petræus, a profuse bloomer, and of a light graceful habit; whilst D. alpinus forms pretty cushions of beauty, and others, too, of the same genus are pretty, and very fragrant. Orchis foliosa grows in a dampish position, and is a very fine-flowering plant; and Cypripedium Calceolus does well in the same position, and is a noteworthy plant; C. spectabile is not yet in flower, but I notice it is making very strong growths.

Ulex hispanica is a fine subject for rockwork, and Eurybia Gunniana is an excellent companion; Genista procumbens is useful for trailing over the rocks, and we get a bright bit of colour in Philadelphus coronarius foliis aureis; it is about 14 inches high, and is a plant well adapted for planting on a rockery. Rubus australis is very curious, and an uncommon plant. In a peat-bed we have Azalea rosæflora; it is a gem, looking well also as an edging plant. A good companion to the last-named is Rhododendron hirsutum, a compact free-flowering plant with us; Vaccinium pennsylvanicum is pretty when in flower, and the foliage has lovely tints in the autumn. We possess plants of Romneya Coulteri which are in bud, and will be good later on.

Corylus purpurea is a beautiful hazel; and Clematis coccinea should be very largely grown. Echinacea purpurea has flower-buds, and later, a clump of a dozen plants will be very fine. Tropæolum polyphyllum is in flower, and a choice subject it is for trailing over rocks. Iris aurea is a good useful-flowering plant when you get it true to name. Erigeron aurantiacus var. purpurea is a fine-growing plant, and very much like Aster alpinus, only more vigorous, and a most profuse-flowering plant. The commoner one, Erigeron aurantiacus, is not to be despised, it being very effective when grown in a mass. I grow it from seed, and seedlings flower better with me than old plants. Polygonum sphærostachyon is a gem; and we have others too numerous to note at present. *Herbert May, Markree Castle Garden, Sligo.*

SCOTLAND.

NOTES FROM PERTHSHIRE.

Many of the readers of the *Gardeners' Chronicle* will have read from time to time of the remarkably fine Grapes grown by Mr. Leslie, the gardener to Mr. Coates, at Pitcullen House. It often happens that winners of prizes for Grapes crop their Vines lightly, but it is not generally the rule so to do in Scotland, where many of the most successful men, and Mr. Leslie is one of them! take heavy crops every year.

Climbing the hill to the gardens, the visitor obtains some beautiful views over the city of Perth, and across the wooded lands of Strathearn. The position of this elevated garden is favourable to the cultivation of fruits under glass, if less so to those out-of-doors. Strawberries, however, seem to do capitally, Duke of Edinburgh and Garibaldi being the favourite varieties. Passing through a long span-roofed house filled with Tomato plants at the front, back, and along the centre, I noted their promising condition, and a variety was noted which appears to be an acquisition, Early Essex. It came from Boston, U.S.A., and like many other American varieties it is of strong constitution, prolific, and of fine quality. Another house visited was filled with Melons, French Beans, Begonias, Chrysanthemums, all looking as promising as could be wished. In Peach-houses, Royal George, Noblesse, and Late Admirable, were noted varieties, which will furnish the principal supplies. These are varieties that are still commonly planted in Perthshire, succeeding capitally in most gardens. Nectarines are well managed, and the fruit is grandly flavoured, especially Victoria, a great favourite at Pitcullen.

In a small vinery I remarked some compact, well-shaped bunches of Appley Towers Grape, its compactness seeming to suggest its finding favour with packers. Other vineries were filled with vigorous Vines, which are allowed to make plenty of strong foliage, although crowding is guarded against. The black Hamburghs are planted in inside borders, but the roots can pass out to a capital border; and excessive feeding is no part of Mr. Leslie's management of the Vine. Exhibitors at Edinburgh are likely to see these Grapes. A house full of Black Alicante is entered, and fine bunches of large well-coloured berries are noted; Gros Colmar in another vinery could scarcely be surpassed for excellence in every respect; the foliage of great size, and bunches large and of fine form. The Muscat vinery was a picture of high-class culture, and in this vinery the vines of Duke of Buccleuch are as fruitful, and doing excellently; Mrs. Pince gets a good share of attention. *M. Temple.*

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

July 10.—Present: Dr. D. Morris, C.M.G., in the chair; Mr. McLachlan, Mr. Blandford, Dr. Russell, Professor Müller, Mr. Wilson, and Rev. G. Henslow, Hon. Sec.

Calochortus, vars.—Mr. Wilson exhibited specimens remarkable for their fine growth and varieties of colouring. They were C. venustus, purpurascens, C. v. roseus, and a pure white form. References to descriptions and figures of C. venustus, Benth., a native of California, will be found in Baker's "Revision of the Genera and Species of Tulipeæ," *Journ. Lin. Soc.*, xiv., p. 302. Mr. Wilson observed that this species was drawn by Mrs. Duffield about twenty-five years ago, and reproduced in the *Garden*. It is also figured in *Trans. Hort. Soc.*, ii. (1) [1835], t. 15, fig. 3. Mr. Baker places Calochortus as the sixth and last genus of the tribe Tulipeæ, enumerating twenty-one species from Mexico and Western North America.

Sugar-cane Diseased.—Mr. Blandford reported on specimens received from Barbados. They were badly diseased with the fungus, Trichosphæria sacchari, and in some cases bored by the beetle Sphenophorus. This disease is as yet only known to occur in Mauritius, Java, and Barbados. Dr. Morris observed that it first appeared in Barbados, and was called the "rind" disease; it then occurred in the roots in Java, being thought to be distinct from the former; but the two forms ultimately proved to be one and the same. A summary of the nature of the disease is contained in a letter to the Colonial Office, *Kew Bulletin*, June, 1894, pp. 175, 176.

Photos of Malta.—Mr. Henslow exhibited some photographs illustrative of different features of Malta, including cultivated areas, uncultivated hill-tops, &c., and ancient river valleys known as "wieds." The only trees of cultivation in the fields are Carobs, Figs, Opuntia, Ficus indica, of which last there are four varieties—the "blood," the "white," the "seedless," and the "yellow."

Oxalis cernua, Thunb.—He also showed specimens of this ubiquitous and so-called by the Maltese "English weed," introduced by Father Giacintho from the Cape in 1806. It is remarkable for its prolific multiplication by bulbils, as it never sets seed in the northern hemisphere, the "short-styled" form being the only form known. It has elongated slender rhizomes, with rod-like aquiferous appendages, by means of which it can climb up among the loose stones of the walls, or descend to great depths among the rubble. A further account of the distribution of this plant throughout the Mediterranean region, having originated in Malta, will be found in the *Proc. Lin. Soc.*, 1893, p. 31.

Centaurea spathulata Zeraph, 1827 (*C. crassifolia*, Bert., 1829).—Mr. Henslow also brought a living plant in flower of this remarkable species, which is the only truly indigenous plant known to Malta. It has entire spathulate fleshy leaves, and heads of rose-coloured florets. It is found in the valley known as "Wied Babu," in Malta, and also in Gozo, growing in the cracks of the rocks.

Fruit Committee.

July 13.—The following members of the Fruit Committee, viz., Messrs. Balderson (chairman), J. Smith, Norman, Wythes, Bates, Hudson, Pearson, J. Wright, Glen, A. Dean, and A. F. Barron, Secretary, met at the Chiswick Gardens, on the above date.

Attention was first given to the large collection of Tomato plants in pots. These were standing on either side of the broad footway in the large span-house, and were all more or less in fruit, some carrying capital crops. The earlier clusters were quite ripe. There were none of very special merit, as Tomatos now seem to have got to their best, both in productiveness, and excellence, and beauty of the fruit. The following new and old varieties received three marks, viz., Golden Princess, large yellow; Golden Nugget, and Sutton's Dessert, both great fruiters, and singularly fitted for dessert purposes; Comet (Wrench), medium size, red, very free; Excelsior (Corbett), a free handsome medium-sized red; and Conference, still one of the best and most prolific. The following had at present two marks:—Sutton's A 1, Brookes' Freedom, smooth round, and Turner's Prolific, a large red variety that is a good cropper. The Tomatos may be seen again later after the present green fruits have ripened.

The committee then adjourned to the Pea quarter, where, under a heavy downpour of rain, the duty of determining which seemed to be the best out of a very large collection of new and old varieties was proceeded with. The Peas were not in an entirely satisfactory condition. The supports provided were far from being so new and good as is essential to the proper conduct of a trial of this nature, and it is to be hoped the Chiswick Board will next year be able to provide an ample supply of fresh sprays. Then, the great heat which interposed between the previous and recent rains had severely checked bloom and pod-forming. In spite of these defects, however, the result was in most cases better than could well have been anticipated.

It is most obvious, however, that progress in raising Peas is very slow, indeed, so much so, that very few new ones show any advance whatever on the best standard varieties. The following, hitherto unmarked, were selected after great attention:—For three marks: Mr. Eckford's The Don, tall fine pods; Veitch's 365, 4 feet, very good, and which it was suggested, because of its number, should be named All the Year Round; Hughes' Fertility, 4 feet, very prolific; Laxton's J. Howard, a capital Pea of the Ne Plus Ultra type; and Eckford's Critic, a tall fine variety. Some of the new varieties certainly need more selecting before being sent to Chiswick, and it would be well if not a few of the existing varieties were withdrawn from commerce altogether.

WIMBLEDON HORTICULTURAL.

July 11.—The twenty-second annual exhibition of this society took place on the above date, and though not so large as some of its predecessors, was on the whole a fairly good display.

For a group of miscellaneous foliage and flowering plants, to cover 60 square feet, the premier position was won by Mr. J. Law, gr. to R. Dean, Esq., The Priory, with a beautiful arrangement.

In the 40-feet groups, the 1st prize was secured by Mr. T. Chandler, gr. to Rev. Canon Haysgarth, The Vicarage, having a tastefully-arranged collection; 2nd, Mr. W. Stokes, gr. to R. W. Milnes, Esq., Cottenham Park—a good display.

Six miscellaneous foliage or flowering plants.—1st, Mr. H. Alderman, gr. to G. Hatfeild, Esq., Morden Hall; here was a fine specimen of Alocasia macrorhiza variegata.

Mr. Hutton, gr. to G. E. Frere, Esq., was well to the front with four stove and greenhouse plants, his Allamanda being a finely-flowered example.

Mr. Methven was 1st for four exotic Ferns, his best specimens were Davallia Mooreana, and Asplenium nidus; 2nd, Mr. G. Hutton, whohad a good lot of plants. In Lycopods the honours were divided between Mr. C. Bentley, gr. to Captain Bosworth, and Mr. G. Hutton.

Four fine plants of Caladiums gained for Mr. J. Law a 1st prize; and six specimen Coleus, some ex-

tremely well-grown and coloured plants came from Mr. C. Bentley, also gaining 1st prize.

Fuchsias were well shown by Mr. H. Mills, gr. to E. D. Carver, Esq., and Mr. W. Thornton, gr. to T. E. Crocker, Esq.

Six Gloxinias very freely-flowered plants, gained Mr. C. Bentley 1st prize; and Mr. G. Hutton, 2nd.

Zonal Pelargoniums gave some bright patches of colour, and for twelve specimens Mr. J. Law was 1st; and Mr. T. Chandler for six specimens.

The best twelve and six table plants were shown by Mr. H. Alderman.

Mr. James Bateman, Archway Road, Highgate, had the best twenty-four cut blooms of the Rose, with a well-selected lot of varieties.

Mr. A. Newell, gr. to Sir E. Saunders, took 1st prize for collection of hardy herbaceous flowers in fresh condition and great variety; 2nd, Mr. J. Law, with a good assortment. Bouquets, &c, were well shown by Messrs. Nowell, Chandler, and Lowe.

The 1st prize for a collection of fruits was gained by Mr. H. Alderman. His kinds being Black Hamburgh Grapes, Unser Fritz Strawberries, and Grosse Mignonne Peaches, being especially good. A very creditable exhibit came from Mr. C. Bentley.

Numerous small dishes of Grapes, Peaches, and Nectarines were exhibited besides vegetables, some of which were shown in the nurserymen's competition, the others being the society's prizes.

FINCHLEY HORTICULTURAL.

July 12.—This flourishing society held its thirty-fourth annual exhibition on the above date, in the grounds of W. P. Jones, Esq, Manor House, Finchley, and the committee have every reason to be satisfied with the result of their labours. A large number of persons visited the show in the evening.

Among the most noticeable of the exhibits may be mentioned the Grapes shown by Mr. H. A. Page, gr. to F. Crisp, Esq, Southgate; and some very beautiful Roses by Rivers Langton, Esq., Hendon; while Mr. D. Hayler, gr. to W. Hannaford, Esq., Hendon, secured five 1st prizes for bouquet, table decorations, Roses, &c. Some very fine specimen plants, both flowering and foliage, were shown by Mr. Easton, gr. to Mr. B. Noakes, Highgate.

The cottagers and allotment-holders had a tent to themselves, and staged such a good assortment of fruit, flowers, and vegetables, that the opinion was freely expressed, that in some classes they beat the professional gardeners.

Messrs. Cutbush & Sons, Highgate, and Messrs. Cuthbert & Son, Southgate, each sent a large group of plants, cut flowers, &c, not for competition.

NEWCASTLE-ON-TYNE.

July 18, 19, 20.—As last season, this year's exhibition was held in the Recreation Ground, North Road, a splendid roomy, open area. The Council of the Newcastle-on-Tyne Horticultural Society this season decided to add other attractions, after the manner so successfully adopted at Shrewsbury. They wisely commenced in a moderate way for the first time, so as to, in a measure, feel their way. Catering, as they do, for the large population of this flourishing centre, it is to be hoped that the result of their endeavours will be all that they could wish. The one regretable feature on the opening day was the stormy and variable weather that prevailed. The show was in every respect an excellent one, there being in nearly every case a keen competition.

Plants.

Stove and greenhouse flowering were, as usual, at this show staged in splendid condition. Mr. Letts, gr. to the Marquis of Zetland, Aske, Yorks, was a grand 1st for eight varieties, showing in his best style. He had two immense plants of Anthurium Scherzerianum, both covered with spathes—that called Shuttleworth's var. being particularly bright in colour; Dipladenia amabilis was one mass of flower and highly coloured, the plant extra large; Phenocoma prolifera Barnesi was also fine, being covered with bloom, more than usually so; Erica Denisoniana, a light variety of the hard-wooded section, was similarly good and fresh; Azalea Souvenir de Prince Albert had been kept very fresh, being one mass of flower; another splendid plant was Darwinia macrostegia, bearing its flowers in the greatest profusion, and of high colour; Clerodendron Balfourianum also made a good display. Mr. Morris, Park Road, Felling, who followed in this class, had a good example of Ixora salicifolia amongst others.

Mr. Nicholas, gr. to the Marquis of Zetland, at Upleatham, easily won the 1st prize for six plants in bloom; these, as in the other case, were extra fine; Dipladenia boliviensis was very striking, being both large and freely bloomed; D. Thomas Speed, after D. amabilis, was a good companion to it; Anthurium Scherzerianum was an extra vigorous example; Erica depressa, a large specimen, clothed with its yellow flowers, and still quite fresh; Ixora Pilgrimii bore a profusion of large trusses; Erica ventricosa Bothwelliana was a comparatively weak plant, being thin, and none too fresh; Mr. Wylam, Cramlington, who was 2nd, had a capital plant of Rondeletia speciosa major.

Mr. John McIntyre, gr. to Mrs. Gurney Pease, Darlington, was 1st for a group, covering 200 square feet, quite easily, with a very light and informal arrangement, in which Bambusa gracilis, Cocos plumosus, Crotons and Dracænas of good colour, were conspicuous features as foliage plants, with Anthuriums, Lilies, Amaryllis, &c., as flowering examples. Mr. Allen, Blandford Street, Newcastle, who was 2nd, had well-grown plants arranged in a too flat and formal manner.

Mr. Letts won again and quite easily with eight fine foliage plants, the best amongst which was Cordyline indivisa, in fine health, a finer example than which is rarely seen; Crotons Queen Victoria and Chelsoni were both large and finely coloured; Cycas circinalis, a dense mass of fronds; Kentia Belmoriana, of large size; Encephalartos villosus, bearing a fine cone and healthy foliage; and a Dasylirion acrotrichum, a perfect specimen. Mr. McIntyre, who was 2nd, was not in nearly so good form in this class; but he won the 1st prize against Mr. Nicholas for six varieties with a well-managed lot, comprising two good Crotons, Croton Andreanus and C. angustifolius, with a large Cycad. Mr. Nicholas, who followed, had Dasylirion acrotrichum as his best plant.

The best half-dozen Ferns were those from Mr. Nicholas, who staged Gleichenia Mendeli and G. rupestris glaucescens, in fine style; Sadleria cyathoides, a comparatively rare but fine Tree Fern, bore eleven fronds, being fully 6 feet in height; Davallia fijiensis plumosus was an immense mass of grandly-developed fronds; D. tenuifolia Veitchiana was also good, and so was Leucostegia immersa, which is worthy of extended culture. Mr. McIntyre, who was beaten in this class, had Davallia fijiensis plumosa and D. Mooreana, both being large and fine specimens. The last-named was 1st, however, in another class for smaller plants, with good examples.

Mr. Letts was 1st for three Crotons, with well-coloured, medium-sized specimens of C. Queen Victoria, C. Thompsoni (extra good), and C. Aigburthiensis.

Mr. McIntyre was 1st for three Dracænas, with dwarf clean plants of good colour; 2nd, Mr. Stewart, gr. to Sir Wilfrid Lawson, Brayton—very close.

The best tuberous Begonias were from Mr. W. Pitt, Woolsington Hall (C. L. Bell, Esq.), well grown, but old kinds. Mr. Nicholas showed four nice dwarf plants of Ericas, and easily won; these were E. Massoni major, now rarely seen, being well flowered, and very healthy; E. retorta major, E. Ne Plus Ultra, and E. Austiniana, being each similarly good, and all quite fresh and clean.

Table plants of useful size were shown in quantities, Mr. McIntyre being the most successful.

Cut Flowers.

Roses were, as usual at this northern show, remarkably good and fresh.

For forty-eight varieties, Messrs. Harkness & Sons, Bedale, succeeded in holding their own against Mr. G. Prince of Oxford, the former having the brighter and cleaner flowers, but scarcely so bulky; the finest were Ulrich Brunner, Auguste Rigotard, Gustave Piganeau, Black Prince, Victor Hugo, and Madame Gabrielle Luizet. Mr. Prince's best were Merveille de Lyon, Comtesse de Nadaillac, General Jacqueminot, and Marie Baumann. The last-named exhibitor succeeded in turning the tables on his opponents for thirty-six varieties in a close competition. Mr. Prince was also 1st for twelve blooms, any sort, one variety showing a fine stand of Prince Arthur, one of the very best dark Roses; the next best being a box of Madame John Laing, very fresh, but a trifle loose in petal, from Messrs. D. & W. Croll, Dundee.

The best twelve of any yellow variety were Marie Van Houtte, from the last-named exhibitors; but Mr. Prince was, however, invincible for twelve Teas, his best being Jean Ducher, Etoile de Lyon, Comtesse de Nadaillac, and Catherine Mermet, all of good quality; Messrs. Croll following with smaller flowers.

In the amateurs' division the Roses were also particularly fine, the most successful here being Mr. A. Robson, The Cemetery, Hexham, for twenty-four varieties very fresh and bright; and Mr. A. Whitton, Bedale, for twelve varieties, also good; the latter was also 1st for twelve Teas or Noisettes.

Hardy herbaceous cut-flowers were specially fine, notably so the two best collections, in which Messrs. Harkness again took the lead, having grand bunches, the best being Scabiosa caucasica, Eryngium amethystinum, Œnothera Youngii, and good kinds of Delphinium. Mr. Thos. Battensby, Blaydon, who was 2nd, had a fine lot also.

Flowers from the stove and greenhouse were best shown by Mr. Nicholas, who had 1st for 12 and for six bunches, in each case staging choice kinds. The best Pansies came from across the Border, Mr. A. Irvine, Kyles of Bute Nurseries, being 1st for both show and fancy kinds. For Carnations, Picotees, and Pinks, the local growers were the most successful. Mr. Flowdy, Sutherland Street, Gateshead, being 1st for Pinks and Carnations; Mr. W. Archer, Sunderland, 1st, for Picotees.

Table Decorations, &c.

At Newcastle these are always a feature of interest, and the present exhibition quite sustained its reputation, but the competitors were mostly local, although the prizes were all that one could wish.

For a single stand for the drawing-room, in the open class, the 1st prize, in a close competition, went to Mr. F. Edmondson, Green Market, Newcastle, with a choice arrangement, Orchids being a feature.

Miss Edmondson, Fern Avenue, Newcastle, was a good 1st for a basket tastefully arranged. The same lady was 1st for a hand bouquet, prettily made in an informal manner; and 2nd for a bride's bouquet, scarcely so good as the 1st, from Mr. F. Edmondson, both being of the fashionable shape. The best of the sprays came from Mr. John Battensby, who also had the best of the button-holes.

The amateurs' section was almost equal to the foregoing; here Mr. J. Battensby was 1st for an epergne, arranged in excellent fashion, and for a basket of flowers; and Mr. Thos. Battensby, Swalwell, 1st for both bridal and hand bouquets.

Fruits.

This section was decidedly superior to the past two years, taken collectively. For collections of fruit, Mr. McIndoe, gr. to Sir J. W. Pease, Hutton Hall, was 1st for both eight and four varieties; the former was a strong exhibit in every way, and well worthy of his reputation. Black Hamburgh and Muscat of Alexandria Grapes, both being large in bunch, and well-coloured, Magdalen Peaches, Clapp's Favourite Pear (good), Pitmaston Orange Nectarines (extra fine), Black Tartarian Cherries and Monarch Melon being the best dishes.

Mr. Goodacre, gr. to the Earl of Harrington, Elvaston Castle, was a capital 2nd for eight sorts—Muscat Hamburgh Grapes and Muscat of Alexandria, both being good; Dymond Peaches, very fine in colour; Lord Napier Nectarines, and Brown Turkey Figs, also good. Mr. Hunter, gr. to the Earl of Durham, Lambton Castle, was 3rd in this class, and 2nd for four kinds, his dishes of Grapes being the best in both classes. Mr. Hunter also took 1st in a close competition for four bunches of Grapes in two or more varieties, showing Black Hamburgh and Gros Maroc, both finely coloured, the former large in bunch, and the latter in berry. Mr. J. Wood, gr. to E. Hopper, Esq., Morpeth, came a near 2nd, by staging Mrs. Pince, as black as Sloes, and Muscat Hamburgh, also very good.

Mr. McIndoe was 1st in the Muscat class, with well-ripened fruit; Mr. W. Stewart following. Mr. McIndoe won again for any other white, with Golden Champion; Mr. Atkinson, Matfen Hall Gardens, Newcastle, being 2nd, with Buckland Sweetwater.

Black Hamburghs were best from Mr. Wood, who had large, well-coloured bunches; Mr. McIndoe following closely. For any other black var., Mr. J. Wood won again, this time with Muscat Hamburgh, well finished; Mr. Goodacre taking 2nd place with Madresfield Court, perfectly black.

The best Melons were Frogmore, green-flesh, from Mr. D. Williams, gr. at Duncombe Hall Gardens, Helmsley; and Duke of York, scarlet-flesh, from Mr. Hunter.

Mr. Goodacre had the best Peaches in Dymond, and the best Nectarines in Lord Napier; Mr. McIndoe following closely in the former instance with Noblesse, he also taking 1st for Cherries with Black Tartarian.

Mr. Goodacre took first in a strong class with

Perfection Tomatos, a variety still bad to beat in competition. Two very good Queen Pines came respectively from Mr. J. Hunter and Mr. Nicholas, the prizes being awarded in the order named.

Miscellaneous Exhibits.—These were chiefly from the trade, and were particularly good. Messrs. W. Fell & Sons, Hexham, staged a splendidly-grown collection of Conifers, chiefly species of Retinosporas in varied forms with others, and chiefly golden-tinted examples of Cupressus and Junipers. From Mr. J. Douglas came the new seedling Carnations which he is sending out, six of these taking special awards as new kinds. Very fine Malmaisons and other Carnations came from Messrs. Laing & Mather, Kelso, notably the former, which were grand blooms. Messrs. W. & J. Birkenhead, Fern Nursery, Sale, had a large exhibit of choice kinds of Ferns in large variety, including several filmies. Messrs. J. Laing & Sons, Forest Hill, staged some immense flowers of tuberous Begonias, the doubles preponderating. Messrs. B. S. Williams & Sons, Upper Holloway, had a fine group of choice Orchids, as well as good examples of other foliage and flowering plants. Messrs. Little & Ballantine, Carlisle, had a large group of Palms effectively arranged with well-coloured Crotons and Dracænas, also Musa Cavendishii, and some pot Vines, to show their fertility. Messrs. J. Robson & Sons, Hexham, had a splendid display of Hydrangea paniculata grandiflora, intermixed with well-grown Conifers and dwarf variegated shrubs. Mr. Andrew Irving, Kyles of Bute Nurseries, showed a large variety of show and fancy Pansies, and a numerous selection of bedding Violas.

Messrs. Kent & Brydon, Darlington, showed hardy cut flowers and decorative plants, including in the former an improved form of Chrysanthemum maximum. Messrs. Edwards & Son, Sherwood, Notts, had a large assortment of Ferns in their pottery ware, which made an attractive display.



Law Notes.

MANCHESTER LIBEL CASE.

Great interest has been felt, in and about Manchester, about a case which those at a distance can only regret should ever have been suffered to come into court. The case was one in which Mr. Bruce Findlay claimed damages against Mr. Benjamin Armitage to the amount of £1000 on account of an alleged libel, and against the *Manchester City News* for publication of the aforesaid libel. Mr. Bruce Findlay is well known in the horticultural world, and some of us know something of the difficulties of his position in having to grow plants at all near Manchester, and in having to deal at the same time with a variety of things irrelevant to botany or horticulture, and, as we think, unworthy of a society which calls itself Royal Botanical. The management of a garden is one thing, and, we should have thought, quite sufficient to tax the energies of the most competent gardener, but when large flower-shows and "variety entertainments" are superadded, it would not be surprising if some departments were better attended to than others. Of the defendant, Mr. Benjamin Armitage, the horticultural public out of Manchester knows nothing, but we do not think that the style of his epistolary criticisms, as published in the full report of the trial in the *City News*, is such as to inspire confidence. Mr. Armitage has been a member of the council for seventeen years, but was not re-elected at the last election. He is alleged to have suggested want of cultural knowledge on the part of Mr. Findlay, and want of attention in financial matters. Mr. Armitage denied, by the mouth of his counsel, that his remarks were meant to apply to Mr. Findlay. Expert evidence was afforded to show that the Orchids and other plants were in good condition. Other expert evidence was to the effect that the condition of the Orchids was not satisfactory.

The Judge, in summing up, pointed out that fair comment upon the condition of the gardens and of the things there exposed to the view of the visitors, and upon the cultivation, and also the mode of management, and the skill of the persons engaged in dealing with the gardens were all matters of public interest in Manchester. Therefore fair comment upon these things in a public newspaper was not in law libellous. Fair, honest, independent, bold, even exaggerated criticism, would not be libellous. It must be a misstatement of facts before it became libellous. If, instead of candidly and honestly criticising, a person used the occasion of commenting upon what purported to be a public matter as an opportunity for maligning an individual, if he were actuated by indirect motive or malicious motive against an individual, or used the opportunity for venting his spite against an individual, that was not fair criticism or fair comment, and it was libellous. Mr. Findlay was in such a position that it would have been fair comment providing the criticism was honest. No one had a right to make a mis-statement. It was suggested for the plaintiff, that there were circumstances between the parties which had created soreness between them, and it was suggested that this furnished one of the motives which operated upon the mind of the defendant when he published these letters. That was absolutely denied by Mr. Armitage. Another class of evidence had been given in the case, as to what was the actual condition of the Gardens, particularly the Orchids. The plaintiff said the condition of the Gardens was such that no one with a knowledge like the defendant, who was said to be more or less an expert in these matters, honestly looking at the Gardens, could honestly state what he had stated in these letters. That was why the plaintiff had called gardeners to prove that the Old Trafford Botanical Gardens compared favourably with other gardens. On the other hand, evidence rebutting that was called, not as justifying what had been said of the plaintiff, but as showing that the opinion expressed in this letter, whether right or wrong, was such an opinion as might honestly be formed. It was enough for the defendant to know that the opinion was justified in this sense—that men of proved competence could fairly form the same judgment the plaintiff formed. There had not been much evidence as to the condition of the Gardens outside the special matter of the Orchids; and no doubt, although this letter alluded particularly to the Orchids, it did not limit itself to the Orchids.

The jury would have to consider various points. First, did they think the words were in their ordinary sense defamatory, conveying an injurious imputation? second, did they think they applied to the plaintiff? and third, if so, did they think the defendant exceeded the bounds of fair criticism? In other words, did they think it was an honest statement, fairly made, without indirect motive whatever? If they did, their verdict would be for the defendant. On the other hand, if they thought the words were not written honestly, their verdict would be for the plaintiff, and they must say what damages must be awarded him.

After a short absence from Court, the jury returned a verdict for the plaintiff, damages £25, and judgment was entered accordingly.

In the second action, Findlay *v.* the *Manchester City News* Company Limited, counsel, during the deliberations of the jury, agreed to abide by the verdict in first case, and upon the result being announced, His Lordship gave judgment for the plaintiff in the action against the *City News*, damages 40*s*.

Book Notice.

Annals of the Royal Botanic Garden, Calcutta. Vol. IV. *The Anonaceæ of British India.* By George King, M.B., F.R.S., &c. 1893.

We have from time to time noticed the publication of Dr. King's *Materials for a Flora of the Malayan Peninsula*, and the volumes of the *Annals* as they have appeared. The present volume, which is as bulky as its predecessors, consists of a monograph of the very difficult natural order Anonaceæ, with 220 lithographed plates, illustrating all the species described, many of the plates containing figures of two species. This is preceded by a preface, embodying a brief history of the foundation of the Calcutta Botanic Garden in 1787, and a biographical sketch of Colonel Kyd, its founder, of whom a portrait is given, and to whose memory this volume is very appropriately dedicated. Before proceeding to discuss the monograph, we may give some particulars of the garden and of its founder. Robert Kyd belonged to an old Forfarshire family, several members of which had preceded him in the service of the Honourable East India Company. He was born in 1746, and in 1764 received his commission as ensign in the Bengal Engineers. He attained the rank of lieutenant-colonel in 1782, and died at Calcutta in 1793. Himself a keen gardener, he brought together, in his own garden at Shalimar, a considerable collection of plants of economic and horticultural interest. Later, he conceived the idea of establishing a botanic garden, or garden of acclimatisation, near Calcutta, primarily with a view to introducing the cultivation of spices, Tea, Coffee, Tobacco, Cotton, and other economic plants, in the territories subject to the company. The commercial aspect he gave to his scheme ensured its success, and it was taken up with alacrity. Without waiting for the sanction of the court of directors in London, the Calcutta government purchased land for the proposed garden, "in anticipation of sanction." The ground acquired for the purpose had an area of more than 300 acres, and was therefore larger than Kew Gardens; but, some years later, it was reduced by about 40 acres, thus bring it to very nearly the same size as Kew. It is a narrow strip extending for about 1½ mile along the right bank of the Hooghly, and expanding into a large square at the lower end. Colonel Kyd's private garden adjoined the present botanic garden. Dr. King prints the principal correspondence connected with the establishment of the garden, and it is highly interesting, but it would occupy too much space to be reproduced here.

To return to the monograph itself. Everybody knows, whether botanist or gardener, how much greater the difficulties of naming are when we have to do with trees and shrubs than with herbaceous plants; and the difficulties are, of course, relatively very much greater with herbarium specimens than living plants. For the purposes of his work, Dr. King was practically limited to herbarium specimens, and all the members of the Anonaceæ are woody; chiefly trees and climbing shrubs, with a great sameness of foliage pervading the whole family. Taking these facts into consideration, some idea may be formed of the magnitude and monotony of the task Dr. King has happily accomplished, and also of the value to science of a fully-illustrated monograph, such as the one in question. The number of species described is 270, a large number by Dr. King for the first time; and they are referred to twenty-seven genera. The latter, with unimportant exceptions, are defined and arranged as in Bentham and Hooker's *Genera Plantarum*, published in 1862. Griffithia is the only new genus described, and that was long ago proposed in manuscript by Maingay. As in previous volumes, the whole of the matter is in English; and the drawings and lithographs, with very few exceptions, were done by natives. For botanical purposes, the drawing generally is sufficient and accurate, though there is often a neglect of perspective that is trying to the eye; but the lithography is excellent. With regard to nomenclature, it is satisfactory to see that the author has not adopted, nor even recognised, the existence of Kunze's unnecessary alterations. From a horticultural standpoint, the Anonaceæ offer little, as they are mostly of too large dimensions for cultivation in any but very large glass-houses; and they do not flower freely under artificial conditions. Yet there are many having very beautiful flowers, especially in the genera Unona, Goniothalamus, and Polyalthia.

MARKETS.

COVENT GARDEN, *July* 19.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Calceolarias, per doz.	3 0	6 0
Crassulas, per dozen	9 0	24 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Ericas, various, p. dz.	9 0	24 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	8 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	4 0	8 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Geraniums, p. dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Lobelias, per dozen	3 0	4 0
— small, per doz.	1 0	2 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	4 0	8 0
Musk, per dozen	2 0	4 0
Nasturtiums, p. doz.	2 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	8 0	12 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0
Spiræas, per dozen	6 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
— doz. bun.	2 0	4 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	2 0	4 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	3 0	6 0
Iris, dozen blooms	0 6	1 0
Lilium Harrisii, doz.	2 0	4 0
— candidum, 12 blooms	0 3	0 6
— candidum, 12 bunches	12 0	18 0
Maidenhair Fern, per 12 bunches	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette, 12 bun.	3 0	6 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pæonies, doz. bun.	6 0	9 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	3 0	6 0
— 12 sprays	0 4	0 8
Pinks, doz. bun.	1 6	4 0
Pyrethrums, 12 bun.	2 0	6 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	0 6	1 0
— Moss, French, doz. bun.	4 0	8 0
— outdoor, doz. bun.	3 0	9 0
Spiræas, 12 bunches	4 0	6 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 4	0 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cherries, half-sieve	2 6	3 0
Currants, black, half sieve	2 6	3 0
,, red	1 9	2 0
Figs, per dozen	1 0	2 0
Grapes, 1st quality, black English, per lb.	1 6	2 0
,, Guernsey, per lb	0 9	1 0
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	2 0	3 0
,, Muscat, 2nd quality, per lb.	0 9	1 0
Melons, each	1 6	2 6
Peaches, large, p. doz.	9 0	12 0
,, small, per doz.	2 0	4 0
Pine-apples, St. Michael, each	2 6	5 0
Strawberries, outdoor, per doz. lbs.	3 0	12 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, Broad, p. sieve	2 0	2 6
,, French, lb.	0 6	1 0
Cauliflowers, p. doz.	1 0	
Cucumbers, per doz.	2 0	3 0
Mushrooms, per lb.	0 8	0 9
Peas, per bushel	2 0	3 0
Tomatos, per lb.	0 4	0 6

POTATOS.

Potato market not quite so firm. Prices vary from 4*s.* to 10*s.* per cwt. Old Potatos finished.

SEEDS.

LONDON: *July* 18.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report an absence of buyers on to-day's market, with very few transactions passing. The low prices ruling for French Trifolium fail to attract buyers. Clover seed meets with no attention. Samples of new English Rapeseed are now to hand. There is no change in Mustard. Canary seed is firm, stocks in England are at a low ebb, whilst the Turkish crop prospects are spoken very badly of. Hemp-seed is steady.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *July* 17.—Quotations:—Cabbages, 1*s.* 6*d.* to 2*s.* 6*d.* per tally; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Parsley, 2*s.* per dozen bunches; Onions, Egyptian, 4*s.* 6*d.* to 5*s.* 6*d.* per cwt.

STRATFORD: *July* 18.—The supply to this market during the past week has been excellent, and, with a large attendance of buyers a brisk trade was done at the undermentioned quotations:—Cabbages, 1*s.* to 3*s.* 6*d.* per tally; Black Currants, 3*s.* 3*d.* to 4*s.* per half-sieve; red Currants, 3*s.* 6*d.* to 4*s.* do.; Cherries, 3*s.* to 6*s.* do.; do., Dutch, 1*s.* to 2*s.* per basket; Pears, 1*s.* to 1*s.* 6*d.* per molly; Cucumbers, 1*s.* to 2*s.* per dozen; Turnips, 2*s.* to 3*s.* per dozen bunches; Carrots, household, 1*s.* 9*d.* to 2*s.* 3*d.* do.; Mangels, 18*s.* to 21*s.* per ton; Onions, Egyptian, 5*s.* to 5*s.* 6*d.* per bag.

FARRINGDON: *July* 19.—Quotations: Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Onions, 2*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, 1*s.* 6*d.* to 2*s.* do.; Turnips, 2*s.* to 3*s.* do.; Peas, 1*s.* 6*d.* to 2*s.* per bushel; Peas, sacks, 2*s.* 6*d.* to 3*s.* 6*d.*

POTATOS.

BOROUGH AND SPITALFIELDS: *July* 17.—Quotations ranged from 6*s.* to 12*s.* per cwt. for new. There were no fixed quotations for old Potatos.

STRATFORD: *July* 18.—Quotations:—Kidneys, £6 to £7; White Hebrons, £6 to £7; Cherbourg Flukes, £6 to £7; St. Malo Hebrons, £5 to £5 10*s.*; Sutton's Early Regents, £5 to £5 10*s.*; Snowdrops, £6 10*s.* to £8; Cherbourg Rounds, £4 10*s.* to £5 10*s.* per ton.

FARRINGDON: *July* 19.—Quotations:—Bedford Hebrons, £7 to £8; white do., £7 to £8; Bedford Puritans, £5 to £7; Early Puritans, £5 to £5; Daniell's, £5; Hebrons, £5 to £5 10*s.* per ton.

LONDON AVERAGES: *July* 18.—Jersey, 6*s.* to 7*s.* 6*d.*; Cherbourg, 5*s.* to 7*s.* 6*d.*; Kidneys, 6*s.* to 8*s.*; Maltese, 6*s.* to 7*s.*; Lisbons, 5*s.* to 6*s.*; Regents, 5*s.* to 6*s.* per cwt.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 120*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 135*s.*; inferior, 60*s.* to 100*s.*; Mixture, 90*s.* to 127*s.*; and Straw, 43*s.* to 60*s.* per load.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Accumulated: Above (+) or below (−) the Mean for the week ending July 14.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1894.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1894.	Rainfall: More (+) or less (−) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1894.	Rainfall: Total Fall since Jan. 1, 1894.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0aver.	91	0	+ 238	− 51	11 +	126	30·6	8	34
1	1 +	103	0	+ 25	+ 8	4 +	114	20·1	16	35
2	0aver.	114	0	+ 93	− 51	1 +	111	13 4	33	34
3	2 —	117	0	+ 122	− 100	8 +	103	13·1	33	38
4	2 —	115	0	+ 135	− 79	1 —	106	12·2	37	35
5	2 —	119	0	+ 137	− 119	13 +	101	14·3	41	39
6	1 —	98	0	+ 67	− 69	4 —	124	28 8	29	33
7	1 —	109	0	+ 181	− 122	4 —	118	17·8	36	35
8	2 —	106	0	+ 146	− 81	3 +	117	19 3	35	40
9	2 —	95	0	+ 54	− 33	2 +	132	22 4	16	31
10	2 —	104	0	+ 131	− 67	6 +	125	23 0	19	34
*	2 —	118	0	+ 235	− 18	13 +	138	17·1	37	45

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 14, is furnished from the Meteorological Office:—

"The *weather* during this period was very unsettled and rainy over the entire Kingdom. Thunder and lightning occurred in many places during the middle part of the week, and again in some localities towards its close.

"The *temperature* slightly exceeded the mean in 'Scotland, E.,' and just equalled it in 'Scotland, N. and England, N.E.;' in all other parts of the Kingdom it was below, the deficit being 1° in 'Scotland, W. and England, N.W.,' and 2° elsewhere. The highest of the maxima were recorded on rather irregular dates, and ranged from 75° in 'England, E.,' and 73° in 'England, N.E. and the Midland Counties,' to 67° in 'Scotland, N. and the Channel Islands.' The lowest of the minima were registered on the 8th, when they ranged from 39° in 'Scotland, E.,' to 46° in 'England, S.,' and 52° in the 'Channel Islands.'

"The *rainfall* was less than the mean in the 'Midland Counties,' 'Scotland, W.,' and 'England, N.W.,' but exceeded it in all other districts. In 'Scotland, N.,' 'England, E. and S.,' and in 'Ireland, S.,' the excess was very large. The falls which were experienced over 'England, S. and S.E.' during the latter part of Tuesday, and in 'Scotland, N.E.' early on Thursday, ranged from 1·6 ins. to 1·0 in., and to nearly an inch in several other regions.

"The *bright sunshine* was less than the normal in almost all districts, the deficit being most marked in 'Ireland and Scotland.' The percentage of the possible duration ranged from 8 in 'Scotland, N.,' 16 in 'Scotland, E.,' and 17 in 'Ireland, N.,' to 37 in the 'Midland Counties and the Channel Islands,' and to 41 in 'England, S.'"

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

BAUHINIA GALPINI, &c.: *L. v. d. B. Tirlemont.* 1, B. Galpini belongs to the section Phanera; 2, Acacia albicans, Kunth. = Pithecolobium albicans, Bentham. A. Bartheriana we do not know. Do you mean A. Berteriana? If so, see Pithecolobium fragrans; see also *Trans. Linn. Soc.*, vol. xxx., p. 592. 3, Rubus Greggi. We do not find the name.

BOOKS: *J. T. L. Choice Stove and Greenhouse Plants*, by B. S. Williams, Paradise and Victoria Nurseries, Holloway, London, N.

BORDEAUX MIXTURE: *Head Gardener.* It may be used as you purpose, but it must be washed off all the bunches before consumption.

CACTUS AT THE ROYAL HORTICULTURAL SOCIETY'S MEETING, JULY 10.—Mr. J. W. Singer desires us to state that his collection numbered 166 plants, and was therefore strictly speaking *not* a "small collection," as every one was distinctly different.

DO LEAVES ABSORB WATER: *Student.* This is still a debated question. It is difficult for structural reasons to see how it is possible for some leaves, such as Cabbage leaf or a Holly leaf, to absorb water. On the other hand, it is certain that other leaves can and do absorb water, and are benefited thereby. The truth seems to be, that healthy leaves provided with sufficient water in their tissues do not absorb any more, but if they are flagging or shrivelled for want of water, then they will, as every gardener knows, absorb it freely if applied.

EMPLOYMENT IN THE LONDON PARKS: *F. T.* To the superintendents.

FRUIT REPORT: *J. Adam, Son & Co.* It will appear in our issue for August 4.

GRAPES: *Head Gardener.* Some of the berries are shanked. Look to the roots. Do not denude more of the foliage than is necessary, and lighten the crop if it be a heavy one.

LÆLIA TENEBROSA: *F. L. G., Hague.* This is now the recognised name of the plant formerly known as L. grandis tenebrosa.

MALAGA GRAPE, &C.: *B. W. W.* A variety is quoted in Hogg's *Fruit Manual* under this name, but its proper name is stated to be Gromier du Cantal. It has half a dozen synonyms. The bunches average 1 foot long, and they are broad and shouldered; berries round and large; skin thin, and amber coloured; flesh tender, juicy, and sweet, with a brisk vinous flavour. It does not keep long after being ripe. In so far as colour goes, this description fits in with yours of the Grape from Belgium. Can you send berries, leaves, and shoots? The variety called Syrian in this country has several synonyms, viz.:—Palestine, Jew's,

Raisin de Jericho, Terre de la Promesse. The variety is sometimes exhibited, but it does not find favour from the judges, although it is of good flavour when well ripened.

Mushroom Culture for Market: *August Reiser.* We decline the responsibility of advising you in this matter, especially as you have no experience of Mushroom culture. We know that the esculent is consumed in great quantities, and that the retail price is excessively high, considering the cheapness of production; but how much of that price reaches the pocket of the producer we have no cognizance.

Names of Fruit: *R. D. L.* Trollope's Victoria, an old, early, free-bearing variety.

Names of Plants: *H. J.* Cereus grandiflorus (night-blooming Cereus). The Rose Aimée Vibert.—*J. D. S.* Lælia crispa.—*Helen.* We are quite unable to name the specimen sent in the absence of flowers; send again when in bloom.—*Sir C. W. S.* Sidalcea oregana.—*W. R. & Leys.* Calceolaria glutinosa.—*F. S.* 1, Veronica incana; 2, Solidago sp.; 3, Prunella grandiflora; 4, Erigeron philadelphicus; 5, Hieracium aurantiacum; 6, Thalictrum glaucum.—*L. M.* 1, Desfontainea spinosa; 2, Cosmos bipinnatifidus; 3, impossible to name such a scrap.—*J. N.* Diplopappus chrysophyllus.—*G. McA.* 1, a form of Platanus orientalis; 2, Aristolochia sipho; 3, Lilium Martagon; 4, Alchemilla alpina; 5, Aster; 6, Carex sp.—*W. C. R.* 1, specimen insufficient; 2, Campanula Scheuchzeri; 3, Geranium pratense, fl.-pleno; 4, Sedum spurium; 5, Campanula pusilla alba; 6, Monarda didyma.—*C. J. G.* 1, Geranium dissectum; 2, Potentilla argentea; 3, Trifolium arvense; 4, Filago germanica; 5, Angelica sylvestris; 6, Epilobium hirsutum; 7, Lythrum Salicaria; 8, Lathyrus pratensis.—*Constant Reader.* A Juniper or Cypress, impossible to name without cones and perfect mature leaves.—*W. J. D.* 1, Alströmeria aurantiaca; 2, Helenium autumnale; 3, Agrostemma coronaria; 4, Hieracium aurantiacum.—*W. M.* Spiræa Lindleyana.—*J. T. L.* A plant more generally known in gardens as Grammatophyllum Ellisii. Yours is an exceptionally good variety of it.

Peach Foliage Falling Off: *A. B.* Without seeing the trees, and knowing exactly the treatment accorded, we cannot say what has caused the total loss of the foliage. The symptoms seem to point to the application of strong manure to the roots.

Roots of Cucumbers: *J. B.* On examination we can discover no eelworms; and the failure of the plants may be due, as you surmise, to their roots having got into the manure from the stable in which are the voidings of the animals under veterinary treatment.

Spotting of the Blooms of Oncidium. "*Spot.*" Too much moisture in the air, and too little ventilation, aggravated probably by the want of fire-heat.

Strawberries: *G. M.* We are really unable to name the six sorts of Strawberries you send us—this is partly owing to the bad way in which they were packed with dirty cotton-wool. Moreover, the fruits were more or less smashed and mixed up.

Tomatos: *Head Gardener.* The flowers have set in most cases, and the fruits will go away all right if you do not use the watering-pot and the syringe too freely.

Vine Mildew: *Eastwood, F. Fulford, H. C. W., and others.* See p. 75.

Communications Received.—A. Long, will appear with our Annual Report.—D. Hayler.—T. W. Thornton.—W. P.—L. & S.—T. M., Philadelphia.—M. & W.—W. T.—H. C. P.—R. Sueden.—F. M.—M. C. C.—N. E. Br.—A. F. B.—J. A.—C. W. D.—W. E. Gumbleton.—Greenfield.—J. N.—T. T.—E. J. H.—J. F.—H. W. W.—R. L. H.—Q. R.—J. J. W.—A. P.—S. H.—E. T. C.—J. L.

Photographs Received.—H. C. P.—J. W.

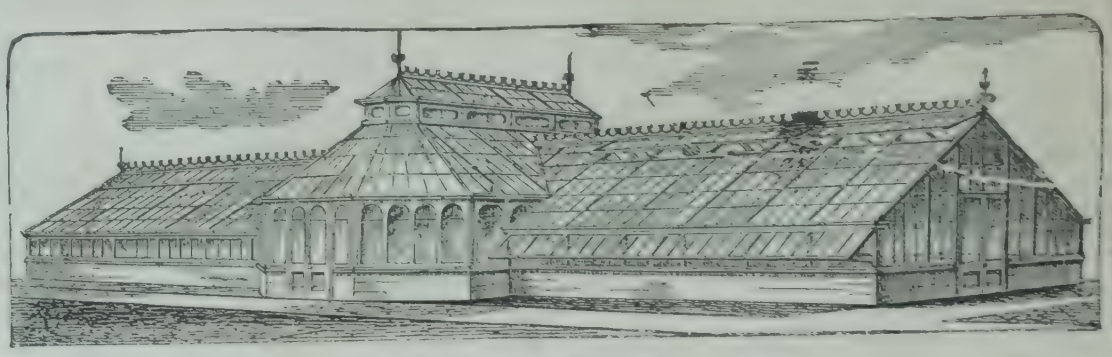
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Increased to the extent of 80 per cent.

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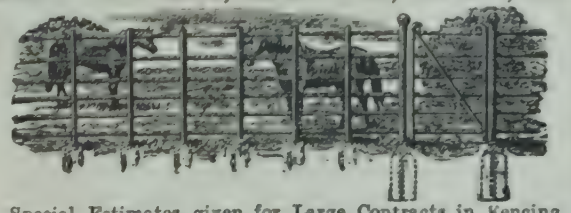
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Particulars of the duties required will be supplied on application to Mr. C. T. Copley, Borough Surveyor, Clarence Road, Southend.

Applications, with testimonials, and stating age and present occupation, to be delivered at my office, on or before Wednesday, August 1. By order,

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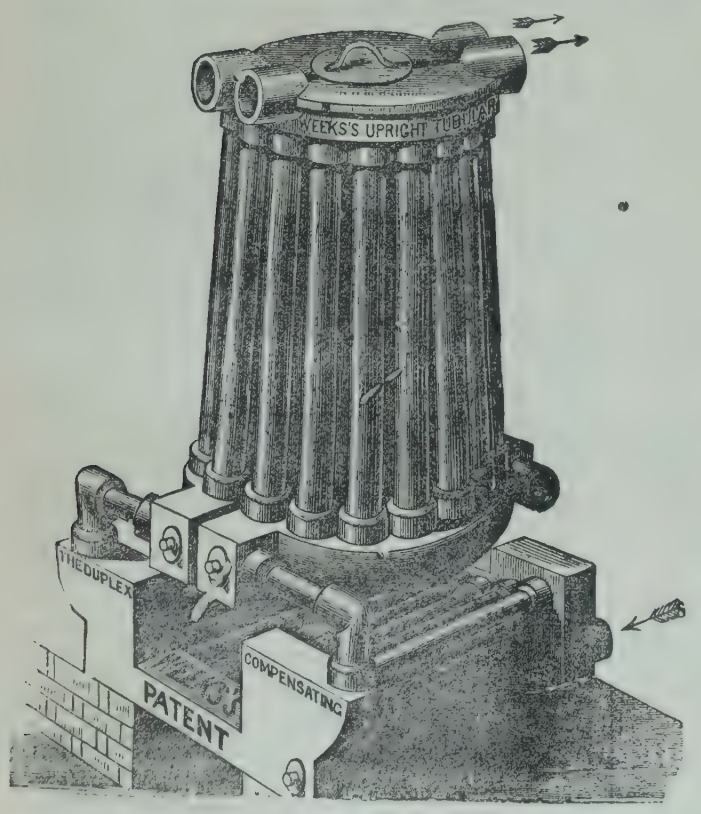
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

IT SHOULD be universally known that we were Awarded a SILVER MEDAL by the Royal Horticultural Society for Eighty varieties of the BEST PEAS ever exhibited. Our CATALOGUE of all the best and proper Seeds for present sowing is now ready, post-free, to all applicants.
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" LEUCORRHODA
" TYPHEMMANNIANA
" ROSEA

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, August 3, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday, August 3.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London E.C., on FRIDAY NEXT, August 3, at half-past 12 o'Clock, by order of F. Sander & Co., St. Albans,

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ESCALLONIAS Ingrami, macrantha, Philippiana, Montevidensis, sanguinea, and rubra, 6d. per dozen.

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MAIDENHEAD HORTICULTURAL SOCIETY'S SHOW,
"CURTISFIELD," AUGUST 16, 1894.

Flowers, Fruit, and Vegetables; Poultry, Pigeons, Rabbits and Cats; Bees, Honey, and Appliances. Entries close Aug. 9th.

D. A. VARDY, Hon. Sec.

CARDIFF HORTICULTURAL SOCIETY.
Patroness—THE QUEEN.

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Schedules now ready.

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ANNUAL SHOW, on WEDNESDAY, August 22, 1894.
PRIZES OVER £300.

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To the Trade.

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" Offenham
" Wheeler's Imperial
" Ellam
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Carter's Heartwell
Daniel's Defiance
Lewis Market
Robinson's Champion Drumhead
Dwarf Flat Dutch Drumhead
Dwarf Drumhead Selected

SEED-GROWING ESTABLISHMENT, WISBECH.

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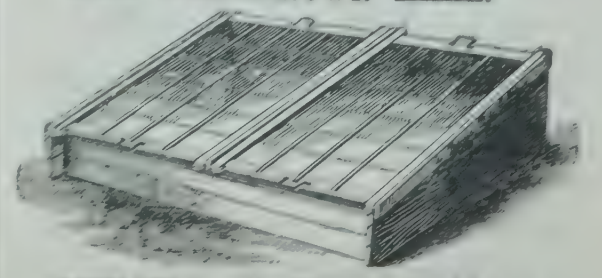
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" " " (larger)	12/6	"
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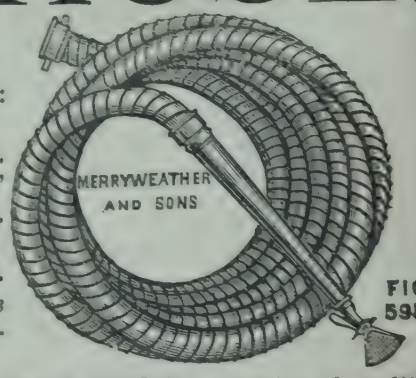


FIG 595.

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Beware of Wire-armoured Hose which is counterfeit, and inferior Foreign make.

Users of Hose are cautioned against inferior qualities sold by dealers who have copied our method of advertising, but have not adhered to our high quality. Orders executed the same day as received.

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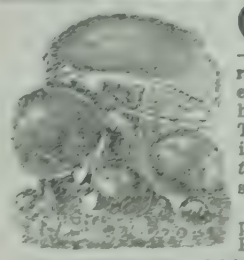
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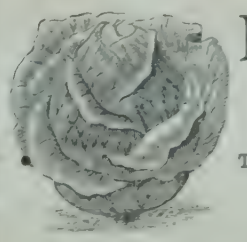


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EARLY NONPAREIL CABBAGE	... ...	8d.
ENFIELD MARKET	do.	8d.
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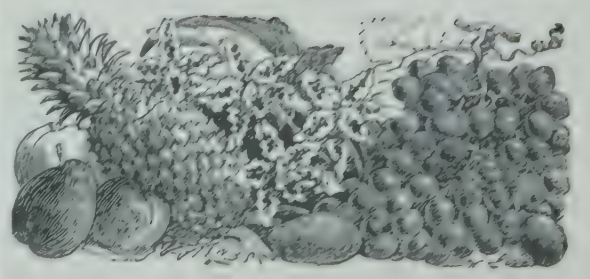
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WEBBS' RED GLOBE TRIPOLI	... 6d.	1s. 6d.
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THE

Gardeners' Chronicle.

SATURDAY, JULY 28, 1894.

ROBERT JOHN THORNTON, M.D.

THE biographer of Curtis, founder of the *Botanical Magazine*, and of James Lee, the elder, of the Vineyard Nursery, Hammersmith, deserves himself more from the pen of the biographer than he has hitherto received. Thornton was in many ways a remarkable man, and very active in garden botany, as well as in other branches of knowledge; yet, strange to say, he is scarcely mentioned by contemporary and succeeding writers on authors and works relating to botany and horticulture. Like Sir John Hill, of a little earlier date, he was a prodigiously fertile writer and compiler of books of a kind that require considerable knowledge and taste, and which involved extensive research; yet they were not sufficiently original to place the author in the first rank, either from an artistic, literary, or scientific standpoint. I cannot find the exact date of his birth. Britten and Boulger (*Biographical Index*) give it as probably 1758, and the same authorities state that he took the degree of M.B. at Cambridge in 1793, and was made M.D. of St. Andrew's in 1805. He died in 1837, and there is a short notice of his life and works in the *Gentleman's Magazine* for that year, from which I will extract some particulars, before describing some of his numerous publications on plants. He came of a line of medical men, although his father, Bonnell Thornton, gave up the profession in favour of literary pursuits. He, the father, translated Plautus, and was one of the editors of the *Connoisseur*, a humorous publication, that enjoyed great popularity in its day. Robert John Thornton was remarkable for passing the whole of his school holidays in collecting objects of natural history; and he devoted the play-hours at school in forming a small garden and menagerie. At the age of fifteen he was sent to Cambridge, with the intention of being educated for the church; but he evinced such a decided preference for the study of medicine and cognate subjects, that the original idea was abandoned. The early death of his only brother left him with the means to choose his own career, and live without a profession; but he nevertheless, continued his medical studies, and entered Guy's Hospital for the purpose of qualifying. There he attended the lectures of Mr. Clive and Dr. Babington. According to the account in the *Gentleman's Magazine*, he did not take his Cambridge M.B. until 1797, when he would have been thirty-nine years of age; but there is assuredly some error in the dates. His father died in 1768, and it seems more probable that that was about the date of the birth of our author. On taking his degree, he gave as his thesis, a discovery which he himself had made, contrary to received opinions. "That the animal heat arises from the oxygen air imbibed by the blood flowing through the lungs, and

taken from the atmosphere received into them; and that in its circulation through the body it decomposes."

After three years' study, he visited the continent, and on his return, he started a very successful practice. In 1798 he published his *Philosophy of Medicine*, a work of five octavo volumes, which went through several editions. This was followed, in 1799, by the *Philosophy of Politics*, and various medical works which I will not particularise, as it is only his botanical and horticultural works that directly concern us. Concerning his medical career, I may, however, add that he was four years physician to the Marylebone Dispensary, and on his retirement was presented with a piece of plate. Subsequently, he succeeded Sir James Edward Smith as lecturer on medical botany at Guy's Hospital.

In an article of this nature it would be out of place to attempt a complete bibliography, even of his botanical works; but the following abbreviated titles will give some idea of their variety and extent:—

History of Medical Plants, Elements of Botany, Temple of Flora, Practical Botany, The Philosophy of Botany, A New Family Herbal, Outlines of Botany, Juvenile Botany, The British Flora, A Grammar of Botany, The Greenhouse Companion, and An Introduction to the Science of Botany.

This list is probably not exhaustive, although drawn up from a variety of sources. Some of these books must be very rare, as they never appear in the second-hand catalogues; and several are wanting in the Kew Library. With all his power of production, Thornton not only failed to increase his fortune, he dissipated what he possessed, and "died a beggared man." How this came about may be gathered from the exceedingly costly nature of some of his works. I propose describing one of these in some detail; but I must explain that of his larger illustrated books I have not seen two copies exactly alike—that is to say, containing the same plates and letterpress. The author seems to have issued to each subscriber what he thought he would like, and, as no complete collation exists, so far as I know, it is impossible to say whether a given copy is complete or not. Some of the materials are utilised in more than one of his works. *The Temple of Flora* is an imperial folio, the uncut engravings and letterpress being about 24 inches by 18. Its full title runs thus:

New Illustration
of the
Sexual System
of
Carolus von Linnæus
comprehending
an Elucidation of the several parts of the Fructification.
A Prize Dissertation on the Sexes of Plants,
A full Explanation of the Classes and Orders of the Sexual System,
and the
Temple of Flora or Garden of Nature.
Being picturesque botanical coloured plates, illustrative of the same,
with descriptions,
By Robert John Thornton, M.D.
London, 1807.

I have omitted Thornton's numerous titles, and his motto from Thomson. With regard to the date, there is evidence that the work was issued in parts, the first in 1799; but I have found no clue to the price, which, however, from the character of the typography and engraving, must have been high. It should be understood that I am describing the Kew copy, a very fine one, presented a few years ago by Sir Joseph Hooker. Preceding the elaborate title-page, which I have transcribed, are two sub-titles, in ornamental writing, written by Tomkins, and engraved by Cooper and Vincent. The first is, "A British Trophy in Honour of Linnæus," and the second is "A New Illustration of the Sexual System of Linnæus." Between these is a portrait of the author, painted by Russell, R.A., and engraved by Bartolozzi, R.A. Beneath the portrait is a view of Guy's Hospital. Next comes a half-length portrait of Linnæus, painted by Hoffman, one of his pupils, ornamented by Bartolozzi, and engraved by H. Meyer. Of this there is both a coloured and a plain copy. Immediately following the title-page proper is a portrait of Queen Charlotte, by Sir W. Beechey, R.A. Then comes a dedication to the Queen in about six-character ornamental writing by Tomkins and Cooper, followed by the dedicatory address. Next comes the beginning of the letterpress of the body of the work itself, but even this is preceded by a leaf, bearing only the subtitle, "Preliminary Observations," in letters three-quarters of an inch long. These preliminary observations are brief, yet singularly lucid, and relate to the various modifications of the different parts of the flower, illustrated by a diagrammatic clavis. This leads up to an annotated translation of Linnæus's *Sexum Plantarum argumentis et experimentis novis præter adhuc jam cognita, &c.*

I have not been able to compare this with Sir James Edward Smith's earlier translation; but it appears to be a very careful one, and the exceedingly copious notes indicate a perfect knowledge of the subject. In fact, the notes occupy more space than the translation, of which there is often only one line on these huge folio pages, and sometimes none; the whole page being taken up with Thornton's remarks and extracts. He strongly defends Sir Thomas Millington's claim to be the true discoverer aud expositor of the sexes of plants, contending that Linnæus himself, had he possessed a better knowledge of the English language, would have conceded this. A portrait of Millington by Sir Godfrey Kneller, exquisitely engraved by Woolnoth, is inserted here, with a view of the Radcliffe Library at Oxford, isolated from the surrounding buildings, and the subscription:

"Hic primus ante omnes Florum connubia vidit."

This is followed by a reproduction of Geoffrey's figures of the pollen of various plants, which were originally published in 1711; and considering the microscopes of that period they are not badly done. The second part of the sexual system opens with a full length portrait of Linnæus in Lapland dress, painted by Hoffman, and engraved by H. Kingsbury; the original then being in the possession of Dr. Thornton. There is both a coloured and an uncoloured example of this in the Kew copy.

Passing on to the third part, *The Temple of Flora*, there are eight plates of ornamental writing in the nature of title, sub-titles, dedication, and index. The author seems to have exercised all his ingenuity in multiplying the number of these introductory flourishes. The title, *The Temple of Flora and Garden of Nature*, is a fine piece of writing, with a beautifully-engraved head-piece, from a painting by Burney, representing Flora in a chariot drawn by Cupids, with flowery wreaths.

Even this wealth of preparation was not sufficient to satisfy the extravagance of the author. Before we reach the paintings of the flowers themselves, we have the opportunity of admiring or otherwise three additional heralds. First comes "Flora Dispensing her Favours on the Earth," from a painting by Cosway, R.A., engraved by Woolnoth. The goddess is a very substantial person indeed, poised in mid-air. Following this is a painting, the joint production of Russell, R.A., and Opie, R.A., engraved by Caldwall, representing "Æsculapius, Flora, Ceres, and Cupid honouring the Bust of Linnæus." The glaring colours rather spoil a good engraving. The third picture is by Reinagle, A.R.A., engraved by Burke, the subject being "Cupid inspiring Plants with Love;" an imaginary landscape of mixed tropical and subtropical plants, including Palms, Bananas, and Strelitzia, and others less easily recognised. We now arrive at the pictures of the plants, each of which is followed by copious more or less appropriate poetical effusions, by poets known and unknown. So much stir has recently been made about these plates, twenty-eight in number, that it may be worth while giving a complete list with the names of the painters and engravers. It would occupy too much space to describe them, but they are certainly remarkable and doubtless expensive productions, yet by no means worth the extravagant prices asked by certain dealers. The plants, or portions of plants, in front are of natural size, supported by a more or less elaborate landscape background.

Plant.	*Painter.*	*Engraver.*
Snowdrop	Pether	Ward.
Persian Cyclamen	,,	Elmes.
Group of Hyacinths	Edwards, S.	Warner.
Group of Roses	Thornton	Earlom.
Group of Carnations	Henderson	Caldwall.
Group of Auriculas	,,	Lewis & Hopwood.
Group of Auriculas	Reinagle, A.R.A.	Sutherland.
Group of Tulips	,,	Earlom.
The Queen Flower	Henderson	Cooper.
American Aloe	Reinagle	Medland.
Nodding Renealmia	Henderson	Caldwall.
Night-blowing Cereus	Moonlight by Pether	Dunkarton.
Begonia	Reinagle	Caldwall.
Large-flowering Sensitive	Reinagle	Stadler.
Common Passion-flower	Reinagle	Caldwell.
Winged Passion-flower	Henderson	Warner.
Quadrangular Passion-flower	Henderson	Hopwood.
White Lily	,,	Stadler.
Superb Lily	Reinagle	Earlom.
Dragon Arum	Henderson	Ward.
Hirsute Stapelia	,,	Stadler.
American Bog-plants	Reinagle, A.R.A.	Cooper.
Pitcher-plant	,,	Sutherland.
Pontic Rhododendron	Henderson	Caldwall.
American Cowslip	,,	Warner.
Narrow-leaved Kalmia	Reinagle, A.R.A.	Caldwall.
China Limodoron	Henderson	Landseer.
Indian Canna	,,	Caldwall.
Sacred Egyptian Bean	,,	Burke & Lewis.
Blue Egyptian Water-Lily	Henderson	Stadler.

I must not dwell on the foregoing list, though much might be said respecting each one. A few words of explanation seem necessary, however. Thus, the Queen Flower is Strelitzia Regina; the Nodding Renealmia is Alpinia nutans; the larger-flowering Sensitive is Calliandra grandiflora; the Pitcher-plant is Sarracenia; and the China Limodoron is Bletia Tankervilliæ. The second group of Auriculas and the picture of American bog plants (Sarracenia and Dionæa) are over and above those enumerated in Thornton's own index. I will only allude to one of the plates—Thornton's group of Roses, which is certainly, apart from the somewhat feeble representation of a pair of nightingales and nest in the foreground, one of the most effective of the series.

W. B. Hemsley.

(To be continued.)

New or Noteworthy Plants.

DENDROBIUM M'GREGORII, *F. v. Müll. and Krzl.* (DENDROCORYNE).*

This is, indeed, a little gem. The plant is not very tall, the only specimen examined (fortunately, a very perfect one) not being more than about 8 inches

* *Dendrobium M'Gregorii*, F. v. Müll. and Krzl. (*Dendrocoryne*).—Bulbis basi attenuatis supra incrassatis compressis subtetragonis sub anthesi foliaceis; foliis 2—3 oblongo-lanceo-

in height, with two or three leaves of a moderate size. The flower-stalk is longer than the leaves, and bears three or four flowers of the size of those of a well-developed Dendrobium bigibbum or D. Phalænopsis. The sepals are white, with numerous rose-purple blotches; the petals are large, spreading, and white, with a rose-purple line; the lip has two very large stout side-lobes, of a very deep blood-purple, and a very short reniform middle-lobe, of yellow or orange colour, with some purplish veins. The other characters are of merely botanical interest. The chief character is undoubtedly the short reniform middle-lobe of the lip. The plant was detected by Sir William M'Gregor. It is to be hoped that specimens of this very beautiful plant, which, even in a dried state, is very conspicuous, will be soon imported into this country. *F. Kränzlin.*

A TRAVELLER'S NOTES.

(*Continued from p.* 64.)

South Australia. — The nurseries of Messrs. E. & W. Hackett, C. Newman, and Sewell, are worth a visit. The first-named are the local seed merchants. Their nursery lies but a short distance in the suburbs. *En route,* I was much struck with the large number of Schinus Molle in every direction. In addition to its showy coral-like fruit, its long pendulous slender branches waving with every breath of air, it does not retain the dust; a strong recommendation. Nerines, also common, and other stiff growing plants, are sad sinners in this respect. The trim Melia azadirachta is also a favourite tree for the small front gardens of suburban cottages.

The nurseries of Messrs. E. & W. Hackett are under the direction of Mr. Kemp, but three years out from home. They are yet young, and largely devoted to the production of market plants, Oranges, Loquats, &c. Their shade house, 108 by 60 feet, and 30 feet high, is a fine large structure, the supports of "Jarrah" and the rafters of Oregon Pine, preferred on account of its lightness. The sides of the house and of the lantern have the rafters laid diagonally, those on the roof being straight. Here are various young plants, such as Cyathea excelsa, Dicksonias, and the best Palms for outside planting; Chamærops, Arecas, and other Palms, Norfolk Island Pine, Cryptomerias and Camellias, liable to burn outside until fully established—the last named are chiefly propagated from layers, sufficient for cutting purposes, but do not make neat saleable plants; Ericas and other hard-wooded species, Ferns, &c. English Hollies are found to do badly, the hedge plants of Adelaide being Pittosporum eugenioides and Rhamnus alternifolius; these are clipped twice a year, and the many excellent close hedges round the town testify their suitability for the purpose. The smaller-foliaged Pittosporum nigrescens is also used.

Messrs. Hackett grow Oranges extensively, sown in boxes; they are planted out in twelve months' time. Loquats, they consider, scarcely pay. The demand is but slight, the fruit on occasions realizing but 1½*d.* per lb. A bed of Dahlias looks well, and is now flowering freely—bushes, 3 to 5 feet high, received from England at Christmas, and planted immediately on arrival. Roses receive special attention. Banksians and Teas do well, and Cloth of Gold bears a good reputation; of vigorous growth, it stands drought and heat. Safrano also can be recommended, but Maréchal Niel is apt to burn.

Good soil is obtained from the Loftz hills, a low range running south of Adelaide; the peat and loam are good, though for Orchids the former obtained from home, is preferred.

On the Loftz range are many nice homes; the climate is much cooler, many plants liable to burn on the plains succeeding in the various gardens attached to the private residences. I may mention that Romneya Coulteri promises well in Messrs. Hackett's nursery.

The nursery of Mr. C. Newman is some 11 miles out; its situation is peculiar. In the narrow and steep ravines of the Loftz range, along the sides of a narrow creek, he successfully cultivates, sheltered from the hot winds, fruit trees, Rhubarb, Veronicas, Daphne indica, Hydrangea hortensis, Roses, &c. At the time of my visit budding Oranges was in operation, the Seville being a favourite stock. The houses are well filled with Ferns, Palms, Crotons, Ixoras, a few Orchids, some in very good condition, one Phalænopsis Schilleriana bearing a leaf 17 inches in length; Begonias, Caladiums, &c., in fact, a comprehensive general nurseryman's stock. The shade-house of Tree Ferns is also a distinct feature. In the fruit plantations, Cherries are very good, and Apples, budded on the blight-resisting Northern Spy, bear fruit freely. When the blight does appear Mr. Newman finds the hot dry wind shrivels it up, with the exception of that in the deeper cracks.

Mr. Sewell is also an important grower: a Bignonia Cherere covering one of his stone chimneys is very noticeable, soft rosy-purple flowers, fully 3 inches long—a most handsome creeper. He obtained a large collection from Japan of Davallia bullata, trained in various forms, but finds they do not last. Grafted Diospyros are also imported, but require eighteen months' acclimatisation to accustom them to the change of seasons. Plants 2½ to 3 feet in height packed in moss travel well. Mr. Sewell's collection of water-plants is particularly good; small square slate tanks are apportioned to each of the more important genera. Recently an expensive importation of Olive cuttings was received from Italy, but scarcely 10 per cent. show any signs of growing; nevertheless, the extraordinary tenacity of life the Olive always exhibits in this colony may seem novel. Stems, 2 to 3 inches in diameter, simply inserted in the ground, never fail to root and grow. The various florist, greenhouse, and stove depôts are well filled with a general collection. *James H. Veitch.*

(*To be continued.*)

latis apice bilobis; racemo paucifloro longiore fractiflexo; bracteis minutis triangulis acutis; sepalo dorsali ovato acuto, lateralibus late triangulis basi cum pede gynostemii omnino connatis subfalcatis deflexis mentum breve formantibus; petalis multo majoribus cuneato-obovatis obtusis labelli lobis lateralibus erectis magnis antice rectangulis, intermedio brevi latissimo reniformi, callo crassiusculo bisulco ex fundo labelli inter ipsos lobos laterales; gynostemio utrinque carinato, carinâ utraque pone androclinium in lobulum producto, dente androclinii postico subulato; polliniis et antheris generis. Flos 5 cm. diametro inter pulcherrimos generis. Sepala alba purpureo-maculata præsertim intermedium, petala media purpureo-venosa et guttulata, labelli lobi laterales extus et intus atro-violacea lobus intermedius flavus v. aurantiacus lineis crassis violaceis decorus. *F. Kränzlin.*

THE HERBACEOUS BORDER.

PRIMULA JAPONICA.

The coming of this noble and attractive species some twenty-two years back caused a sensation among hardy plant growers at the time; and its complete hardiness was greatly doubted. All this, however, was in time dispersed, as the plants passed winter after winter out-of-doors with impunity from injury. Not only is it one of the noblest species, but its aspect generally and great vigour make it a most desirable plant. Though not very exacting in its requirements, so far as soil is concerned, Primula japonica should be grown in a moist soil to have it in perfection, and a place beside a running stream, or in a very moist shady border, or in groups in the bog garden, just suits it—anywhere, in fact, so long as the roots can reach water; then the plant attains, for a Primula, gigantic proportions. In such positions the plant is a source of delight, giving no trouble whatever to the cultivator, and sending forth its giant flowering stems to 2½ feet high. The purple-crimson flowers are produced in whorls at intervals up the stem, and in consequence the plant is showy for a considerable time. Since its introduction several varieties, varying in colour, have been introduced to gardens, and at the late Temple show Mr. Wilson exhibited a basket of plants in several shades of colour. The plant is readily increased by seeds, which are best sown in slight warmth in January, and grown on quickly the first year. In those instances where the plants are employed for the embellishment of the home garden, it will be found that they make the greatest progress if planted in their permanent position when about three or four months old. I have frequently seen this plant in the ordinary herbaceous border, but invariably it is devoid of its chief and most marked characteristics. A fertile soil will produce a certain amount of vigour in plants in the ordinary border, though this will not compare with plants receiving abundant supplies of moisture.

Polemonium Richardsoni.

This is a very pleasing and useful plant for the border, the rockery, or for cutting, and I see no reason why it may not be freely employed for purposes of spring gardening. It commences flowering when about 8 inches high, and keeps up a continuous supply of its pale blue flowers for a long time. Moreover, the plant is of free growth, elegant in appearance, readily increased by division of the root-stock. Moreover, it is exceedingly accommodating, for it may be divided and transplanted at almost any time, even when in full flower, by cutting it down to within 8 inches of the ground, and in a short time it will break away again into growth. *J.*

GARDEN NOTES.

HONEYDEN, FOOTS CRAY.

Few gardens can show such a wide range in the variety of the plants grown in them as these pretty gardens, in which R. A. Todd, Esq., delights to grow, especially Orchids, bulbous plants, and hardy flowers, and to experiment on such as are considereed difficult, and that too, with great success in many cases. For example, the quantity of bulbous plants which are to be found growing and flowering successfully in the open air here, is remarkable. Some of these are commonly supposed to be stove plants, while others are seldom seen grown other than in greenhouses. Among these we noted quite a large number of Crinums, which have passed several seasons in the open air. Among them were three new species of Crinum, from Eastern tropical Africa, one of which, allied to C. lineare, flowered well last year, and is again sending up two very stout flower-spikes, the plant like the others, grown with it, having been uninjured by the winter, and by what was worse still, the very cold spring which in these gardens as in many others, totally stopped the flowering of most of the hardy Lilies, and swept off nearly the whole of the fruit on the Apples, Pears, &c. Crinum Powellii, and others, were well in flower, and among other rare species here proved to be hardy, we noted C. Mooreanum, C. MacOwanii, C. campanulatum, &c. Ismene calathina and another species were in bloom in the open border, and Ismene Amancaes growing strongly; Phædranassa chloracea in bloom; and P. schizantha and other species growing strongly.

Among the greenhouse bulbs, the beautiful white Lachenalia orthopetala, a very pretty and fragrant species, is in flower. Also the true L. aurea gigantea, L. orchioides, L. pustulata, and L. contaminata; some species of Cyrtanthus, and Hæmanthus; Nerine flexuosa, and other bulbs, and at the end of the house a most beautiful specimen of Disa grandiflora, with stout short flower-spikes, eight in number, each bearing several very large and brilliant scarlet flowers—a plant to be proud of; also a fine specimen of D. racemosa, and in bud, the pretty blue Brownleea cœrulea.

The Orchid-houses contain many rare subjects, and the plants are grown with flowering and foliage plants, not liable to harbour insects. Among these, some good Anthurium Andreanum, Rondeletia brilliantissima, a fine strain of Gloxinias, &c., were in flower, and in the various houses in flower were Cattleya Mendelii varieties, C. granulosa, Vanda Roxburghii, Epidendrum nemorale majus, Saccolabium Blumei majus, S. guttatum, several fine examples of Oncidium Jonesianum, which here thrives remarkably well; Aërides Sanderianum, A. Lawrenciæ, Phalænopsis Schroderæ, and the large yellowish-white P. Micholitzii, a very rare plant; Angræcum Scottianum, and many plants of great botanical interest. The neat little rock-garden has its centre well covered with dwarf alpines, among which the lesser Campanulas are very beautiful; Cistus florentinus and C. crispus, too, are covered with flower; Gentiana septemfida has fine heads of blue flowers; the lesser Dianthus have been good, and still make a show; and Æthionema persicum

forms charming tufts covered with neat heads of blush-white flowers. In the borders around, the Delphiniums, Lychnis chalcedonica, Papavers, Geranium pratense flore-pleno; the taller Campanulas, Roses, &c., make a fine show, and in the sunk garden, where the collection of Oncocyclus Iris, the hardy Cypripediums, &c., are, the species of Lilium promised in spring to make a good display, but the late frosts crippled all the varieties of Lilium canadense, L. pardalinum, and L. Brownii, except where an occasional plant or so has been in a situation which favoured its escape.

THE ROSARY.

AIMÉE VIBERT ROSE.

It is pleasing to note that this old favourite still holds its ground amid such formidable rivals as the new Crimson Rambler. It is the most useful of all Noisette Roses, and may now be seen covering an area of about 600 square feet of the old abbey ruins, behind the fine Norman Tower of Bury St. Edmund's. The plant has occupied its present site on the ruins for a good many years, and has been allowed to ramble high and wide with little restraint from shears or knife. The result was a plant of abnormal size totally smothered with blooms. Rich and superb as it is in and by itself, it needs but little imagination to see how very much its striking beauty might be heightened were it supported on one side by L'Idéal or William Allen Richardson, and on the other by Turner's new Crimson Rambler. Take them for all and all, these are fine wall-clothers, and match rambling Roses, and it seems a pity they are not more frequently employed to scramble over ruins or climb up and clothe old pollards or other trees. For these and other picturesque effects in garden scenes, rambling Roses have few equals—assuredly no superiors, unless it be the glowing Ivy-like Virginia Creeper, Ampelopsis Veitchii. There is abundant room and work for the latter to cover their grey masses at Bury St. Edmund's with fiery crimson in the autumntide, when the pale-faced Aimée Vibert Rose and its more brilliant, though hardly more beautiful, companions have faded. *D. T. F.*

The Improvement of Roses.

Not infrequently one hears complaints to the effect that the modern Roses are not so good as the old ones, especially in the matter of scent. How such an unreasonable impression can have been maintained so persistently is most puzzling. Let these persons carefully examine our old Roses. Whether they take one class or another, there have undoubtedly been vast improvements made, and, I venture to assert, in all directions. Which of them has a richer perfume than Viscountess Folkestone, Heinrich Schultheiss, Madame Cusin, The Bride, Souvenir de S. A. Prince, Dr. Grill, Luciole, or L'Idéale? All of these were introduced since 1880. Do we look for depth of colour in various shades, we can still find improvements produced since the same date. I may name Eclair, Ella Gordon, Lady Helen Stewart, Jeannie Dickson, Mrs. J. Laing, Salamander, Suzanne-M. Rodocanachi, Sir Roland Hill, and Victor Hugo from the hybrid perpetuals; while the same class affords us similar improvements in light colours with Margaret Dickson, Mrs. W. J. Grant, Merveille de Lyon, Marchioness of Londonderry, and Marchioness of Downshire. When we come to the Teas, in addition to those already named, where can we find such exquisite shades as in Cleopatra, Ernest Metz, Ethel Brownlow, Edith Gifford, Madame de Watteville, Sunset, and others? With a glance at hybrid Teas, a few good varieties of which, since 1880, are Grace Darling, Caroline Testout, Augustine Guinoisseau, Lady M. Fitzwilliam, Viscountess Folkestone, Gustave Regis, Bardon Job, and Marquess of Salisbury, we must get further into our subject.

It does not matter which class or section we take, even among the garden Roses, now, happily, coming more into favour, we find a large number of newer introductions which are vastly in advance of the majority of older varieties. Janet's Pride, and the splendid hybrid Sweet Briars coming into commerce through Messrs. Keynes & Co. this autumn, are so great an advance in every way upon the old ones in this class, that one need name no more. Mrs. Paul and Madame Isaac Pereire from the Bourbons; Laurette Messimy and Red Pet from the Chinas; Perle d'Or, Mignonette, and Gloire des Polyantha from the polyanthas; Mme. G. Bruant and America from the Japanese, were all introduced since 1880. But in the matter of greater vigour, hardiness, and more perpetual blooming, we are far in advance of many of the old Roses some sentimentalists sigh over, so many of which were only good for a short period each year, and bore very little of the beautifully handsome shades found in the foliage of the present day.

A collection of the old Gallica, or Damask Roses, staged by the Right Hon. Lord Penzance at the Crystal Palace recently, and also the fact that most of our Silver Medals for the best blooms in such grand representative shows as the National Rose Society hold, give us a wonderful contrast.

Of course, there are some good old Roses—good, too, in every way; but that does not prove that our new introductions are not a decided improvement upon the majority. They are elderly persons who bring forward these notions, and with all due respect to age, I must give it as my impression that they have either neglected to move with the times, or else have an undue preference for the friends of their youth. Finally, does any experienced rosarian doubt that our queen of flowers has really improved as much, if not more than any other flower? *A. P.*

AMATEUR'S COLUMN.

SHIRLEY POPPIES.—It is well known that all the Papaver family are lovers of plenty of fresh air, and do not generally succeed in or around large towns. I have tried an experiment this season, making sowings of all the kinds in cultivation. The most open space available was given each kind, and abundance of manure placed in the ground. Every variety, with the exception of the above-named, absolutely refused to grow, while these are wonderfully vigorous, and a mass of bloom. I have not seen this delicately beautiful queen of Poppies in any of the parks in London; but as they do well here, in the land of factories—Bermondsey, they surely would succeed in parts more highly favoured, and further removed from chemical impurities in the atmosphere. Sweet Peas also do remarkably well. The conduct of different members of one family of hardy perennials is somewhat peculiar. Three plants of each of the following Helianthus were planted last autumn in both of the recreation grounds under my charge: H. semi-plenus, H. Soleil d'Or, H. multiflorus giganteus, H. lætiflorus, H. rigidus, and H. decapetalus. The first four have made abnormally strong growth, while the others are puny and stunted. Chrysanthemum uliginosum spreads rapidly, whilst C. maximum seems very unhappy. All the Asters grow apace, with the exception of A. Shorti, which, by the way, is a very showy variety. None of the species of Lychnis seem to thrive in London smoke. In Calceolarias, too, the same thing exists. It occurred to me that beds filled with Calceolarias would be effective, and a bed in each ground was planted with Camden Hero (crimson) for centre, with Yellow Queen as outer edge; Lobelia for edging. Camden Hero has proved a miserable failure, whilst the yellow variety is a mass of bloom. Tuberous Begonias promise well for bloom, although the foliage is slightly scorched. *W. H. Aggett, Bermondsey, S.E.*

A BEAUTIFUL FLOWER.—Is the "Gloria" as well known and as often grown as it deserves to be? From several seeds brought from Teneriffe, and sown early in February in our Orchid-house, only two plants have reached maturity and the perfection of loveliness. These two, when about 3 feet high, were changed into a cooler house, where they have grown tall and strong, sending out long climbing shoots, well furnished with buds and leaves, and where, on June 30, one of them displayed its first flower, like a very large, delicately-formed Convolvulus, of a most marvellous cœrulean blue, with golden-yellow deep within the long tube; anything more exquisite in form and colour can hardly be imagined. Since that day from eight to ten flowers have unfolded daily. Alas! the Gloria is as transient as it is lovely, and its beauty lasts for only five or six hours; seven hours, may be, in dull weather. Yet I have seen it live in all the splendour of its freshest, purest azure and gold from 8 till near 3, when cut and placed in a glass of water at a distance from the window. *E. V. B., Huntercombe Manor.* [Our correspondent's description refers to some Ipomœas, probably I. purpurea, which deserves all the praise lavished upon it. Ed.]

PLANTS IN FLOWER AT EDINBURGH BOTANIC GARDEN.

Combretum purpureum.—This tropical climber, seldom seen in good condition, is now flowering on the roof of the annexe of the Palm-house, and its rich scarlet flowers, borne in branched panicles, are much admired.

Myrtus Luma.

A fine plant of this Chilian species, about 7 feet high, is flowering profusely in the Temperate-house, the deep green of the foliage, where it can be seen amongst the innumerable white flowers, making a fine contrast. The leaves are small and ovate, the branched pedicels bearing the flowers springing from the axils of these. The petals are slightly concave, and the large number of stamens upon short filaments give them a light appearance. The synonyms of Eugenia apiculata and E. Luma have been given it by different authorities. A figure of this plant is given in the *Bot. Mag.*, t. 5040, under the latter name.

Callistemon salignus and C. speciosus.

Two handsome greenhouse plants, have for some time been flowering freely, their bottle, brush-like inflorescences being very attractive. The first named is very floriferous, and the straw-coloured flowers have a peculiar odour. C. speciosus is perhaps the more showy species. Both are capital greenhouse plants.

Melaleuca hypericifolia.

This plant resembles somewhat in the appearance of the inflorescence the Callistemons, but its habit of growth is not so rigid, and the branches are more pendulous. The flowers are of a brick-red colour, and are borne in crowded cylindrical spikes, these springing some distance from the points of the branches appearing very freely. The plant here is about 9 feet high, and occupies a front position in a bed in the Temperate-house. *R. L. Harrow, Royal Botanic Garden, Edinburgh.*

RURAL INDUSTRIES IN CAMBRIDGE.

One of the oldest and most prosperous of these celebrated its majority at Histon recently. It was a happy coincidence that brought this event into the week of one of the most successful meetings of the Royal Agricultural Society of England at Cambridge, for Histon is nigh to Cambridge, and is a well-known station on the Great Eastern and Midland line from Cambridge to St. Ives.

To those interested in the extension of fruit-growing in England, it is better known as the centre of the jam factory of Messrs. Chivers & Sons. It is twenty-one years since the first boil of jam was made by the firm.

The meeting was presided over by Mr. S. Chivers, supported by his three sons, and Hugh E. Hoare, Esq., M.P. for the division; the staff of travellers, *employés*, and friends, amounting to about 400. A capital tea was provided in a large tent, music and games were also provided; while the large group was photographed during the evening. The Press was also well represented, so that to those who can read between the lines of the full report of the great show week at Cambridge, there will be few more hopeful or suggestive incidents than the account of the rise and progress and coming of age of this first jam factory in East Anglia.

The chairman and founder, who received a most cordial welcome from his *employés* and friends, stated that he commenced business with 3 acres of land; within ten years this was increased to 150 acres. They began with two workpeople, now they had 400 workmen, and 500 acres of land. The chairman added, "I believe there are now within ten miles of this factory 3000 acres of fruit, 2000 acres of which have been planted since the factory was built."

Twenty-one years ago the factory was built to meet the difficulty that confronts the fruit-grower who largely increases the production of a perishable commodity on a large scale. As the Histon acreage increased, and Mr. Chivers and his sons went down to Bradford in Yorkshire, chiefly to dispose of it, the necessity of a factory was borne in upon them. "Beyond this the excellence of the product, and the interest of the *employés*, from the highest to the lowest, have powerfully promoted the prosperity of the firm; the foremen of our fields and gardens have been with us over forty years, and many of you have been with us for twenty and thirty years," observed the chairman at the meeting, who was also able to add, "we have scarcely had any trouble with our workpeople. Some of the happiest years were those I worked with my own men." The chairman's sons addressed the meeting in a similar genial and friendly spirit.

The freshness and high quality of the jams, made the same day as picked, has also done much to promote the prosperity of the firm. "At our factory," observed Mr. John Chivers, "we make a special point of getting the soft fruits, such as Strawberries and Raspberries, boiled up and filled into pots ready for consumption the same day as picked, sometimes in the busiest season, by the help of relays of the workpeople, and by running our pans continuously from early morning until late at night, thus preserving the fruit with all its freshness and bloom, and producing a result which can only be obtained by this means."

Mr. Hoare, the M.P. for the division, congratulated the meeting first of all on two things, the good order and cleanliness that prevailed in every branch, and the general contentment among the *employés*. As a proof of the importance of such village industries, Mr. Hoare dwelt on the fact that Histon is one of the few villages in West Cambs where the population has not gone down, but has on the contrary increased. "Therefore we owe a debt to the factory that can hardly be over-estimated, and not only does this neighbourhood owe a debt of gratitude to the factory, but the whole county also for the example Histon has set, and which I am glad to see has been followed elsewhere with equally beneficent results. Some eight or ten years ago an illustrious statesman advised the English farmers to produce jam. That advice, if I may use an Irishism, had been taken long before it was given, because ten years before Mr. Gladstone gave that advice, the work had been begun at Histon, and not only is the operation of jam-making and kindred manufactures carried on, but this factory found employment also for carpenters, printers, tin-workers, and other industries. This jam is like the best home-made jam; it is cheap, but not impossibly cheap. It is only cheap so far as cheapness is compatible with a first-rate product; and I can only say," concluded Mr. Hoare, "that I never had in all my life better home-made Strawberry jam." Mr. Hoare wondered what sort of tents would be needed to receive the *employés* in twenty-three years time, when the factory will have been in existence for half a century, if it is carried on in the same spirit and on the same lines as it is to day.

To other districts, and especially those suffering most from the present agricultural depression, we would repeat the advice of England's greatest statesman and the Messrs. Chivers, the first practical fruit-growers who have tried jam with such distinguished success. *D. T. F.*



Fig. 14.—Disa veitchii ×.

DISA VEITCHII ×.

In this beautiful plant, obtained by intercrossing D. grandiflora and D. racemosa, Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, produced the first, and still one of the best, of the new race of garden hybrid Disas, which are destined to become general favourites, as they give a class of terrestrial Orchids with most beautiful flowers, which do not require to be grown in an Orchid-house, as they thrive remarkably well in a shady corner of an ordinary greenhouse or conservatory, if they are carefully tended and kept always moist, rain-water being used for them in preference to water from any other source. The flowers, which last a long time in perfection, are rose-purple, with dark crimson and yellow markings in the centre.

NURSERY NOTES.

SOME ROSE NURSERIES.

Mr. Frank Cant.—No one professing even a limited knowledge of the world of Roses, could make a more unfortunate admission than that he was unacquainted with the names, at least, of Cant's, of Colchester. For several years past, if we except especially early seasons, the first position in the leading class at the Crystal Palace shows has been held by one or other of these Colchester firms, nor has the present year been any exception, for at the southern shows generally, it has been an in-and-out race between the Cant's. Mr. Benjamin R. Cant scoring in the class for seventy-two at Windsor, and Mr. Frank Cant at the Palace. Essex is a real Rose county, especially around Colchester, and only 18 miles away, in

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the neighbouring county of Suffolk, is the garden of that redoubtable amateur champion, the Rev. H. A. Berners, of Ipswich. Why East Anglia has obtained such an enviable reputation for the culture of the "Queen" has been answered in various ways. Some have said the nature of the soil has been the chief help, others that the secret is to be found in the air or climate. Either or both of these very important circumstances may have had much to do with it, but these natural conditions have been greatly assisted by the skill, enterprise, and energy that have been brought to bear in the matter of their culture, such as is only practised in so large a degree by growers who love the plants under their charge. It may be said generally that a gardener seldom succeeds in the culture of a class of plants that does not commend itself to his favour. When recently paying a short visit to Mr. Frank Cant, we had the pleasurable experience of seeing these acres of Roses at the most interesting season of the year, for—with few exceptions—the rows of plants were covered with particularly fine flowers, and in such abundance that the air seemed to reflect the varied and enchanting hues they presented, and to be filled with the sweetness of their perfume.

The nursery is something over a mile from the station, and Mr. Frank Cant and his assistants were extremely busy preparing stands for the exhibitions at Wolverhampton and at Gloucester. The nursery consists of about 45 acres of land, lying on the opposite side of the road to Mr. Cant's residence. The situation is good, the whole area slanting down to full south, and on the east side the greater part of it is considerably sheltered by a belt of tall trees.

The first variety we noticed amongst comparatively new kinds was the seedling from Madame Gabrielle Luizet, known as Madame E. Michel. This fine H.P. was doing exceedingly well, and its large full flowers of very bright rose, and good form, are a decided improvement in colour and in form upon the parent. Violet Queen was easily noticeable, but although it may live for some time, it is not likely to become a favourite. Charles Gater is a grand brown-crimson-coloured flower of good shape. Mr. Cant thinks this variety will prove a capital plant treated as a cut-back, and it is a splendid grower. Then there was Marchioness of Londonderry, an immense flower of ivory-white; the petals are of good substance, and a little reflexed, whilst it has a pleasing amount of perfume, which in many of the newer kinds is lacking. Madame Joseph Bonnaire, a new one in the way of—and suspected to be a seedling from—Paul Neyron, is bright rose, flowers very large; it is somewhat distinct, from the reverse of petals being a silvery-white. Mrs. Harper was noticed reverting to Heinrich Schultheiss, some of the flowers being half-and-half, from which it may be supposed the variety will not be long-lived. General Berge is a capital crimson or deep-red flower, with a shade of violet in the older petals. It is free-blooming and sweet-scented, the flowers are large and pleasing. Then there was Mrs. Paul (Messrs. Geo. Paul & Son), a good light-coloured variety, and very distinct. Margaret Dickson has done splendidly everywhere this season, and was awarded 1st place at the Crystal Palace in the class for the best new H. P. It would be white were it not for a delicate flesh centre; the petals are large and pretty, and seeing also that its foliage is handsome, and it is proving itself a good grower, this introduction by Messrs. Dickson & Co. of Newtownards will be a general favourite.

Whilst speaking of the newer varieties, it may be well to notice a new single or semi-single garden Rose, a seedling of Mr. Cant's which he intends to call Braiswick Seedling. In colour it is almost equal to Duke of Edinburgh the flowers are very large, and wonderfully free, and it is a strong grower. The new double or semi-double rugosa, named Double de Coubert, is an acquisition, in the way of a pure white garden Rose.

It is unnecessary to say that all the standard varieties were to be seen in this establishment, and in capital condition, but we shall refrain from mentioning any large number of them, as they are well known. It is interesting, though, to remark how plainly is it evident that each variety requires more or less different environment, and so we find that in one season this variety is perfect everywhere almost, and another—generally a good sort—is a failure. As an instance, may be cited, Mrs. Jno. Laing, capital this year almost universally, last year it was bad; whilst Madame Gabrielle Luizet is generally inferior this year, and last year it was good.

Viscountess Folkestone, one of the best hybrid Teas, is nearly always in bloom, and its flesh-colour is very pleasing; Horace Vernet, dwarf, as usual; Lady Alice Fitzwilliam, and General Jacqueminot, the latter one of the best of Roses, producing no end of bloom, were all doing well. A large quantity of maiden plants of A. K. Williams had made splendid growth, and scarcely any of them had failed to "take." Pride of Waltham (W. Paul & Son), in habit like Countess of Oxford, is a fine Rose, but has now been known well for more than a dozen years, and requires no description here. Marie Baumann was lovely, and Fisher Holmes, Earl of Dufferin, Prince Arthur, Reynolds Hole, and others, all claim mention; the latter variety Mr. Cant has grown largely, and he exhibited a dozen good blooms at the Palace show.

Coming to a few words upon the Teas and hybrid Teas, the experience here is that common elsewhere, the finest blooms for exhibition are those produced by the standards. May Rivers is a wonderful flower, it contains such a quantity of petals, but we fear it will never be one to be depended on; it requires very exceptional treatment, and, as it were, helping out of its bud, otherwise it would be a very pretty and good sort. Kaiserin Augusta Victoria, a pure white bloom with yellow centre is thought highly of; it is good for many purposes besides exhibition. Maman Cochet is not yet secure in its reputation, but anticipations are entertained that it will be good and useful; it has plenty of substance, and in colour is flesh, but for a little carmine. Ethel Brownlow is a capital bloom when good, but being extremely variable, "Ethel" cannot be depended upon always; it is, however, good for pots and forcing. Mr. Cant is growing a quantity of pot plants of different varieties, intending to further develop this part of his business. As so much depends upon the conditions of the stocks for this year's working, when the Roses for next season are considered it may be interesting to record that a whole breadth of standard Briars exhibit unusually good health and vigour, which could hardly be surpassed, the dwarfs being of equally satisfactory quality.

Mr. Benjamin R. Cant.

The nursery of this veteran grower is about the same distance from the station as that of his nephew, but in a slightly different direction. Mr. Benjamin Cant has been thoroughly well known for years as a successful exhibitor, and although he is less able to get about, and to visit the shows in different parts of the country than formerly, his love and interest in Roses are as keen as ever, though his sons have to take much of the work and management that was the personal charge of their father. The site occupied by this nursery is the highest in or around Colchester, and Mr. Cant told us that the floor of his house was on a level with the parish church steeple in the town. Notwithstanding this altitude, water abounds immediately under the surface, so much so, that it proves a nuisance. However, Mr. Cant well understands the nature of the ground, and knows equally well how to manage it, consequently he is able to grow and exhibit such flowers as he showed at Windsor, and again at the Palace this season. Unfortunately, we were caught in a very violent storm whilst approaching Mr. B. Cant's establishment, and the deluge of rain prevented us from seeing and noting the Roses so carefully as might have been desired; indeed, Mr. Cant was afraid that if we ventured into the fields at all we should remain fast in the mud, but this, we are thankful to say, was not our experience, though the state of a Colchester Rose-field, with its heavy, almost clayey, soil, after such a storm, is not easily exaggerated. This incident, besides preventing a closer inspection of this nursery, was equally successful in preventing us from a visit to that of Messrs. D. Prior & Sons, another Colchester firm which is rapidly making a name for itself at many of our best exhibitions.

Looking at Mr. Cant's plants of Marchioness of Londonderry, we thought that it may prove more valuable than now when it has been longer under cultivation. Mrs. Harkness had good-sized flowers, but they were rather thin; however, it was thought that it will improve. Captain Hayward was thought a good deal of—it has a high flower, stands well, is a good colour, but perhaps rather thin; the colour is violet-rose, and it will make a good one for exhibition. There were large breadths of Victor Hugo, La France, Gustave Piganeau, Merveille de Lyon, and many others, all in capital health and flower; also the very large handsome Prince Arthur, one that was introduced into commerce by Mr. Benjamin R. Cant. The Teas and hybrids, usually shown well from here, are not quite up to form this year, especially the standard trees. Altogether, there are from 300 to 350 varieties of Roses, including a good number of all the best sorts of climbing and other groups. Of stocks, Manetti and Briar, there are about 10 acres to be budded this year; they are of promising appearance, especially the dwarfs. Mr. Benjamin Cant, like his nephew, was busy packing for Wolverhampton and Gloucester, and the storm above referred to would have been disastrous had not some of the blooms been already secured. As it happened, however, there were many yet to cut; but, in the end, Mr. Benjamin Cant won 1st place at Wolverhampton in the class for seventy-two flowers.

Mr. Rumsey.

A well-known grower and exhibitor of Roses is Mr. Rumsey, Joyning's Nursery, about a mile from Waltham Cross Station. Visitors to the shows in spring and early summer will be familiar with the splendid flowers, especially of Niphetos, that were grown here, and the houses are now filled with specimens that not many weeks since were covered with flowers. But if pot plants are a feature, large breadths may be seen in the open ground, the plants in vigorous condition and full flower.

Of recent years no class has come more to the front than the Teas, and it is interesting to note that whilst a large portion of the stock is upon the seedling and cutting Briar, not a few are on the Sweet Briar, which Mr. Rumsey finds valuable for the Tea Rose. We class here Teas and hybrid Teas together, for there is only a very fine point of distinction between them, except in a few instances. A good variety for colour is Souvenir de Wootton, the plants in their second blooming being full of bright rosy-crimson flowers of strong fragrance. It is one of the most sweetly-scented of all Roses, and this feature is of great importance at a time when not a few of the newer Roses are without perfume. Very beautiful was Narcisse, a variety little known compared to some of the others, but of delicate yellow colour, a Rose grown years ago in gardens, and quite able to compete with kinds of similar shade. Excellent were Catherine Mermet, Madame Cusin, the delicately-tinted Madame de Watteville, and such hybrid Teas as Countess of Pembroke, Viscountess Folkestone, and Grace Darling, three splendid Roses raised by the late Mr. Henry Bennett of Shepperton. The first of the three is less known perhaps than the others, the flowers being full, soft rose in colour and sweetly-scented; whilst Grace Darling is one of the most free-flowering and vigorous of all Roses, the plant remarkably robust, smothered with large full flowers, creamy-white, shaded with rosy-peach. Viscountess Folkestone is a hybrid that should be grown in the smallest collection. It is a lovely flower, large, informal, and creamy-white, touched with a refined salmon-pink, a vigorous plant, bushy, and very free. A group of it in full beauty is in its way unique. Mr. Rumsey grows it with success, several plants of it together being very beautiful. Rich in colour is Souvenir de Thérèse Levet, the darkest of all the Teas, the flowers deep crimson and effective.

All the sections of the Rose are grown, and an old-fashioned walk of hardy flowers and Roses is interesting, for the fine old bushes of various kinds that vie with the Poppy and other things for colour. A fine example of the garland hybrid Musk Rose was in bloom, and it would be well if more thought were given such types. This covers a pillar or rustic stake with its rambling growth almost hidden at this time by a wealth of white flowers, yellow in the centre.

A bank of dwarf hybrid perpetuals was very fine, all the chief varieties being grown. Worthy of note amongst them was General Jacqueminot, or "Jacks" as it is called in the market, which if one of the oldest of the section is still popular for its brilliant colour, fragrance, and freedom. Beauty of Waltham was excellent, its bright colour and fragrance, making it of value; whilst we were also pleased to see those two Irish-raised Roses, Margaret Dickson and Jeannie Dickson blooming abundantly. These, especially the former, will take a leading place in the list of H.P.'s. Margaret Dickson was shown well at the recent Crystal Palace show, and it is certainly a variety that grows very quickly and strongly, bearing abundance of sweet-scented, full, pleasing flowers, white, tinted with rose in the centre. Those of Jeannie Dickson are high-centred, pinkish-rose, and sweet. Duchesse de Vallombrosa is a variety none too common, but there is a charm in the refined rose-coloured flowers, and the plant makes a robust, bushy growth. Ulrich Brunner, like Gustave Piganeau, was a Rose that came to the front very quickly. It makes a splendid display here, Mr. Rumsey bending over the strong shoots, flowers being sent up at almost every eye; the rows of it are a mass of bloom. This is a good year for the dark and velvety-crimson Roses, such as Crown Prince, Prince Arthur, Duke of Fife, Duke of Wellington, Xavier Olibo, and many others one could name. When well grown and the season is not too hot, nothing is more beautiful of its class than this, the flowers so rich in colour, and as a rule, powerfully fragrant. We saw two sports here of a climbing habit, one from Earl of Pembroke, and the other from Star of Waltham, both of vigorous growth; whilst in the former instance, the flowers appear fully three weeks earlier than those of the parent, and in the other case they are lighter and of better shape. Suzanne-Marie Rodocanachi is a thoroughly good garden Rose; its rosy-coloured flowers are bright, sweet, and produced freely on strong vigorous plants. It is one of the best Roses this season, and many fine blooms of it have been exhibited.



FIG. 15.—RUBUS JAPONICUS TRICOLOR: VARIEGATION PINK, WHITE, AND GREEN. (SEE P. 96.)

In a fine stretch of maiden plants we noticed a highly promising sport from Mrs. George Dickson, the flowers of delicate colour, rose, deepening in the centre, and borne freely on strong-growing plants, noticeable for their splendid leafage, and as in the case of the type, completely free from mildew. Although varieties associated with it were affected, this was untouched. Of course, that fine Rose, Mrs. John Laing, was flowering with its wonted freedom; and a variety interesting to mention is Marguerite Boudet. A superb bloom of this gained the Silver Medal for the best hybrid perpetual in the amateur's section at the recent Crystal Palace show, but it is seldom one sees it in such condition. Unfortunately, the plant is not a strong grower, but the flowers are distinct in their lilac-tinted colouring. A really good garden Rose is Augustine Guinoisseau, which has not been inaptly called the white La France, the plant making bushy growth, the flowers white, delicate rose in the centre, and very fragrant. It is a good autumnal as well as summer Rose.

A very fine plot of standard and half-standard Roses is a feature of this nursery, and every variety adapted for this mode of culture is grown. It is not necessary to give a list of names, never very interesting, as only those varieties that form really good heads are grown. The reason why this form of Rose has become, to a certain extent, unpopular is because kinds utterly unsuitable for making standards have been selected. Moss Roses, Austrian Briars, and allied types, the Polyanthas, Chinas, and other important sections were all represented by the best varieties. *Visitor.*

MESSRS. SALTMARSH & SON.

The nursery of Messrs. Saltmarsh & Son is just outside the town of Chelmsford, but within a mile or so of the railway station. It is a typical country nursery, containing a little of everything, with a special development of certain departments. Good order prevails, and, as is always the case under such circumstances, the plants have a healthy, well-to-do appearance. Zonal Pelargoniums and Begonias make a brave show, Mr. Saltmarsh having evidently an excellent strain of both. Small plants of Palms, Dracænas, Crotons, Adiantums are in profusion; and in one of the houses a fine bush of Streptosolen Jamesoni seems to invite the passer to cut and come again. The method of shading of some of the houses is worth noting, as it is efficient, inexpensive, and convenient. It is simply a light hurdle in the shape of an ordinary light, with rather wide interstices between the bars. This allows the light to penetrate, but breaks it up and prevents scorching. The hurdles are removable by a lad with great ease. In the grounds are some noteworthy trees, such as a fine specimen of Cedrus atlantica glauca, perhaps the finest silver-leaved Conifer. Almost equally beautiful is Abies nobilis glauca. A cut-leaved Lime and various other ornamental trees make the visitor wonder at the way in which these interesting subjects are ignored.

Roses are largely grown; but so much has been said about Roses lately, that it is difficult to find anything new to say about them. A nice quarter of standard Mulberries, in excellent condition, is not so often met with; indeed, one of the specialties of this nursery consists in its collections of well-grown fruit-trees—Apples, Pears, trained Peaches, standard Plums, and the like. Some of the young Apples showed traces of that dreadful May frost; but on the whole, the trees are in excellent condition, the bark clear and bright, and the foliage healthy. On the Paradise, the crops are good; and amongst Apples, special note must be made of Saltmarsh's Queen, which this season is bearing profusely. Pears on the Quince are also remarkable for the crop of fruit they are this year bearing.

RUBUS JAPONICUS TRICOLOR.

THIS is one of Messrs. J. Veitch & Sons' introductions (fig. 15, p. 95), and was shown by them at the meeting of the Royal Horticultural Society on July 10 last. As seen it was a slender-growing trailer, with stems and leaf petioles of rose-colour, the leaves showing much white in patches among the green of the rest of the leaf surface, the youngest leaves being pinkish-white. It would make a pretty greenhouse climber, or basket-plant; or, layered in small pots, a very suitable subject for table-decoration. We do not know if it is yet in commerce.

MARKET-GARDENING IN SUSSEX.

THE season, on the whole, has been a disappointing one, as far as it has gone. A dry and brilliant spring, from March to mid-April, brought all fruit and vegetables very forward, and had the fulfilment realised the promise, the season of 1894 would have been a remarkable one. Never have we seen a better or more abundant show of bloom on Pears, Apples, and Strawberries; seldom a better promise of a large crop of black Currants; Potatos looked well, and were unusually forward; Peas, too, promised great things. When, on the night of Sunday, May 20, a sharp white frost came upon us, the havoc wrought may be more easily imagined than described. In our own district we registered about 6° of frost, but in some low-lying parts 8°, and even more, were noted. Kent suffered very considerably, and most dire accounts of the damage done by the frost soon reached us from our sister-county. For a time, we were deluded into hoping that our loss was comparatively trifling, but a few weeks suffice to prove the fallacy of such hopes. The Apple crop has become practically a complete failure; Strawberries are yielding less than half a crop; black Currants have dropped very considerably; Potatos on the higher ground checked, but not otherwise injured, are in low-lying parts cut to the ground. The Pears, being a week or two in advance of Apples, have not suffered much, and there is, in our own district of East Sussex, a fair promise of a crop; we notice, however, that the fruit is not swelling well, and seems to be cracking considerably. We have had a good deal of blight, and caterpillars have, until lately, done serious damage to the young foliage. Plums are only a moderate crop, and are a good deal blighted. Gooseberries have suffered a little from caterpillars, but are quite an average crop. Peas have, perhaps, best of all fulfilled their early promise, and have yielded well. Beans, both dwarf and runners, have been looking very yellow and unhealthy, owing, probably, to the cold nights we experienced during the latter part of May and early June, but a fortnight of really warm weather has improved their appearance in a marked manner. This should be a Celery year, the abundant rains giving it a good start, and never allowing it to flag.

A curious feature of this season has been the lack of demand for flowers. Since the Wallflower season was over, the demand for perennials and herbaceous plants has been practically nil. Really fine Pinks (Her Majesty) have been almost unsaleable, and Roses a drug in the market. We can only account for this rather unusual "slackness" in the flower trade by suggesting that the wet, cold spring and early summer—for with the exception of a few weeks' hot weather this month it has been a dull season—has kept the usual visitors away from such favourite resorts as Tunbridge Wells, Eastbourne, and Hastings, and rendered even the residents chary of indulging in luxuries. There is now a fair demand for Sweet Peas in limited quantities.

Under glass, in spite of an insufficiency of sunshine, the Tomatos look well, and seem to promise a heavy yield. We have seen no sign of mildew up to the present, but deem it wise to withhold water whilst the dull, wet weather lasts, as far as is possible consistently with the growth and well-being of the plants.

A few notes as to wholesale prices realised in one or two of our large towns at this present time may be of interest:—Tomatos, 6*d*. per lb.; Peaches, 2*s*. per dozen; Strawberries, 4*d*. to 5*d*. per lb.; Gooseberries, ripe, 8*s*. per bushel; red Currants, 8*s*. do.; black Currants 6*s*. to 8*s*. do.; Raspberries, 10*s*. do.; Potatos, kidneys, 4*s*. to 5*s*. do.; White Hebrons, 4*s*. do; Peas, William I. and William Hurst, 4*s*. do.; Ne Plus Ultra, 4*s*. do.; Cauliflowers, 1*d*. and 2*d*. each; Cabbage, 6*d*. per dozen; Carrots, 1*s*. 6*d*. per dozen bunches; Turnips, 1*s*. 6*d*. to 2*s*. do.

Flowers: Pinks (Her Majesty), 6*d*. to 1*s*. per dozen bunches; Sweet Peas, 2*s*. do.; Gladiolus (white), 1*s*. do. (six blooms to a bunch).

The weather continues wet and cold, and the markets are proportionately dull. *A Market Gardener.*

BELGIUM.

THE ANTWERP EXHIBITION.

THE manifestation organised by the horticultural section of the Exposition Universelle and the Royal Agricultural Society of Antwerp was successful, though the King and Queen, in whose honour it was organised, were unable to be present owing to the death of President Carnot. So many plants and flowers were received that they furnished a *salon*, which was arranged under the superintendence of M. Guillaume Bosschère. The plants included, among others, tuberous Begonias, blue Ageratum, white Sedum carneum, Anthurium Scherzerianum and A. Rothschildianum, Orchids (among the finest were those from MM. Ch. Vuylsteke, D. Massange of Louvrex, Peeters, Pauwels, Van Imshoot, Jules Hye, A. Janssens, and L. Vincent), Nidularium fulgens and N. Meyendorffi, Ophiopogon jaburan, fol. var., Dracæna, Saxifraga sarmentosa tricolor superbs, interspersed with many fine Palms, among which may be mentioned the specimens of Kentia from M. Vuylsteke, Kentia Forsteriana from MM. De Smet Frères, Rhapis flabelliformis from M. Peeters, Latania borbonica, Cocos Weddeliana, and Chamærops excelsa.

ORCHIDS, &C., AT ANTWERP.

Among the Orchids employed at the Royal manifestation at Antwerp we may mention the new hybrid Cypripedium raised by M. Jules Hye, C. Leysianum (bellatulum × Crossi), which obtained a First-class Certificate when exhibited in London; also C. Baron Osy, the inferior sepal of which is the duplicate of the standard, a characteristic which will be permanent, since two seedlings have exactly reproduced it. This feature may prove the starting-point of difference of a new series of remarkable hybrids.

The international exhibition of cut flowers, plantes d'appartement, and floral decorations, was a successful one. Fine plants were sent by M. Emile de Cock, of Ghent, some good Heuchera sanguinea by M. Truyman, herbaceous Ferns from M. Ad. Vandenheede of Lille, forced fruit by M. An. Cordonnier of Bailleul (France), new Cannas by M. Pfitzer of Stuttgart, and a fine collection of tuberous Begonias by Messrs. John Laing & Sons of Forest Hill. Though unfortunately somewhat injured by heat in transit, a Gold Medal was awarded for this exhibit. There were also shown some fine cut Roses from M. Henry Vanderlinden of Antwerp, and Baron de Coels of Brussels; the cut flowers from Madame Jean Everaerts of Antwerp were much admired.

BELGIAN PRESS CONGRESS.

The members of the International Press Congress, which met at Antwerp in July, were received at Laeken by the King and Queen and Princess Clementine. The visitors inspected the royal gardens and greenhouses, which they greatly admired. The event tends to show once more the great interest which His Majesty takes in horticulture.

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

CUCUMBERS.—Plants growing in deep pits and bearing heavily should have a good supply of liquid manure-water afforded them about once a week, and be well syringed twice or thrice daily, at the same time keeping the air laden with moisture. The leaves should be frequently syringed with quassia-water to kill the white aphis. Remove decaying or very old leaves, thin-out the bine freely at short intervals of time, and stop the shoots at every three or four joints, but do not cut away the leaves on shoots where fruits are growing. Cucumbers in dung-bed frames should have fresh lining put to the frames, the night temperature being kept at about 70°, and that by day at 80°, but the amount of sun-heat will be the ruling factor. During the present month cuttings may be struck, and seed sown for late supplies, following these with sowings in August and September.

STRAWBERRIES FOR FORCING.—The potting of runners as soon as they require it, should receive attention. After potting, place them on a bed of coal-ashes with a path at every fourth row, and in an open place, moving them at short intervals to keep the roots out of the bed. Runners layered in fruiting pots should be taken from the beds as soon as sufficiently rooted to be freed without flagging.

VINES.—Stop the laterals and regulate all shoots that are to remain on the canes, taking care that by so doing the bunches are not fully exposed to the sun's rays, leaf shade being very essential to the swelling and colouring of the berries, but not making the shade too heavy. The so-called "scalding" of berries by the sun is often taken to be "spot," a fungoid malady not often seen in well-ventilated vineries, and which may be kept under by a somewhat dry atmosphere, and by damping the hot-water pipes, and at once dusting them with flowers-of-sulphur. At this season much attention should be given to the watering of the Vine-borders, inside and outside, the latter not being left to the chances of rainfall, affording both frequent dressings of Vine-manure at watering time. No hard-and-fast line can be laid down in this matter, but tests may be made to ascertain as far as may be the condition of the soil at various depths. A thorough watering may be applied to borders inside the vineries once in three weeks, and those outside in the present fickle season will, in low-lying situations, and where the drainage is believed not to be good, require much care in not affording more water than is actually required. Too much water applied in such cases leads to many evils, such as checks to growth, shanking, and mildew. Borders in bad order will require renovation at the proper time, and preparations may now be made, so that no loss of time may occur. If mildew appears, apply artificial heat and if it is an early vinery, the fruit should be removed, and the foliage syringed with some efficient mildew composition. If red-spider infests the foliage of Vines with ripening fruit, nothing can be done effectually against this plague before the bunches are removed. Having done this, use petroleum emulsion or Lemon-oil on alternate days, water alone being used between times, making use of the garden engine or a powerful syringe. Some gardeners use dry sulphur against red-spider, but it has no effect on the insect, and nothing is more disagreeable than to find flowers-of-sulphur in the bunches or on the foliage. The best way to keep the insects in check is by maintaining the borders in a healthy condition as regards moisture, over-abundant moisture being as bad in its effects as drought. This cool season artificial warmth and a free circulation of air will be necessary in the early vineries after the fruit is removed, on sunny days throwing open all sashes, but not starving the vines by much exposure in cool weather; the temperature in the late Muscat and Alicante vineries may range from 70° by night to 80° by day, with a small quantity of ventilation at all times.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

CYPRIPEDIUMS.—Such dwarf growing species as C. niveum, C. concolor, C. Godefroyæ, and C. bellatulum have for some time past received much attention from hybridists, and when the crosses raised are possessed of vigour and free-blooming qualities, they should be added to collections. The crosses often bloom more freely than the parents. C. niveum and C. concolor often give more trouble to the cultivator than all the rest of the Cypripediums, and when once they get into an unhealthy condition, it is difficult to restore health. One of the chief causes of ill-health is a close and heavy compost; for growing as they naturally do in hollows and on the surface of limestone rocks the plants do not remain healthy when natural conditions are much disregarded. All of them prefer the warm moist East India-house, and a position where the foliage will be near to the roof, and slightly shaded when the sun is bright. As regards the potting of these species, it should not be done oftener than is necessary, for no

matter how carefully the work is done, a few roots are sure to be injured, these being very brittle; and the bad results of injury to the roots are more felt by them than by others. The proper time for repotting is a few weeks after flowering. The pot in which a plant is growing should be broken by a tap from a hammer, and the stale materials carefully picked out from among the roots, but leaving the drainage untouched if it be permeated with roots. In some cases it will be found that the fine soil will have filtered down amongst the crocks, and this may be blown out previous to repotting if the plants are dry, as they should be. Having done this, place the mass entire in a larger pot, filling up to about two-thirds of its depth with pieces of chalk or limestone, and if these are not obtainable, with broken bricks or thick crocks. Pot moderately firm, using the following compost: good fibrous loam freely intermixed with small nodules of limestone, &c., and a small quantity of sphagnum moss. It is not necessary or advisable to raise the plants above the rim of the pot, for if kept level with it they will do just as well. These species should be kept well supplied with water at all times, especially when in full growth. Instead of watering them in the ordinary way, I always have them stood in a pail of water, the water just covering the surface of the compost, and allow them to remain therein for several minutes. The plants should be taken down and examined two or three times a week, to ascertain that the compost is sufficiently moist. During the summer months some growers stand them in shallow pans in about an inch of water, and I am told the plants luxuriate under this kind of treatment. It is necessary to sponge the foliage occasionally, but in doing so great care must be taken not to break the very brittle leaves.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

THE RASPBERRY.—Soon after the bulk of the serviceable fruit is gathered, remove the fruiting canes of this year, so that the young canes may grow vigorously, and also cut out most of the weak canes and the brood that will not be required for planting purposes. For tying to the stakes, select four of the best-placed and least-damaged canes, fastening them loosely, and taking pains not to damage the foliage. This applies to the summer-bearing varieties, Fastolf, Baumforth's Seedling, Prince of Wales, Red Antwerp, &c.; whilst the double-bearing varieties, of which Superlative is a great acquisition, must be kept netted over where blackbirds are troublesome.

PEACHES AND NECTARINES.—The moist weather having been favourable to growth, the mid-season and late varieties should have all required shoots laid-in, cutting back strong ones to a lateral near the base, also to be laid-in. See that all the fruits are exposed as much as may be desirable to sunlight, cutting off or putting aside the leaves. Sometimes the fruits must stand clear of the wall, and this may be done by placing pieces of lath behind them. The demands on the roots being the greatest when the fruit is growing fast, trees that are heavily cropped must be watered with about one-sixth liquid manure if strong, and five-sixths clean water. After the fruits of Amsden June, Waterloo, Alexander, and any other early varieties are gathered, without delay remove the wood which has borne fruits, and spread out the young shoots that have been laid in temporarily. Doing this renders the cleansing of the trees from red-spider easier. Afford the trees a watering at the root, and rather than heavily syringe the trees, make them wet with the syringe, and dust over with flowers-of-sulphur; or mix the sulphur with the water and syringe them, leaving the sulphur deposit on the leaves for four or five days before washing it off. The trees may be kept clean afterwards by syringing them three times a week for the next two months.

APRICOTS.—Heavily-cropped trees and those growing in shallow borders will be benefited by being afforded a good root-watering. This may seem unnecessary to some, after the long spell of wet weather that we have experienced, but the Plum (the stock on which the Apricot is worked), cannot well be over-watered when growing on such warm aspects as Apricots require, and for lack of sufficient moisture at the roots, the fruit ripens prematurely, and is wanting in flavour and juiciness.

APPLES.—The Codlins and other free-bearers which had their fruits thinned a few weeks ago, may have a further thinning if the crop is still too heavy, the fruits being now of a size available for kitchen use. The fruits of early free-bearing varieties, as Frogmore Prolific, Lord Suffield, Ecklinville Seedling, Stirling Castle, Winter Hawthornden, Potts' Seedling, &c., if not heavily cropped, grow rapidly during the next few weeks, but if heavily cropped, and not afforded sufficient root-waterings, they will ripen prematurely. Trees in porous soils will need heavy root-waterings at once, and in the event of dry weather setting in, water will be necessary throughout August. Fruits of Peasgood's Nonsuch, Duchess of Oldenburgh, &c., required for exhibition, are impaired in appearance if the bloom gets rubbed off them, therefore all the leaves that cause such disfigurement should be cut off with a pair of scissors.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

HEDGES OF BOX.—Where hedges and specimen trees of Box form features in a garden, the keeping of them in good order requires a great amount of labour to be spent on them, if they are to preserve a good appearance. Sometimes they are trimmed twice a-year; but this is scarcely needed, except in the case of solitary specimens in flower-beds, which are almost sure to require trimming once before the bedding-out commences, and once afterwards. Box, if clipped towards the end of the present month or beginning of August, according to locality, will not grow much if at all before the spring, and thus a good deal of labour is saved. If by reason of being cut earlier a new growth takes place, this will have to be removed, or the frost will disfigure them by nipping the unripened shoots, a state of things often witnessed in the Box edgings to paths, &c., in the garden. Clipping should be done if possible in showery or dull weather, or the leaves which are mutilated will turn almost white under hot sunshine. Specimen shrubs of Box require great care in cutting, so as to preserve their proper shape, especially matched specimens. Hedges of Hornbeam, Lime, Thorn, Privet, or Elm, by way of fence or ornament to look nice, should be trimmed once in the spring and again in autumn.

CHRYSANTHEMUMS.—Plants in sunny borders should be examined frequently to see that they do not suffer from dryness at the roots, more especially those which are planted at the foot of a wall. Should the foliage appear of a light green tint, or in any other way indicate impoverishment of the soil, after first watering them with clear water, afford a good quantity of weak soot-water. The shoots of these plants should be loosely but neatly secured to stakes as often as it seems necessary, weakly shoots and those not required being removed. Examine the plants for earwigs; and should green or black-fly become troublesome, a good dusting of tobacco-powder may be afforded on a damp evening, syringing it off next day before the sun shines on them.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

ROMAN HYACINTHS.—The earliest arrivals of these bulbs being now purchasable at the nurseries, potting may begin. As a compost for them use loam a year or more in stack, passing it through a half-inch sieve, one quarter of Mushroom-bed dung, and sharp sand sufficient in quantity to keep the soil porous. The pots may be 5½-inch ones on this occasion, placing four or six bulbs in a pot, the crowns just under the surface, pressing the soil moderately firm, and placing them out-of-doors in a sheltered place in a bed of coal-ashes, the pots being sunk 2 inches lower than the edge in the bed, and no water afforded whilst showery weather continues, but in dry warm times, water will be required.

RICHARDIAS.—Where planting out is not practised, the crowns of those plants which have been resting in pots turned on their side may receive one good watering 24 hours before shaking them out of the soil, which will have the effect of loosening the soil from the roots, and thus preserving many of the latter from injury. If the stock of plants is to be increased the crowns may be sorted into three sizes, but usually two will suffice, the largest and middle size; and in potting the first make use of 8-inch pots, and for the second 5-inch and 6-inch pots. A fibry loam of good quality broken up by hand into pieces of about the size of a hen's egg may form one half, and the other half may consist of horse-droppings, sand, lime rubbish, and charcoal. Shake the old soil entirely off the roots and pot them firmly, affording water with a fine rose watering-pot, afterwards placing them in shady quarters. When growth has commenced, free use should be made of the syringe. The variety Little Gem thrives when grown in small pots, therefore it must not be afforded large rooting space. I should recommend generally for Richardias a limited pot-room, and the resort to manure-water when feeding becomes necessary. Richardia Little Gem, grows best in mild warmth, and should be kept apart therefore from R. æthiopica.

GENERAL HINTS ON WORK.—The spring-sown tuberous-rooted Begonias should be freely flowering, and the present is a good time to select those which seem desirable flowers, and which possess vigour and the most good points. It is best not to be over-sanguine, and look for the highest excellence in the shape, substance, colour, and habit generally, these being met with in but few cases. Seed may be collected from the finest flowers, and if the crossing has been well managed the progeny will be of a desirable kind, but if the crossing is done without intelligence or any predetermined object, deterioration rather than improvement will follow. For greenhouse decoration, a collection may be got together by weeding out the worst forms obtained from seeds saved either at home, or bought from the nurserymen. The rest may be good enough for planting in the flower-beds. The cool weather permits of much work being done in the warm-houses, and gives a good opportunity to clean the permanent plants, climbers, &c., which cannot be removed to the potting-shed for this purpose. The cleansing can be effected with such simple means as soft-soap dissolved in rain-water, and a sponge or soft brush. Sometimes the syringe only will be required—a much safer procedure than the use of strong and sometimes harmful insecticides.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

ENDIVE.—Seeds of the green-curled and broad-leaved Batavia varieties may be sown in very shallow drills one foot apart, where the bulk of the plants will remain to mature, whilst the thinnings may be transplanted, and form a successional crop. Where so much space as this method requires cannot be spared, it is better to sow the seed in drills at 6 inches apart, and transplant the larger seedlings first, and the remainder 10 days later. Those now large enough to transplant should have somewhat light, rich soil—they grow well between other crops, such as late Savoys, &c.

HORN CARROTS.—A cold frame may be prepared for a sowing of these varieties for winter use. The soil used should be light, sandy, and mixed with wood-ashes, or the seeds may be sown upon a border, to be afterwards covered with a frame when the nights become cold. Sow thinly in shallow drills 5 or 6 inches apart, and do not put on the lights for two months.

ASHLEAF AND OTHER EARLY POTATOS will in most gardens be ready for lifting, except those planted, which may be growing on a north border. Those intended for seed should be laid thinly in a cool place for a few weeks—a preferable method to that of leaving them out-of-doors. In wet weather the men can place the sets in an upright position ready for sprouting.

KIDNEY BEANS.—A sowing of an early variety may be made on a warm border, and in such a manner that the rows or beds may be protected by frames, &c., when the weather becomes cold or very wet. French Beans in bearing should have all pods gathered as soon as large enough for consumption, thus allowing succeeding ones to develop. Afford those in bearing manure-water, unless the plants show by their vigour that it is not wanted.

CABBAGE, KALE, BROCCOLI, ETC.—Continue to plant out from late sowings on ground that, if well manured for the previous crop, will need no fresh dressing, but merely levelling, treading well, and drawing deep drills in which to dibble the plants. These late plantings stand the rigours of winter better than earlier ones, which are apt to develop, in rich kitchen-garden soil, too much leafage.

TURNIPS.—A large breadth may now be sown, affording the land a slight dressing of superphosphate of lime if it have carried Potatos or Cauliflowers, forking in the manure. Suitable varieties are Veitch's Red Globe and Snowball, and if yellow Turnips are liked, All the Year Round. Sow seed thinly if the seed be good, protect from birds, and thin the plants before crowding spoils them.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, JULY 28—Royal Botanic Society.
FRIDAY, AUG. 3—Dundee Horticultural Association.

SHOWS.

WEDNESDAY, AUG. 1—Chesterfield Rose and Horticultural.
SATURDAY, AUG. 4—Royal Horticultural Society of Southampton (2 days).

SALE.

FRIDAY, AUG. 3—Orchids, from Messrs. F. Sander & Co. and others, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—63°.2.

Horticulture in Belgium.

M. EDWARD PYNAERT, in a report to the Chambre Syndicale des Horticulteurs Belges, gives a rather gloomy picture of the condition of horticulture in that country. The Ghent Quinquennial Exhibition of 1893 was of unrivalled extent and magnificence, but, owing to the political troubles of the time, and the feeling of public insecurity that existed, the results were very disappointing from a commercial point of view. In addition to that, the customs duties levied upon horticultural products coming from Belgium in almost all the countries of Europe and America have seriously injured Belgian enterprise. Phylloxera laws, the stupidity of which does not even now, in spite of their evident futility, convince the law-givers, also are a source of inconvenience and loss. Over-production is perhaps the most effective cause of embarrassment to the horticultural industry, but also the one most easily remedied. According to some figures cited by M. PYNAERT, Belgium exports annually living plants and flowers to the value, on the average, of 3,200,000 francs. France takes value to the extent of 1,067,725 francs; England, 796,993; Germany, 658,377; Holland, 321,500; the United States, 94,760; Switzerland, 50,000; Portugal, 21,050; Spain, 17,020. While exportations to France and Holland are increasing, there is a considerable falling-off in the exports to England. In 1880 we are told the exports to England amounted to 3,675,000 francs; in 1890 they had fallen to 942,000; in 1891, to 797,000; and in 1892 to 613,710 francs.

It is not protection in this last case which operates in shutting out Belgian produce, but rather that our people are finding out that they can supply their own requirements at home, instead of sending abroad, which is satisfactory to one party, if not to the other. Moreover, the number of growers on this side of the Channel has greatly increased of late years in proportion as the agricultural industry has become depressed. M. PYNAERT looks to the American market to supply in part the deficiencies in the trade with Britain. In any case, we have little doubt that the industry and enterprise of our Belgian neighbours are quite adequate to combat any temporary depression, and to suggest other means of enhancing the national prosperity where one department shows signs of falling off.

Failures in Cucumber Culture.

THE consumption of the Cucumber has, in this country, increased so much in recent years, and so large is the amount of capital which is employed in the cultivation of the plant, that an investigation into the causes which involve the loss of the plants or the deterioration of the crop, is invested with a great deal of interest for many of our readers, and is of supreme importance to some of them. It is with satisfaction, therefore, that we publish the following letter from the pen of our old correspondent, Mr. J. J. WILLIS, of Harpenden. It will add to our stock of knowledge of obscure plant diseases, and afford to cultivators the means of successfully combating a widespread malady affecting the Cucumber plant. Private gardeners who are in the enviable position of being able to obtain fresh soil at small or no cost, other than that of digging and carting it, may not be so greatly interested in the discovery of a remedy for the disease, but it must be otherwise with amateurs and residents near large towns who may have to use for several years together soils divested of the modicum of iron so very necessary for healthy growth, and who scarcely ever have access to "turf from rich old pasture land" which most calendarial writers recommend for Cucumbers, Melons, Pines, and Vines:—

"In the *Gardeners' Chronicle* for Dec. 23, 1893, p. 772, I called attention to the failure of Cucumbers when grown extensively for market, and cultivated in the same house year after year, one crop of Cucumbers succeeding another without crops of other plants intervening. Also, that after the third year paying crops of Cucumbers could not be obtained. Discussion was invited upon the question.

I take this opportunity of thanking those gentlemen who were kind enough to give their experience, but the subject was not taken up as I expected; perhaps this result could scarcely be wondered at, because in these days of such keen competition, growers for market cannot afford to reveal all their trade secrets. However, I have been enabled by the kindness of some growers who cultivate Cucumbers extensively for sale, to make certain investigations, which I venture to bring under notice, in the hope that the remarks may be of some value, and lead others to follow up the subject more fully.

It seems to be the usual practice after the growth of a Cucumber crop to remove all the surface-soil, taking it out to a depth of from 12 to 15 inches, and to convey into the Cucumber-house entirely fresh soil. Hence, whatever may be the cause of failure, it cannot be attributed to the surface soil.

Plants set in the newly-imported soil have been known to make good healthy growth up to a certain point, and then to show signs of decay, and finally yield but a meagre crop of fruit. It appears to me, therefore, that we must look for the primary cause of failure to the subsoil, and it is to that, that I have directed my attention.

The Cucumber is a plant that makes an enormous amount of growth in a very short period of time, and being of such a succulent character, it is accordingly extremely susceptible to disease.

It will readily be understood that, as the plant makes such an extensive above-ground growth, it is absolutely essential that it should make an equally extensive underground root-growth also.

From observations made of the subsoil in which Cucumbers had been grown, I have found that the roots penetrate to a considerable depth, and fill the subsoil with a mass of fibrous root-matter. A soil, therefore, in which several successive crops of Cucumbers have been grown naturally becomes charged with much decaying vegetable matter, and the supposition is, that the primary cause of failure may be due to excreted substances given off by the roots during growth, which accumulates in the subsoil. Another source of failure must be looked for in exhaustion of some kind of plant-food within the range of the roots, and this exhaustion seems likely to be of potash and nitric acid.

Now, it cannot be expected that the subsoil as well as the surface soil of a Cucumber-house can be renewed after each crop; this would involve an expense greater than the crop would bear. The only course, therefore, is to try and purify the subsoil of any injurious matters that may be present, and to supply those ingredients that have become deficient in the subsoil.

It can readily be understood that with such quickly-growing plants as Cucumbers every necessary constituent must not only be present in the soil in sufficient quantity, but these constituents must be in a readily available form for the plant to take up.

It is well known that Cucumbers are subject to fungoid diseases. In a paper read by Dr. A. B. Griffith before the Royal Society of Edinburgh on June 18, 1888, it was shown from a microscopical study that the nodular outgrowths upon the roots of the Cucumber were due to a fungus whose spores are to be found in the soil at the end of the season, where they remain dormant until the spring. The spores are also found in the atmosphere and in waters.

This fungus belongs to the Ustilagineæ, or the same group of which the smuts are important members. The author called this particular Cucumber root-fungus Ustilago cucumis. From experiments made it was found that the spores and hyphæ of this parasite could be destroyed by sulphate of iron. Mr. E. F. CROCKER, a market gardener of Ham Green, Bristol, has been successful in destroying the said fungus by using iron sulphate. He states that, having applied sulphate of iron to a crop of Cucumbers which showed signs of decay, every trace of disease passed off, and he was able to cut scores of fruits of the most splendid quality, and that the plants were extraordinarily fruitful. Mr. CROCKER further says it is the first house of Cucumbers that he has grown without disease for at least ten years.

All soils contain iron as a constituent, but this element is not always in a form to be readily taken up by growing plants. This being so, a crop must suffer, iron being one of the ingredients requisite for the formation of green chlorophyll.

Chlorophyll is a substance of primary importance in every plant, and where there is plenty of chlorophyll in a crop, it shows that there is nitrogen assimilation; and nitrogen assimilation, provided there is a plentiful supply of minerals in the soil, means healthy and vigorous plant-growth.

Some years ago, experiments were made at Rothamsted on the effects of sulphate of iron upon various plants, and it was found that while the crops did not yield any appreciable extra growth, yet they assumed a very dark-green colour, showing that chlorophyll had been formed. It was also found that the iron sulphate when applied to grass-land had an injurious effect upon mosses and all the lower vegetable organisms.

In some investigations recently made with the Cucumber, it has been found that sulphate of iron supplied in small quantities and dug into the subsoil before placing the upper layer of soil upon it, and then watering the surface-soil with a weak solution of the same, so as to allow the iron to reach the roots directly, acts as an antiseptic agent, destroying the vegetable parasitic diseases which otherwise would attack the growing crop, and further tends to



Fig. 16.—VIEW OF DRIPPING POOL, PALMERSTON PARK, DUBLIN. (SEE P. 100.)

convert the excreted matters of previous root-growth into useful and assimilable plant-food for future crops.

Young Cucumber plants while still in pots, and previously to being set out, may be beneficially watered with a weak solution of the iron sulphate. Plants so treated have maintained a healthy growth throughout their life, while others grown under similar conditions but without the iron, have been diseased and unprofitable. The subject of the food requirements of the Cucumber, based on the chemical analysis of the plant must be left for a future letter."

View in Palmerston Park, Dublin.—Our illustration on p. 99, gives a good idea of an attractive part of this public park, viz., the pool and waterfall. The progress made in the work of remaking Palmerston Park, has been rapid, and little now remains unfinished. The laying out of the grounds has been carried through in an artistic manner by Mr. William Sheppard, assisted by his son, under whose superintendence all the most important improvements of this kind for some years past have been executed in Ireland, notably St. Stephen's Green Park, and, very recently, Harold's Cross Park. In the part of the park near the Palmerston Road a flower garden has been made, around which seats will be placed, and close to this is a dripping pool, well shown in the illustration. It is supplied with a good stream of water, and has been formed in such a manner, that it is impossible to see the end of the pool from any given point. In and about the rocks are planted climbing Roses, Honeysuckle, Ferns, Yuccas, numbers of herbaceous perennials, and Austrian Pines which will in a short time be very effective. From this pool, walks are made, encircling the park leading to the western end. Near to this are some very fine old Pine trees, Cedars and Elms, which give that part a furnished appearance. Much tree planting has been done, especially on the boundaries, where the Austrian Pine has been used in beltings in considerable numbers.

Botany at Harvard.—A friend of Harvard University, whose name is withheld, recently gave 10 000 dols. to its Botanical Department for immediate expenditure. One-quarter of the sum will be used for the Gray Herbarium, while one-quarter will be devoted to the Botanic Garden, and the remaining half to the Botanical Museum for the completion of some of its collections. *Garden and Forest.*

Bristol Amateur Horticultural Society.—At the invitation of the President, Councillor J. Walls, M.R.H.S., the members of this Society and friends assembled in the gardens at Cromwell House, Royal Fort, St. Michael's, on Wednesday evening, July 16th, to hear a lecture on Orchids given by Mr. Wm. Tanser, gardener to R. B. Cater, Esq., of Bath. The lecturer discoursed on the different species and their habits, and gave some valuable advice as to their treatment at various seasons. The lecture was illustrated by specimens grown in the gardens. A hearty vote of thanks was passed to the lecturer on its conclusion. Tea and coffee were provided by Mrs. Walls, and a hearty vote of thanks was accorded to that lady and her husband.

The Effect of the Railway Strike in the United States.—The railroad strike, which has practically put a stop to freight traffic between the Atlantic and the Pacific coasts, has brought about some strange conditions in the fruit market here. Two car-loads of California fruit, belonging to the Earl Fruit Company, by some good fortune reached this city on Monday in fair condition, and since it is not probable that any more California fruit will arrive for a month, the prices brought were unusually high. Plums sold for as much as 3 30 dols. a box and upward; Apricots, which a few days ago sold for 70 and 80 cents a box, went up to 3·05 dols.; Peaches brought 3 30 dols. a basket; Bartlett Pears brought 4·75 dols. a box, while Seckel Pears brought 5 dols., and a few red Astrachan Apples sold at the rate of 17 dols. a barrel. Naturally, the stoppage of so large a source of supply as the California orchards has strengthened the prices of all local fruits like Cherries, Raspberries, and Water Melons, as well as the few Oranges and Pine-apples which are now coming into this part. Bananas, too, are considerably higher, while Lemons, on account of the falling off of the demand in the West, are piling up here, and becoming a drug in the market. The fruit-growers of California, especially those who depend on early fruits, must sustain very heavy losses. In such places as Vacaville, telegraphic advices say that tons of early fruit are being dried or canned, as no fruit trains have started from that point for more than a week. Arrangements are not adequate, however, for drying all the fruit produced, and many of the canneries can get no sugar, so that much of it has already been wasted. At this time, in an ordinary season, 250 car-loads of fruit leave San José alone for the East every day, and it is impossible to can or dry this enormous quantity, so that if the blockade continues long, enormous quantities of fruit will be sacrificed. *Garden and Forest.*

"Nettle-Headed" Hop.—We have received the following letter relating to the effects of eel-worms in the root of Hops:—Last week when visiting the Hop-gardens of Mr. E. A. White, Beltring, Paddock-wood, Kent, I had the opportunity of examining specimens of "nettle-headed" Hops, a disease which is apparently on the increase in the Hop-growing districts of this county. The general appearance of the plants led me to suspect some root disease. Since then Mr. White has been good enough to send me complete and typical specimens of the disease, and on careful examination I find that the spongy cortex of the root is extensively injured, the injury always being accompanied by large numbers of Nematodes, which are evidently the direct cause of the mischief. The further investigation of the matter I intend to carry out without delay. *John Percival, Botanical Laboratory, Natural History Museum, South Kensington.*

Tadcaster Paxton Society.—The members of the above society and their friends made their first annual excursion on Wednesday, 18th inst., visiting the Marquis of Ripon's demesne of Studley Royal and Fountains Abbey. The party was met and conducted round the gardens by Mr. Knellor, the Marquis's gardener, who has greatly improved the place of late years. On the return journey, some of the party visited the charming gardens of E. Becket-Fabre, Esq., at Harrogate.

M. Alphand.—Under the auspices of the National Horticultural Society of France, 84, Rue de Grenelle, Paris, a movement is on foot for the purpose of erecting a statue to M. Alphand, who did so much to create and embellish modern Paris.

Jardin des Plantes.—We have received from the Muséum d'Histoire Naturelle de Paris a list of living plants which are offered by way of exchange to other Botanic Gardens and likewise to special correspondents.

Birmingham and Midland Counties Gardeners' Association.—The Birmingham and Midland Counties Gardeners' Mutual Improvement Association, on the occasion of their annual excursion recently, payed a visit to Llandudno and Bodnant Hall, and the party numbering 103 persons found much to admire and interest them in the fine mountainous scenery and the well planted and admirably kept gardens rich in shrubs and Conifers.

Strawberries.—So great has been the failure this year, that we have heard of large growers ploughing the plants in. It seems as if the crowns were burnt up by the heat and drought of last autumn, whilst the spring growth was checked by the frosts of May. What fruits there have been, have been watery and devoid of flavour.

Brixton, Streatham, and Clapham Horticultural Society.—In the death of Miss Roupell, of Harvey Lodge, Streatham Hill, this Society loses a friend who for many years took an interest in its welfare, and visited its annual shows with delight. Many of the committee and other working members of the Society were personally known to her, and these felt so much regret at her death that they subscribed amongst themselves for a beautiful wreath, artistically arranged by Messrs. Perd & Sons, of Roupell Park Nurseries, and forwarded it on the 18th inst., the morning of the funeral, as a mark of respect and esteem.

Erinosis in Vines.—Every now and then we meet with Vines with patches of light brown felt on the leaves. This felt consists of matted hairs, and was at one time thought to be connected with the presence of a fungus. The real culprit, however, is a mite, Phytoptus vitis. The irritation set up by this creature causes the preternatural development of hairs. Sometimes this occurs also on the young flowers of the Vine, and in a specimen lately sent to us every flower in the bunch was thus affected—a most serious matter. Affected leaves or bunches should immediately be burned. Whether spraying would be of any benefit we doubt.

Pears seem to be the crop of the year so far as fruits are concerned. From various quarters we hear of abundant crops, but this will be more fully set forth in the fruit crop returns to be published in our issue for August 4.

Royal Scottish Arboricultural Society.—The annual meeting will be held at 20, George Street, Edinburgh, on Monday, August 6. The annual excursion will extend from the 7th to the 10th of August, and will be devoted to a visit to several famous estates in Strathspey, Moray, and Banff.

Stealing Shrubs.—On the 16th inst., at the Edgware Petty Sessions, a sentence of 21 days' imprisonment was passed on a prisoner convicted of stealing shrubs from the nursery of Mr. J. J. Foster, at Stanmore, Middlesex. The plants taken were valuable, being 54 good plants of Cupressus Lawsoniana erecta viridis, about 2 feet high. The man principally concerned in the theft has so far managed to escape arrest.

Monographie des Roses.—Rosarians who care for the botanical history of the genus Rosa, will hail with unwonted delight the prospect of a work on this subject from the pen of M. Crépin. The eminent Belgian botanist has devoted more than thirty years' study to the subject, and it will be a great convenience to have his numerous scattered papers condensed into the form of a monograph. Subscriptions (10*s.*) should be sent to Messieurs Mayolez & Audiarte, Rue de l'Impératrice, 17, Brussels.

Publications Received.—*A Catalogue of the Flowering Plants and Ferns found in the Island of Penang*, by Charles Curtis.—*Annual Report of the Royal Botanic Garden, Calcutta.*—*Bulletins of the Botanical Department, Jamaica*, and of the *Botanical Stations, Antigua*, and *St. Kitts.*

PLANT PORTRAITS.

Amaryllis (potius Hippeastrum) Le Triomphe, *Illustration Horticole*, June 15.

Anona Rodriguesii, *Barb. Rod. Plant. nov. Gard. Bot., Rio de Janeiro*, est. i.

Aristolochia ornithocephala, *Le Jardin*, p. 137.

Begonia President Carnot, *Garden*, July 7.

Campanula alpina, *Journal of Horticulture*, July 5.

Canavalia versicolor, *Barb. Rod. Plant. nov. Gard. Bot., Rio de Janeiro*, est. ii.

Carnation Celia, *Garden*, June 30.

Chuquiraqua alpestris, *Barb. Rod. Plant. nov. Gard. Bot., Rio de Janeiro*, est. v.

Cupressus macrocarpa, *Garden and Forest*, June 20.

Grania malacophylla and G. Cogniauxiana, *Barb. Rod. Plant. nov. Gard. Bot., Rio de Janeiro*, est. iii. and iv.

Hypericum densiflorum, *Meehan's Monthly*, July.

Lælio-Cattleya Canhamiana alba, *Journal of Horticulture*, July 5.

Lilies, Alice Wilson, Van Houttei, *Garden*, July 14.

Lycaste Luciani, *Lindenia*, t. 412.

Maxillaria venusta, Linden and Rchb. f., *Orchid Album*, t. 492.

Miltonia spectabilis, Lindley, *Orchid Album*, t. 491.

Odontoglossum cordatum (Lindley) var. aurea, *Orchid Album*, t. 489.

Odontoglossum crispum var. Waltonensis, *Lindenia*, t. 416.

Palumbina candida, Rchb. f., *Orchid Album*, t. 490.

Phlox divaricata, *Garden and Forest*, June 27.

Plums, Japanese, Mariana and Masu, *Revue Horticole*, June 16.

Pyrus betulifolia, *Garden and Forest*, June 6.

Sparmannia africana, *Garden*, June 23, 1894.

Tropæolum azureum, *Revue de l'Horticulture Belge*, July 1.

1, Tulipa Ostrowskyana; 2, T. fragrans; 3, T. australis, *Garden* June 9.

Vanda suavis Veitchii, *Revue de l'Horticulture Belge*, July 1.

Vanda teres, Lindl., *Gartenflora*, July 1.

Veronica Purple Queen, *Garden*, June 16.

Home Correspondence.

VERONICA TRAVERSII.—I was glad to see mention made, in your recent issue, of Veronica Traversi, and the only wonder to my mind is that it is not more often seen in gardens. There is a very fine plant of it in the grounds of the Atkinson Morley Hospital at Wimbledon, which I had planted there six years ago. The bush is now 10 feet 8 inches across, and 6 feet 4 inches in height. It has been one mass of bloom this season, and the flowering buds are exquisitely beautiful. I am very fond of my pet floral child. *John Colebrook.*

CANTERBURY BELLS.—Varied and beautiful as are the Campanulas generally, none equal in decorative effect, size of bell, and variation in form and colour, the Canterbury Bell. True, the flowers are bells, now literally Great Toms, and yet more properly huge cups, for they stand erect rather than hang. The Canterbury Bell of to-day is a very different flower from that of some twenty years since, or may it be said, of the old strain. Those gave flowers of perhaps two or three colours, of smallish size, single, and the plants were not of marked robustness. Now we can find in a good strain singles, semi-doubles, and doubles, the variations being found in the number of cups. Nature—for it seems, after all, to be chiefly of her doing—has crowded one into another. When there are twin cups, usually the finest form and largest cups are seen; when, however, three or four are in one, then the flowers are very solid and double, reproductive, but still rather shy; these also are of the latest to bloom. Colours include white, grey, lavender, blue, deep blue, rose, cerise, heliotrope, and other tints, all singularly beautiful. When seed is sown early in the spring, and plants send up several stout flower-stems the following year, single plants in bloom form perfect bushes of flower, and cannot well be excelled by any other hardy biennial. The remarkable development found in Canterbury Bells puts these flowers into the florist's category; for if Nature has done much, so also has the patience and care of the seed-grower been greatly exercised to produce all this wealth of beauty. I saw but the other day a huge mass of these plants in bloom; it was at the Bedfont seed-grounds, and the sight was worth going a long way to see. Besides the normal plants with their rough calyx, there were many of the fine and curious duplex or Calycanthema type, and as varied in colour. The conversion of the green sheath into a broad, saucer-like flower, is one of those strange floral developments that lead us sometimes to believe that flowers have transforming powers far beyond anything that has hitherto been seen. *A. D.*

THE COMMON LIME TREE.—It has been my good fortune of late to see some specimens of Lime trees, and samples of fine avenues of Limes in full foliage, flower, and early fruitage; among others, the magnificent Lime avenue of Torquay, in Devonshire. Not having seen the famous Linden or Lime avenues of Berks, I confess that this Torquay avenue is the longest and the tallest I have seen. But the profusion of bloom, and the prodigality of embryo seeds and scales on some Limes, add greatly to their interest and beauty; while their stately habit, early and ample foliage, admirably fit them for forming avenues or groups, whilst they are also very effective as single trees. Their fragrance, however, is perhaps their most valuable quality. [In Germany an excellent table oil is expressed from the seeds, of good bright colour, and pleasant flavour. Ed.] With the single exception of the Grape-vine in flower, we have no plant or tree to exceed the Lime in the over-flowering abundance, and sweetness of its odours. It may be fancy, but I think it fact, that the Lime and Vine in bloom smell more alike than any other two plants that can be compared. All will admit that either is sweet enough to satisfy the most rapacious consumers of odours rich and sweet. Some, indeed, think both plants as too fulsome for their olfactory nerves. But, on the other hand, others welcome both, as well as the veritable dose of prussic acid distributed by Portugal and common Laurels in bloom, as antiseptics or deodorisers of rare potency and value. Several times within the last week I have felt grateful to Limes in bloom for overlying bad smells with such a thick surface-coating of sweetness as to render the former imperceptible, if not innocuous. Largely for this reason, as well as for the intrinsic beauty and copious shade of the Lime, I have for years advocated its being planted more or less largely wherever it will thrive as a town tree. The chief objection urged against it has been, that it sheds its leaves early in the autumn. This I consider a merit for town trees. Their verdure, shade, and sweetness are most needed in the early spring, summer, and autumn. Though the leaves begin to fall so soon, the sooner they are wholly swept off the better, and the dilapidated verdure gives place to bare boughs, beautifully crystalled over with hoar frost. *D. T. F.*

TOMATO-GROWING AT GODALMING.—The other day I looked in at Mr. Mitchell's nurseries at Godalming, and to my surprise he has erected two houses, spanroof, each of which is 115 feet long, and he contemplates erecting some more for the purpose of growing Tomatos for the market. Formerly he used to grow for the local trade, but now that the demand for the fruit has so much increased, he is endeavouring to meet it. A seedling Tomato, which he has raised between Challenger and Trophy, has the free-setting properties of the former, and the heaviness of the latter. It produces large clusters of, on an average, seven handsome large fruits, smooth, regular in form, and of a glowing scarlet colour; the flesh of fine quality, firm and solid. Mr. Mitchell had gathered more than 1000 lb. from his 400 plants, and reckoned his crop for the season at two tons. I do not advocate the giving of names to any chance variety that a man may raise, unless it is very superior to others; but from what I saw at Mr. Mitchell's, and the information I was able to glean about this one, I should say that it will be much sought after. And I am not alone in thinking so, as one of the largest growers for market is desirous of purchasing it for his sole trade; and although he grows some eighteen to twenty tons of Tomatos yearly, nothing like it has previously come under his notice. The supply of Tomatos is not equal to the demand, although foreign-grown fruit comes here in great quantities, and, when the price per lb. becomes low, as is the case late in the summer, there is a very general demand for home-grown produce. If more Tomatos were grown near small towns to supply local requirements, the growers would receive more for their produce, and the consumer pay less than is now the case when the bulk of the crop is sent to London, and has to bear the cost of railway freight to and fro, commission charges, &c. *A. Evans, Lythe Hill, Hazlemere.*

FLOWERING OF AGAVE AMERICANA.—In the *Gardeners' Chronicle* for June 23, p. 786, the flowering of the two American Aloes at the Royal Botanic, Regent's Park, is noted, and I would remark that we have a fine plant of the same species about seventy years old which is throwing up a large flower-spike. *W. Archer, Hill House, Saffron Walden.*

PHORMIUM TENAX.—At p. 45, Mr. Divers says that "the failure of the above-named plant from frost in Cornwall may be due to imperfect drainage." There are many hundreds of the New Zealand Flax growing here, and most of them are on the edges of ponds, where the roots run out several feet into the water, and those which were the nearest to it were the least harmed from frost, at the same time that the plants in Cornwall were killed. Phormium Veitchii, P. Colensoii, P. atropurpureum, and P. tenax variegatum, are the varieties grown here outside, and the last-named was the least harmed, and is now in flower. Fortunately, during the very severe frost, which lasted only three days, the ground was covered with snow, which saved the crowns and all leaves bent to the ground by its weight; all leaves exposed were killed, and great quantities were carted away and burned, the fibre being too tough for it to rot when put with other vegetable matter. Mr. Divers is rather surprised that the Flax should be killed in Cornwall, and yet pass the winter so much further north uninjured. I think this shows the diversities of our climate. Here, on January 6, we had 26° of frost at 6 A.M.; at 9 A.M., 22°; at noon, 14°; this very severe frost did much damage to tender vegetation through the whole south-west of the British Isles; so severe a frost cannot be remembered by the oldest person. *W. O., Fota, Queenstown, Cork.*

CEANOTHUS NOT HARDY.—It is pretty well known to gardeners that the Ceanothus is not, as regards most of the varieties, hardy in all parts of these islands. A plant of C. divaricatus, growing against a south wall at this place, and 30 feet high, a little exposed to the north wind at the end of the wall, succumbed to frost this year. It was first injured by the frost of 19° on January 19, 1891 and the 24° of frost experienced on January 5 last quite killed it. It was planted thirteen years ago, and had grown very fast, the stem being 9 inches in diameter at the base. It flowered profusely every year. Gloire de Versailles, another variety, was killed the second winter after planting, on a full south aspect, and protected from the north wind. C. dealbata appears to be the hardiest variety in my part of Hants. *E. Molyneux.*

SWEET PEAS.—Never in my experience have I seen Sweet Peas do so well as this season. Of the fifty or more varieties sown, none failed. Some are much more robust than others, under the same kind of treatment. The earliest to bloom were some that were self-sown, and which came up after rain in October; and these, owing to the mildness of the autumn, were very forward by Christmas time, being fully 6 inches high. These plants suffered somewhat from the severity of the weather in January, but as the plants stood singly they were hardy, and in March they began to grow away rapidly, and began to bloom towards the end of May. Seeing how these self-sown seeds were inclined to branch when they started into growth, I was induced to sow the others more thinly than usual, and am only sorry that the seeds were not put at least 6 inches apart, as they would then have done far better, for Sweet Peas, like the culinary varieties, are very robust this season, growing from 7 to 8 feet high. Of a row consisting of the varieties Captain of the Blues, Countess of Radnor, Mrs. Sankey, Splendour, Her Majesty, and Mrs. Gladstone, the first-named is 8 feet high. These varieties were sown in pots on February 1, five seeds in a pot, and placed in a vinery till they germinated. After being hardened off, they were planted out in the first week in March, each potful of plants being placed 1¼ feet from its neighbour; and so well did they grow, that in a short time the row presented the appearance of having been sown and planted thickly, as from ten to a dozen shoots started from each plant. At the present time they are a charming feature, being clothed with bloom for the greater part of their height, and the flower-stalks are from 1 to 1¼ feet long, the flowers of good substance and fine colour. Another row consists of the varieties Princess May, Stanley, Emily Henderson, Dorothy Tennant, Lady Penzance, and others of beautiful shades of colour. The American variety has done very well; and no doubt other gardeners, like myself, were induced to work up a stock of it from cuttings as soon as the plants were large enough. The plant is a free bloomer, the flowers large and of good substance, and pure white; there are others, however, quite as good, which throw stronger stems. Another row consists of the latest novelties, viz., Duke of York, Novelty, Venus, Mrs. J. Chamberlain, Meteor, and Duchess of York, some of which are very beautiful in their delicate tints and showy flowers. Those who have hitherto been content to grow none but the old varieties, would do well to procure the new ones, and grow them well. It used to be the custom to sow rows of Sweet Peas thickly, in the

hope of obtaining a large quantity of flowers, but the soil soon being exhausted, the blossoms were but few, and of poor substance. To grow Sweet Peas well, the ground can scarcely be too rich, and the plants must be allowed plenty of space; and if seeds be sown in pots, only three plants should be left in each, as I find that five plants become too crowded even when the potsful are planted out at 1½ feet apart. Sticking the plants in time is of importance, and the sticks should be strong ones, well furnished with sprays, and placed at least 2½ feet apart at the top, so as to allow the haulm plenty of space in which to grow. If three sowings are made at intervals of about one month, the first being early in February, to be planted out in March; another about the last week in March, to be planted out in April; and a third in the open ground in May, will furnish blooms till frosts come. *H. C. Prinsep, Buxted Park.*

OSMANTHUS ILICIFOLIUS IN FRUIT.—Last year some of the rarer and scarcer shrubs flowered here, and set fruit for the first time, so far as I know, among them the Osmanthus, fruit of which I am now pleased to be able to forward to you for your inspection. I believe it is still very uncommon to see it in fruit; and at all events, it is the first time it has fruited at Powerscourt. The silver variegated form also flowered here last year, but it set no fruit. There is a sprig of fruit on the bush from which I picked the fruit I have sent, but I noticed it is all on the south-west side of the bush. I also observe that a number of Conifers are producing cones here this season that have not done so before, such as Cedrus atlantica, C. Deodara, Abies magnifica, and others. I have not seen the fruit of Osmanthus before grown in this country; but it is probable that it may have fruited in the south, although I am not aware of it. The plants of it flowering and fruiting at Powerscourt were planted by me in 1867—small plants about a foot high—so that they are now about thirty years old. *C., The Gardens, Powerscourt.* [It is, so far as we remember, the first time we have seen the fruit. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

July 24.—In connection with the meeting on Tuesday at the Drill Hall, James Street, Westminster, was held the annual exhibition of the Carnation and Picotee Society, which attracted a good number of exhibitors. The exhibits under the ordinary committees were also more than usually numerous, and a large quantity of certificates and awards were granted to new and rare plants. Begonias and Caladiums were especially well shown, and some capital lots of Gooseberries were shown by nurserymen.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, J. Laing, O. Thomas, H. Herbst, H. B. May, C. T. Druery, R. Owen, G. Stevens, C. F. Bause, W. C. Leach, H. Cannell, J. D. Pawle, J. Walker, G. Gordon, H. J. Jones, E. Molyneux, G. Paul, and C. E. Shea.

A very nice group of Gymnogrammas and Selaginellas came from Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton. Selaginella Lyallii and S. Emiliana are two vigorous and pretty plants. A First-class Certificate was awarded to the latter. Gymnogramma decomposita, G. schizophylla and its varieties grandiceps, gloriosa, &c., were well shown. Also the curiously-crested G. Parsonii, some plants of Carnations, Winter Cheer, Miss Joliffe Improved, &c., were likewise included (Silver Flora Medal).

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., had a huge bank of tuberous-rooted Begonias in flower, mostly single varieties. The numerous bright blossoms were freely interspersed with Cocos, Ferns, Asparagus prostratus, &c., and the group was one of the gayest features of the meeting (Silver-gilt Flora Medal).

From Messrs. Wm. Cutbush & Son, Highgate, London, N., came a group of hardy flowers in considerable variety; some bunches of Coreopsis grandiflora were exceeding bright, also a collection of cut blooms of Carnations (Silver Banksian Medal).

Another group, rich in good hardy flowers, was from Mr. B. Ladhams, Shirley Nurseries, near Southampton. The curious Michauxia campanuloides was included; Eryngium amethystinum, and Eryngium alpinum, were good; also a bunch of the Monarda didyma, less common in herbaceous borders than it ought to be; Bocconia cordata, Acanthus mollis, Centaureas, Spiræas, and Echinops, were amongst the other good things, and the pretty blue Scabiosa caucasica, was well represented (Silver Flora Medal).

Messrs. Jno. Laing & Sons, Forest Hill, S.E., set up a large and handsome group of Caladiums in numerous varieties:—Triomphe de Conte, a fine leaf of dark rose having on most of the leaves green veining; Itapocii, a large, thick, dull, crimson-coloured leaf with markings of dark green; and Paquer, a large leaf of pleasing shape with intensely red veins and much of the leaf white, other parts green, were all granted Awards of Merit. Amongst a number of other fine varieties, Rio de Vermellio, a large handsome leaf, of peculiar and even markings, might well have received an Award. Ignatii is quite a novelty; the leaf is bright rose, with very striking veining of dark green. The same firm received Awards of Merit for Sonerila Souvenir de Madame van Houtte and S. François Marchand, the leaves having a very dark green ground and minute white spots (Silver Flora Medal).

Messrs. J. Veitch & Sons, Chelsea, showed plants of six good varieties of Caladiums, each kind grouped together in a pan. Awards of Merit were given to Duke of York and Duchess of York, both dwarf-growing, self-coloured varieties, the latter variety being of much lighter shade than the former. Also to F. W. Moore, another self-coloured variety, with leaves a little larger than the others; and to Chelsea Gem.

The same firm received a First-class Certificate for Selaginella vividangula, a very handsome tasseled variety; and an Award of Merit for a large double Fuchsia, called Ballet Girl, sepals deep red, corolla white.

Messrs. H. Cannell & Sons, Swanley, had a group of double Begonias: Octavie, a pretty dwarf, free-flowering double white variety; Rev. Lascelles, yellow; and Mary Cornell, rose. An Award of Merit was made to the variety Beauty of Eynsford, noticed in our columns last week, and to a fine Canna named Colibri. A number of bunches of double Ten-week Stocks from the field, illustrating a good strain, were also included (Silver Flora Medal).

Mr. B. R. Davis, Yeovil Nurseries, Somersetshire, had a large collection of Begonia blooms, embracing both double and single varieties, staged on boxes covered with moss and Ferns; capital varieties were represented in both sections (Silver Banksian Medal).

From M. Louis Van Houtte, père, Ghent, Belgium, came a capital collection of Bertolonias and Sonerilas. Awards of Merit were given to the following:—Sonerila Duchesse de Brabant, S. Madame van Langeshool, Bertolonia Margarita superba, B. Triomphe de l'Exposition de Gand, B. Comtesse de Kerchove de Denterghem (Silver Flora Medal).

Mr. W. Rumsey, Joyning's Nurseries, Waltham Cross, had a group of cut Roses in a good number of varieties. The flowers were very fine (Silver Banksian Medal).

Messrs. F. Sander & Co., St. Albans, exhibited a pan of Impatiens auricoma, a yellow-flowering species.

From the Right Hon. Lord Penzance, Godalming, came a number of hybrid Sweet Briars, and an Award of Merit was given to Diana Vernon, a perpetual-flowering hybrid, with large single rose-coloured flowers.

Hybrid Streptocarpus and some sprays of Desfontainea spinosa came from the Dowager Lady Bowman, Dorking,

Mr. A. Waterer, Knap Hill Nursery, near Woking, had sprays of his Spiræa Anthony Waterer.

Messrs. Wallace & Co., Colchester, again showed flowers of their Calochortus. First-class Certificates were given to C. Plummeræ, a very lovely variety; and to Tigridia grandiflora lilacea, a good rose-coloured one, with basal spotting. An Award of Merit was given to Gladiolus Lemoinei, J. H. Krelage; and a good number of Liliums were shown, including a very fine lot of L. longiflorum giganteum (Bronze Banksian Medal).

A group of Sweet Pea blossoms in variety was sent by W. H. Myers, Esq., Swanmore Park, Bishop's Waltham (gr., Mr. Molyneux). (Bronze Banksian Medal).

Messrs. Collins Bros., 39, Waterloo Road, S.E., received an Award of Merit for a very fine white perennial Phlox named Avalanche.

Mr. T. S. Ware, Hale Farm Nurseries, near Tottenham, staged a very pretty collection of Carnations in bunches, with plenty of "grass." There were numerous fine varieties, and they were staged in the most tasteful manner, as well as the most natural. Also plants of Carnation Pride of Great Britain.

An Award of Merit was given to Carnation Cantab, a richly-perfumed scarlet-clove, exhibited by Mr. F. Gifford, Tottenham. Similar awards were obtained by Ladas, a yellow ground Picotee, edged with red; President Carnot, another yellow ground edged heavily with deep rose; and The Burn, a very pretty blush Carnation, with pink centre; Mrs. Douglas, a pale ground flower, edged with pink; and Eudoxia, all shown by Mr. Douglas, gr. to Mrs. Whitbourne, Great Gearies, Ilford.

Plumeria alba, exhibited by Mr. Moore, from the Royal Botanic Garden, Glasnevin, received a First-class Certificate; and an Award of Merit was given to Noisette Rose Madame Pierre Cochet, from Messrs. Paul & Son, Cheshunt.

Messrs. J. Laing & Sons, Stanstead Park Nurseries, Forest Hill, showed a small number of beautiful Tuberous-rooted Begonias as plants, viz., Miss Hicks, a very double and large white bloom; B. Lady Tyler, an equally fine scarlet-flowered variety (Award of Merit); Croton Mr. Bause, a variety with large, plain leaves, marked with yellow on a green ground, and having a thin edging of rose colour. Some self-coloured Antirrhinums of dwarf, compact habit, suitable as bedders, came from this firm.

Miss Mason, 21, Queen's Mansions, Victoria Street, sent a bunch of Helleborus niger flowers, but whether they were forced, or had been artificially retarded was not stated.

A Carnation, Lady Henry Grosvenor, pink in colour, and with the true old Clove scent, came from Mr. Drawfield, gr., Bulwick Park, Wansford.

Some leaves and racemes of blooms of Pterocarya caucasica were sent by Mr. Burrell, gr. to the Duchess of Albany, Claremont. The flowers, which are very seldom produced in this country, are arranged in four parallel rows, on a stalk 1 foot in length. (See *Gardeners' Chronicle*, 1888, vol. iv., p. 781.)

Messrs. G. Bunyard & Co., Old Nurseries, Maidstone, had a collection of Spiræas, rich in pink and red-coloured flowers. We may mention Billardi, a form of Douglasi, Blumei, Douglasi, callosa, Pallasii and Bumalda, forms of callosa, Nobleana, and the very bright red Fortunei. The white species were Lindleyana and callosa alba. A hardy species of St. John's-wort (Hypericum aureum) was also shown. It has flowers, yellow, about 2 inches across.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed Retinospora squarrosa sulphurea, in which the young growth is of a yellowish hue; in other respects the plant exhibited no departure from the normal (Award of Merit). A yellow-flowered Diervilla sessilifolia, and Spiræa callosa var. atrosanguinea, were shown.

From Messrs. Dobbie & Co., Rothesay, N.B., came an extensive show of Sweet Peas, in great variety of colours, showing much advance on what it was common to see in our gardens. Blues of fine quality were Dorothy Tennant, Princess of Wales, Britannia, and Princess May. Yellows: Primrose, Orange Prince, and Lady Beaconsfield. Whites: England, Delight, and Emily Henderson. Roses and pinks: Lady Penzance, Miss Blanch Terry, Gaiety, Princess Beatrice, Firefly, and Her Majesty.

Violas and Pansies, shown in various ways, were largely shown by this firm of florists. Viola Iona, a flower whose colours consisted of dark blue, arranged like a star on a ground of much lighter blue, received an Award of Merit. Their Fancy Pansies were extremely varied as to colour, and some showed very regular markings. Selfs were few in number, and their colour was chiefly purple of some tint. Auricula-eyed Sweet Williams, chiefly those with white grounds, formed part of the exhibit (Silver-gilt Flora Medal).

A small lot of plants of the Clove Carnation was shown by Mr. J. Wallborn, Cedars Nursery, West Kensington. They were of very fair quality but small, not being the first opened flowers, and showed how this variety fares in London (Silver-gilt Flora Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (Sec.), R. Brooman-White, T. B. Heywood, F. Sander, Dr. Maxwell T. Masters, H. M. Pollett, H. J. Chapman, E. Hill, T. Statter, S. Courtauld, H. Williams, and H. Ballantine.

Although not an extensive show of Orchids, yet some fine species and varieties were there; two grand forms of Cattleya Hardyana were sent by the Right

Hon. Lord Rothschild, Tring Park, Tring (gr., Mr. E. Hill). Of these, the Tring Park variety was a very fine inflorescence, consisting of five flowers (a First-class Certificate and a Cultural Commendation). It is the finest form of the true type which has as yet appeared, the brilliant ruby-crimson of the lip, and the bright orange of the throat being very distinct, and the flowers of large size; the other, C. Hardyana Lavertinense, which likewise received a First-class Certificate, had sepals and petals of mottled dark rose and white, and the front of the lip purplish-crimson colouring.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed for the first time Lælio-Cattleya × Zephyra (L. xanthina ♂, C. Mendeli ♀), a very pretty hybrid, with some resembance to Cattleya Rex. The sepals and petals were of pale buff-yellow colour, the petals whitish at the base, lip yellow, brightest inside the tube, front of the lip of a rich crimson colour (First-class Certificate); Sobralia × Veitchii (xantholeuca ♂, macrantha ♀), a very fine thing with large flowers, the sepals and petals white, with a faint pink blush. The tube of the lip was yellow, and its broad front lobe very pale lilac (First-class Certificate). Messrs. Veitch also showed Lælio-Cattleya × Pallas (C. Dowiana ♂, L. crispa ♀), and a fine specimen of their new Dendrobium glomeratum.

Messrs. F. Sander & Co., St. Albans, exhibited a group of rare Orchids, among which were Lycaste × Schönbrunnensis, of the form of L. Skinneri, and with brownish-rose sepals, white petals spotted red, and white and crimson lip (Award of Merit); Galeandra lagoensis, a very singular species, with greenish sepals and large rose-crimson lip (Award of Merit); Pleurothallis Kränzlinii, a singular little species with pretty purple and silver-white flowers (Botanical Certificate); and Catasetum Christyanum, a very strange and striking species (Botanical Certificate). This firm also showed the very beautiful Cattleya × Prince of Wales (Wagneri × intermedia), with large wax-like white flower, the lip delicately veined with rose; several plants of their new strain of Oncidium Jonesianum, Brassia Sanderiana, Dendrobium O'Brienianum and D. O'B. striatum, Cypripedium × modestum (Io × purpuratum), Cattleya Rex, C. Brymeriana, Odontoglossum Galeottianum, Zygopetalum Lehmanni, Cycnoches peruvianum, Catasetum macrocarpum, Aërides Sanderianum, Cryptophoranthus Dayanus, Angræcum Scottianum, &c.

Major Joicey, Sunningdale Park, Sunningdale (gr., Mr. F. J. Thorne), showed a comparatively small plant of Cattleya Warscewiczii, with a six-flowered inflorescence; and a vigorous plant of Anguloa Ruckerii, with ten flowers. A well-deserved Cultural Commendation was awarded.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, were awarded a Silver Banksian Medal for an excellent group of showy Orchids, one of the most interesting of which was Habenaria carnea var. nivosa, with large flowers, as in the type, but of a pure white (Award of Merit). Their Odontoglossum citrosmum sulphureum, too, was a very fine and unique variety, with sulphur-yellow sepals and petals, and rose lip, with a yellow hue over it, and orange crest (Award of Merit). In the group were good examples of the large-flowered Cattleyas, a pan of Anæctochilus petola, Restrepia striata, Microstylis Scottii, Zygopetalum Gautierii, Bifrenaria vitellina, Oncidium macranthum, &c.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., showed Odontoglossum Schlieperianum, and the clear yellow formof it, O. S. aureum; and Oncidium crispum grandiflorum.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), exhibited Cattleya granulosa superba, a fine variety, in which the marginal half of the front lobe of the lip is white (Award of Merit), and C. Warscewiczii regalis.

F. Wigan, Esq., Clare Lawn, East Sheen (grower, Mr. W. H. Young), showed a good plant of Cattleya (Lælia) Lindleyana, with four flowers. The Rt. Hon. Lord Llangattock, The Hendre, Monmouth, gr., Mr. T. Coomber, showed Cypripedium × The Hendre, a C. Lawrenceanum cross with flowers partaking much of that species.

S. G. Lutwyche, Esq., Beckenham, showed Stanhopea Shuttleworthii, with flowers not expanded. C. J. Lucas, Esq., Warnham Court, Horsham, sent a spike of Brassia Wrayæ. Messrs. Hugh Low & Co., staged a small group of Orchids, in which were Trichopilia Galeottiana, Paphinia rugosa, varieties of Cypripedium Charlesworthii, Oncidium Lanceanum, Cypripedium Volonteanum, C. bellatulum, Lælia amanda, &c.

R. Young, Esq., Fringilla, Sefton Park, Liverpool, sent flowers of Cattleya Eldorado, var. crocata, white, with an orange-coloured base to lip, which was cut from the plant illustrated in the *Reichenbachia*. F. W. Moore, Esq., Curator, Royal Botanic (Bollea), Lalindei, Gongora atropurpurea, Bifrenaria tyrianthina, Bulbophyllum leopardinum, and Dendrobium ciliatum (Botanical Certificate). P. Ralli, Esq., Ashstead Park, Epsom (gr., Mr. G. Hunt), showed Anguloa uniflora eburnea, with seven flowers.

Mr. H. A. Tracy, Orchid Nursery, Amyand Park Road, Twickenham, showed Cattleya Mendelii, H. A. Tracy, a very fine variety, with large and well-formed flowers; sepals and petals white; lip large, very rich crimson in front, and golden-yellow at base (Award of Merit).

A. J. Hollington, Esq., Forty Hill, Enfield (gr., Mr. Ayling), exhibited Cypripedium × Hobsoni and C. × Millmani, obtained by crossing C. Philippinense and C. callosum; the flowers were pretty, and resembled light-coloured C. × selligerum.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. J. Cheal, T. Jones, J. Wright, A. Dean, J. Willard, C. Herrin, G. Wythes, H. Baldeson, J. Smith, F. Q. Lane, W. Wilks, G. Bunyard, and G. H. Sage.

A wonderfully fine collection of Gooseberries was shown by Messrs. J. Veitch & Co., Chelsea, consisting of about 136 varieties.

Gooseberries are unusually large this season, and the collection was the centre of much interest and admiration. To illustrate the capital crop borne by the bushes, a few dozen sprays, thickly clothed with fine fruits, were included in the exhibit, and amongst the numerous varieties particularly good, were the following. Red: Clayton, Conquering Hero, Dan's Mistake, Eskender Bey, Forester, Lord Derby, Whinham's Industry, Speedwell, Warrington, London, and Slaughterman. Green: Stockwell, Telegraph, Fearless, Green London, Surprise, and Matchless. White: Queen of Trumps, King of Trumps, Mitre, Freedom, Antagonist, Coppice Lass, Careless, and Hero of the Nile. Yellow: Trumpeter, Catherina, Criterion, Drill, Leader, Mount Pleasant, Hue and Cry, Leveller, Railway, Drill. Of special dessert kinds, the following were capital:—Speedwell, Red Champagne, Bright Venus, Green Gascoigne, Keen's Seedling, Ironmonger, Broom Girl, Crystal, Whitesmith, Scotch Nutmeg, &c. Amongst a few dishes of red Currants La Hative, La Versaillaise, Warner's Grape, and Cherry Red, were very fine. Several dishes of Cherries, and a few of Apples and Pears, including ripe fruits of Citron des Carmes, Mdlle. Solange, and Doyenné d'Eté, completed the exhibit (Silver-gilt Knightian Medal).

Messrs. Geo. Bunyard & Co., Maidstone, had about fifty varieties of Gooseberries, displayed in shallow square chip baskets—a quite novel way of showing the fruits. The latter were of capital size and good quality, well maintaining the reputation of the firm (Silver Banksian Medal).

Messrs. W. Paul & Son, Waltham Cross, Herts, had Apricot trees in pots, carrying a fair crop, of the following varieties: Moorpark, Orange, Peach, Hemskirk, Royal, Breda, Blenheim, Beaugé Kaisha, and large early Montgamet. Apricots in a ripe state are bad travellers, unless gathered, and many had fallen in transit (Silver Knightian Medal).

Mr. John Walker, Thame, Oxon, had about three dozen dishes of Gooseberries, of creditable size and quality; also a dish of Walker's Magnum Bonum Red Currant, a very large-fruited variety (Silver Banksian Medal).

Mr. G. Wythes, gr. to the Duke of Northumberland, Sion House, Isleworth, exhibited some fruits of Laxton's Latest of All Strawberry, one which has been known for some little time, and one of the best late varieties of British Queen flavour. It was awarded a First-class Certificate. Also a number of Princess of Wales Peaches, and three fruits of a seedling Melon, small fruit, green-fleshed, and closely netted.

Mr. Owen Thomas, gr. to Her Majesty, Frogmore, sent three seedling Melons, all fair-sized fruits of pale colour, white flesh.

Mr. H. W. Ward, gr. at Longford Castle, Salisbury, exhibited a very fair sample of Carter's Daisy Pea, a capital free-bearing, dwarf, and erect-growing variety (Vote of Thanks).

Messrs. J. Veitch & Sons were awarded a First-class Certificate for Veitch's Main Crop Pea, a large variety, and an excellent cropper; they also exhibited a fruit of an Indian Cucumber, stated to be of fair quality.

J. Hawthorn Kitson, Esq., Elmet Hall, Leeds (gr., Mr. T. Bonsell), sent a fruiting-branch of Tomato Elmet Favourite, an unribbed, good-cropping variety.

Mr. C. F. Millar, London Road Nurseries, Chippenham, showed several varieties of Tomatos of the Perfection type; also the yellow Beauty of Wilts, one of the best of this colour.

A grand collection of Peas in eighty varieties, came from Messrs. H. Cannell & Sons, Swanley, the whole of which as field crops had been grown at Eynsford (Silver Banksian Medal).

Lecture on Filmy Ferns.

In the afternoon a paper on the above section of Ferns by Mr. J. Backhouse of York, was read by the Assistant-Secretary in the unavoidable absence of the author. The lecture commenced with a warm tribute to the attractiveness and delicate beauty such plants possess, and much regret was expressed that they had been so long and so generally neglected, and as bearing upon this point, it was stated that when their treatment was thoroughly understood—and it was not especially difficult, the plants may always be depended upon to furnish considerable delight. The beauty of the various forms, the translucency of some of the species, and the jewelled appearance they present when, as is usually the case the fronds are almost covered over with glistening beads of condensed moisture, make Filmy Ferns very distinct from any other class of plants. In speaking of them Mr. Backhouse included the allied genus Todea.

There are from 150 to 200 species and named varieties at present known, and the lecturer thought that a large field for work was here presented to augment such a number. About two-thirds of the known species were amenable to cool treatment, and recent experiments had proved that many of the species, such as Trichomanes radicans and others could be successfully cultivated on artificial rockwork in greenhouses, and in such positions where the great amount of moisture, which has generally been considered necessary for them, could not be obtained. Mr. Backhouse then gave details of a house that had been erected at the York nurseries, and where most of the species were grown with more or less success. The house was a lean-to, with roof sloping to the north, and was divided into three divisions, one of which was kept quite cool, and the others of intermediate and high temperatures. The compost most suitable to nearly all the terrestrial species, was that of peat and broken sandstone. It was better to surround the crown of each plant with stones, rather than with the soil. They should always be watered with great care, never forgetting that it was easy to apply more than they required. The atmosphere should generally be charged with moisture if the plants are in a house by themselves, and they will absorb a great amount of this moisture by their leaves. Soft-water must always be preferred to any other, and it is seldom advisable to wet the plants overhead. Many of the creeping species do well upon Tree Fern stumps, and this method was convenient. Amongst other advantages, it was mentioned that the ripe spores falling upon the Fern stumps would grow better than under different treatment. After all, the most important point which conduces to success or to failure is that of the atmosphere, which should be kept as far as possible of an uniform degree of humidity.

The lecturer then referred to the glass cases, in which they are often grown, where they are only visible when the case is opened. He thought that such a system was quite enough to account for the manner in which they had been neglected. They should be kept in such condition that they may always be seen. Mr. Backhouse said that those who had no other convenience for their culture might cultivate many of the species thoroughly well in a glass frame in the drawing-room or other windows, and mentioned the late Mr. Cooper-Foster as being one of the most successful of amateurs who had undertaken the culture of and become extremely interested in Filmy Ferns. In regard to insects it was stated that thrips would follow a dry atmosphere, and if seen they should be sponged off at once; and during summer, the pest will be baffled by adequate shading to the plants.

Dr. Morris (Kew), who occupied the chair, made many interesting remarks upon the subject, and also showed dried specimens of several species. We think it very unfortunate that amongst a crowded hall full of other exhibits, no attempt had been made by any

exhibitor to illustrate the lecture by means of living specimens of these beautiful plants, although they were specially requested to do so.

National Carnation and Picotee.

The Carnations and Picotees were largely represented on Tuesday last; and while many of the bizarre and flaked varieties were brilliant in colour, some of them were characterised by an amount of roughness—one of the incidents of the season; flowers were generally large, while the selfs and fancies were very fine. It was one of the most extensive exhibitions yet held, but the exhibits were sadly crowded, and there was a considerable amount of confusion, which might be avoided in some part. It is always an extremely difficult exhibition to report fully and at the same time correctly.

CARNATIONS.

Four collections of twenty-four blooms of Carnations were staged. Mr. M. Rowan, Manor Street, Clapham, was placed 1st with a very bright lot of flowers of generally good quality, he had P.F. Lady Mary Currie, C.B. J. S. Hedderley, R.F. Mrs. Rowan, P.P. B. W. Skirving, S.F. Martin Rowan, S.F. Constance Graham, P.F. George Melville, S.F. Sportsman, S.B. Robert Houlgrave, P.F. Gordon Lewis, very fine in colour; C.B. Master Fred, R.F. Thalis, S.F. Tom Macreath, P.P.B. Mrs. Gordon, P.B. Sarah Payne, and R F. John Buckton, several being in duplicate. 2nd, Mr. J. Douglas, Great Gearies, Ilford, who had several new varieties, such as C.B. Phœbe, S.F. Constance Graham, P.P.B. Autocrat, S.B. Radiant, P.F. Charles Henwood, P.P.B. Harmony, R.F. William of Wykeham, P.F. Agricola, S.F. Gregorian, S.B. John Crossland, &c. 3rd, Mr. C. Turner, Royal Nursery, Slough, with a stand of fine flowers, large, full, and bright, which some thought ought to have occupied a higher position.

The class for twelve distinct Carnations brought eight exhibitors, the 1st prize being taken by Mr. C. Phillips, Hamilton Road, Reading, who had capital blooms of R.F. Thalis, P.F. Charles Henwood, S.B. Edward Adams, R.F. Rob Roy, C.B. Fred. Phillips, S.B. Admiral Curzon, C.B. Phœbe, S.B. John Crossland, R.F. Lovely Mary, S.F. Sportsman, S.B. Robert Houlgrave, and R.F. Mrs. May. 2nd, Mr. A. J. Sanders, The Gardens, Bookham Lodge, Cobham. There were five stands of six Carnations, Mr. F. Nutt, The Avenue, Southampton, taking the 1st prize with fine blooms of P.F. Martin Rowan, C.B. Joseph Lakin, S.F. W. Dean, very fine in colour; R.F. Thalis, C.B. Edward Schofield, and S.B. Squire Potts; 2nd Mr. W. L. Walker, Reading, with a good stand of blooms.

As is usual, a great number of flowers were staged in the classes for single blooms, and of scarlet bizarres the best was Dr. Hogg, from Mr. C. Turner, a new variety of excellent properties; Mr. M. Rowan came 2nd, with Robert Houlgrave; of crimson bizarres, Mr. J. Douglas was 1st, with Phœbe; Mr. M. Rowan coming 2nd with J. S. Hedderley. Of pink and purple bizarres, the best was Edward Rowan from Mr. A. J. Sanders; Mr. M. Rowan taking the 2nd and 3rd prizes with William Skirving. Mr. F. Hooper had the best P.F., showing James Douglas; Mr. F. Nutt coming 2nd, with Billy Henderson. Of S.F.'s., Mr. C. Turner was 1st and 2nd. In the R.F.'s, Mr. C. Phillips was 1st, with Rob Roy; and 2nd, with Thalia.

The premier Carnation, selected from the whole show, was Dodwell's J. S. Hedderley, a very fine crimson bizarre.

Self and fancy Carnations were a very fine feature, some splendid blooms being staged. Mr. C. Blick, gr. to M. R. Smith, Esq., Hayes, Kent, was 1st, with King Arthur, Peregrine, Cardinal Wolsey, Germania, Mrs. Eric Hambrough, Eudoxia, Little John, George Cruickshank, salmon ground, flushed with white; Rose Unique, Waterwitch, Little John, Lady Wantage, King Arthur, Duke of Orleans, Mrs. A. Campbell, Mrs. John Bligh, Lady Mary Currie, Magpie, The Dey, and Fiery Cross, some being in duplicate. 2nd, Mr. C. Turner, also with a stand of very fine blooms; Hayes Scarlet, Marmie Murray, Meg Merrilies, Corunna, Duke of Portland, Louis Napoleon, and Cedric, being distinct from the foregoing. There were nine exhibitors in this class, and ten for that of twelve blooms. Mr. A. Jordan was 1st with Esmarch, Alice Alpres Hunter, King of Scarlets, The Burn, Germania, Artemus Ward, Vandyck, Primrose League, Niphetos, Ketton Rose, and seedlings. 2nd, Mr. C. Phillips, also with good blooms. With six blooms, Mr. J. F. Kew, Southend, was 1st with Mrs. L. C. Jamieson, Niphetos, Sunset Dodwell's 942, and two seedlings. Mr. F. Nutt was 2nd.

Plants in pots were represented by two collections, but they should be stood upon the floor, and not on tables, where they are above the line of sight. Mr. Martin Smith was 1st with some finely-grown and flowered plants of Miss Jekyll, Hayes Scarlet, Mrs. Seymour Bouverie, Eudoxia, Mephisto, Harmony, Mrs. Eric Hamburgh, Waterwitch, Cardinal Wolsey, Miss Audrey Campbell, Sir John Lubbock, and Little John; 2nd, Mr. J. Douglas, also with good plants.

A class for six Carnation and six Picotees, for those who had never won a prize for Carnations, brought no entry.

Prizes were offered for various arrangements, showing the decorative value of Carnations, Mr. J. Douglas taking the 1st prize for an epergne of white blush and pink Carnations, prettily arranged with foliage. Mr. Spurling, Blackheath, was 2nd. Mr. Goble had the best three sprays; Mr. J. Douglas, 2nd; but all somewhat heavy. Mr. C. Blick was 1st with six buttonholes, having six large self Carnations, one to each. Mr. J. Douglas was 2nd; but there were few among them a gentleman would care to put into his coat. A class for twelve blooms from any of the classes, each with a spray of Carnation foliage, scarcely showed the blooms to advantage. Mr. A. Jordan was 1st, and Mr. J. Douglas, 2nd. For six blooms, Mr. A. Greenfield, Sutton, was the only exhibitor, but no money prizes were offered in these classes.

Then followed what is known as the Martin Smith prizes for border Carnations, the best single bunch being a rim form of Lady Mary Currie, from Mr. J. Douglas; Mrs. Yones, Kensington, was 2nd.

The best six bunches of self-coloured Carnations came from Mr. H. W. Weguelin, Teignmouth, who had Comte de Bergmann, a purple self; Citterateur Marinaux, maroon self; Scarlet Ibis, soft bright scarlet; Madame Herrenschunal, pale rosy-pink; Oriflamme, bright scarlet; and Garville Gem, heliotrope colour. 2nd, Mr. T. Hooper.

Mr. Weguelin was also 1st with nine bunches of various types, having Mons. Brovland, white, slightly striped with crimson; Emilie Savore, blush, flaked with purple; Imogene, yellow ground; Madame le Carlier, yellow, heavily flaked with fiery rose; M. J. Yander, white, flaked rose; General Peppena, purple flake; Lizzie Williams, fancy; Madame Eleria a rose-edged Picotee, and Duc de Navalles, yellow ground. 2nd, Mr. J. Douglas, mainly with bizarre and flaked Carnations and edged Picotees.

Prizes were offered for seedlings, but one only appears to have been awarded, namely, to Y.G. Mrs. Douglas, from Mr. J. Douglas, clear pale ground, edged with pink, very pretty.

PICOTEES.

The pretty soft Picotees were seen to great advantage, and with twenty-four blooms Mr. C. Turner was placed 1st, with fine examples of H. Red E. J. B. Bryant, L.P.E. Clara Penson, H. Ro. E. Madeline, L. Ro. E. Favourite, L P.E. Sylvia, H. Ro. E. Mrs. J. Ricter, L. Ro. E. Little Phil, H. Ro. E. Mrs. Sharpe, H. Ro. E Lady Jane Churchill, H. Red E. Brunette, L. Ro. E. Lady E. Van der Weyer, L.P.E. Gazelle, L.P.E Lady G. Cathcart, H. Red E. Dr. Epps, L.P.E. Esther, H. Ro. E. Mrs. Payne, several being in duplicate; Mr. M. Rowan came 2nd, with twelve Picotees; Mr. C. Phillips was 1st, having good blooms of H. Ro. E. Little Phil, L. Ro. E. Estelle, H.P E. Muriel, H. Ro. E. Cordelia. H P.E. Zerlina, L. Ro. E. Favourite, L. Ro. E. Mrs. Barnett, H. Ro. E. Mrs. Payne. H. Red E. Morna, L. Red E. Mrs. Gorton, H. Red E. John Smith, and L. Ro. E. Mrs. Beale; 2nd, Mr. Arthur Medhurst. With six Picotees, Mr. F. Nutt came in a good 1st. with L. Ro. E. Favourite, H. Ro. E. Little Phil, L P E. Esther, H P.E. Amy Robsart, H. Red E. Isabel Lakin, and L. Red E. Thomas William. Mr. C. Braden, Ash, Dover, was 2nd.

Yellow-ground Picotees were, as usual, very attractive. The best twelve blooms came from Mr. J. Douglas, who had Harlequin, Ladas, Mrs. Douglas, W. Dranfield, Mrs. R. Sydenham, and seedlings. 2nd, Mr. T. E. Henwood, Hamilton Road, Reading, who had Mrs. R. Sydenham, Agnes Chambers, Edith M. Wynne, Diomedes, Eurydice, Cowslip, Aurora, Annie Douglas, Mrs. Henwood, Madame Van Houtte, Rosalinda, and one other. With six blooms, Mr. C. Phillips was 1st, having Mrs. R. Sydenham, Mrs. Henwood, Annie Douglas, Agnes Chambers, Countess of Jersey, and Madame Van Houtte. Mr. F. Hooper, Bath, was 2nd.

Single blooms of Picotees were numerous also, and in the heavy red-edged class Mr. J. Douglas was 1st, with Ganymede; and Mr. M. Rowan 2nd, with Brunette. L.R E.: 1st and 3rd, Mr. J. Douglas, with Mrs. Gorton; Mr. Rowan was 2nd, with the same. H.P.E.: Mr. Rowan was 1st; Mr. C. Turner 2nd, both with Muriel. L.P.E.: 1st, Mr. F. Nutt, with Pride of Leyton; Mr. J. Douglas was 2nd and 3rd, with Ann Lord. H. Rose E.: Mr. W. L. Walker was 1st, with Madeline; and Mr. C. Turner 2nd, with the same. L. Ro. E.: Mr. F. Nutt was the only exhibitor, taking the 1st prize with Ethel. With heavy Scarlet E., Mr. C. Turner was 1st and 3rd, with Madame Pitcher; Norman Carr, without an exhibitor's name, was 2nd.

The premier Picotee was H.P.E. Muriel, shown by Mr. C. Phillips.

Miscellaneous.—Exhibits of Carnations and Picotees came from Messrs. Veitch & Sons, about 160 blooms of various types; Messrs. Ivery & Son had Pride of Reigate, soft bright rose.

A very fine group of plants in pots was staged by Mr. C. Blick, gr. to M. R. Smith, Esq., representing seedlings of his own raising, all showing great vigour of constitution, superbly grown and grandly bloomed, and containing the following fine varieties: Miss Audrey Campbell, pale yellow; Duke of Orleans, pale yellow; Waterwitch, blush pink, paling to white—a lovely variety; Mrs. Eric Hambro, an extra fine white self (Award of Merit); Bendigo, purple; Miss Ellen Terry, creamy-white; Sigurd, salmon, shaded on the petal edge; Niphetos, white; King Arthur, bright scarlet, extra fine; Mephisto, deep crimson; Lady Ridley, a lovely pale variety; Coreador, blush, very fine; Delight, an invaluable border variety; Duchess, pale rose, very fine; Sefton, crimson, flaked with maroon; Honeymoon, white; Braw Lass, bright pale rose, &c. Other miscellaneous collections are noticed under Floral Committee.

EDINBURGH BOTANICAL.

July 12.—This Society held the last meeting of the summer session of 1894 on the above date, at the Society's Garden, there being a good attendance of members. Dr. W. Craig occupied the chair. The report of the proceedings of the council having been read, and new members balloted for, business was commenced by the exhibition of plants from the garden, amongst which were fine plants of Houstonia cœrulea, Pratia angulata, Primula involucrata, and Allium MacNabianum. Dr. T. B. Sprague showed peloriate flowers of Digitalis. Mr. Malcolm Dunn spoke as to this being not an uncommon occurrence in this plant. A diagram and specimen of a pouched leaf of Cabbage was shown by R. Turnbull. Prof. Balfour, keeper of the garden, remarking that the cup-like excrescences upon the leaves was not a rare occurrence, and commenting on the structure of the specimen shown. A report on the flora of Round Island, Mauritius, with an exhibition of the species found on the Island, was given by Surgeon-Major H. H. Johnston, who illustrated his paper by well mounted and preserved specimens. Several of the plants could not be identified owing to the inability of the collector to procure flowers of them at the time of his visit. A fruiting branch of a Mulberry tree grown as a standard, was shown by Mr. M. Dunn, this being an unusual case in Scotland; a letter was also read by the same member from Mr. C. Ross, of Welford Park, Newbury, giving the probable origin of the variegated Misleto, exhibited at the June meeting. Mr. Ross having given a large quantity of fruit of Misleto to the then manager of the Dean Cemetery, Mr. W. Cuthbertson, in 1855. The plants thus being nearly forty years of age. Mr. Lindsay in his report of the temperature and vegetation, stated that 288 species and varieties of plants had flowered in the rock garden; and the meteorological observations by Mr. A. D. Richardson showed the rainfall to have been greater than for the corresponding month of the three previous years. The highest reading of the thermometer in the case being 72°7, while the lowest reached 38°2. Mr. R. L. Harrow gave some notes on plants in the plant-house; and amongst the plants exhibited were Cyrtanthus Huttoni, Ornithogalum tenellum, Myrtus luma, Solanum Wendlandii, Gerbera Jamesonii, and Mitraria coccinea. The next meeting will be held at the Rooms in St. Andrew Square in November next.

TRENTHAM AND HANFORD HORTICULTURAL.

July 19.—The seventh annual exhibition of the above was held in the grounds at Trentham on the

above date. The gardens were looking their best, and on every side were visible the improvements which have been made in them during the past year. The Duke and Duchess, with a small house party, journeyed from London to visit the show, through which they were conducted by Mr. Blair, and were delighted with much that they saw on every hand. The show of the Trentham and Hanford Horticultural Society, although of such recent birth, has become one of the best in England, exhibitors coming from all parts of the country, its success being in great measure due to the patronage of the Sutherland family, and the assistance and advice which Mr. Blair freely affords. It has been favoured also from the first with fine weather, and the possession of a liberal prize-list. In regard to the show, no falling off was anywhere noticeable. The Roses were better than last season, and more numerously shown. Hardy herbaceous cut flowers made a very fine display; the groups were equal to those seen in former years, and the fruit was excellent.

Exhibits that call for special comment were the tuberous Begonias from Messrs. Laing & Son, Forest Hill, to whom the Gold Medal of the Society was awarded, besides First-class Certificates to many of the varieties. Another fine exhibit was the magnicent group of Souvenir de la Malmaison Carnations, exhibited by Mr. Blair, not in competition. This group consisted of more than 100 well-bloomed plants, and it was relieved by a background of graceful Palms. A Certificate of Merit was awarded to Mr. Blair for the group Bougainvillea glabra Sanderiana was shown by Messrs. F. Sander & Co, St. Albans; and Mr. C. Turner showed his Crimson Rambler Rose.

Of cut flowers of herbaceous plants and Roses, Messrs. Dicksons, Limited, Chester, staged a magnificent and varied assortment, consisting of forty-eight Roses in variety, Gaillardia Emperor, Scabiosa caucasica, masses of Carnations, including Mrs. R. Hole, White Pink Mrs. J. Welch, a great variety of Antirrhinums, Lilium auratum, Gladiolus The Bride, and many others.

Mr. H. Eckford, Wem, Shropshire, made a very beautiful display of more than fifty large vases filled with Sweet Pea flowers.

Mr. J. H. White, nurseryman, Broad Street, Worcester, staged, not for competition, an attractive and varied collection of twenty varieties of hardy annuals, eleven of Gaillardias, a stand of a lovely Japanese Iris and a new everlasting Pea, with pure white flowers on long stalks, a variety likely to be of great value in bouquet-making, Lupinus arboreus, and Prunus Pissardii in fruit.

Of fruits not shown in competition, mention may be made of eight Queen Pineapples, well grown and thoroughly ripened, from Mr. Gilman, gr. to the Earl of Shrewsbury, Ingestre Hall, Stafford. These were put into a setting of Adiantum cuneatum, and, being very fine examples, attracted much attention from the visitors.

The groups of plants were all that could be desired, and from the point of excellence now attained, little can be done unless some original and quite new arrangement can be brought out. The 1st prize was awarded to Mr. G. Edwards, gr. to the Duke of St. Albans, Bestwood Park, Arnold, Notts, for a group containing well-grown examples of Phœnix rupicola, Cocos, Crotons, Hæmanthus puniceus in bloom; Caladiums, Lilium candidum, Orchids, and a number of plants of Nertera depressa, &c.

Mr. Marriott, gr. to Mr. Finch, was 2nd, with a prettily-arranged group, consisting of much the same material as that in the 1st prize group.

In the competition open to persons employing only one gardener, the group of J. F. Mardock, Esq. (gr., Mr. Smith), contained good Cocos species, and Phœnix. Mr. Turvey, gr. to J. Williamson, Esq., was 2nd, his group containing a good specimen of the sweet-scented Tabernæmontana coronaria flore-pleno.

Roses were, perhaps, never seen better at Trentham, and the crowds round the stands so great as to render close inspection of the blooms impossible. The competition was very keen: 1st, Messrs. Perkins & Sons, Coventry, for forty-eight blooms, very fine being the varieties Margaret Dickson, Mrs. John Laing, A. K. Williams, Lady Sheffield, and Etoile de Lyon. The 2nd prize for the same was taken by The Cranston English Fruit and Rose Company, Hereford; and Mr. Merrywether, Southwell, was 3rd. The same exhibitors staged in the other classes, with flowers of fine form and substance. In the competition for decorative arrangement with Roses, the exhibits were exceedingly choice in some cases, but some were rather too heavy.

Cut Flowers and Hardy Herbaceous Plants.—Messrs. Cutbush & Sons, Highgate, London, received 1st prize; also a special prize, for a representative collection of hardy flowers, shown in much profusion. In this class Messrs. Harkness of Bedale were 2nd; and Messrs. Clibran & Son 3rd, with collections of great merit.

Fruit.—Mr. Gleeson showed well-ripened Bananas, capital Royal George and Bellegarde Peaches, Lord Napier Nectarines, Queen Pineapple, a Melon, Strawberries, Black Hamburgh and Muscat of Alexandria Grapes, and Negro Largo Figs, and was 1st; Mr. McIndoe, 2nd, with Grapes, Pitmaston Duchess Pears, Royal George Peaches, and a Melon; and he also took 1st prize for a green-fleshed seedling Melon, which has taken similar honours at York and Wolverhampton. The other collections contained fine Canon Hall Muscat Grapes, President Strawberries, Negro Largo and Brown Turkey Figs, Black Hamburgh, Duke of Buccleuch, and Foster's Seedling Grapes.

In the various classes for Grapes, the competition was keen, and the show may be said, in this respect, to have been the best of the season so far. For four bunches, two of each variety, Mr. Craven, gr. to Grant Morris, Esq., Allerton Priory, Liverpool, was well to the front, with superb Hamburghs, perfect in finish; and Madresfield Court, large in bunch and berry. This collection was also awarded the special prize of £2 offered by Messrs. Dickson, Brown, & Tait, for the best exhibit of fruit in the show for three bunches of Black Hamburgh.

Mr. Wilks, gr. to Mrs. Meakin, Cresswell Hall, Stafford, was 1st, with well-furnished excellent clusters. The special prize of £3 offered by Messrs. Dickson & Robinson of Manchester, for the best three bunches of Grapes, was awarded to this exhibit. The Muscats of Mr. Elphinstone, gr. to E. Millner Mundy, Esq., were well finished bunches in his usual good style, taking the 1st prize; Canon Coventry being 2nd.

In the class for any other variety, 1st, Mr. Gilman; 2nd, Mr. Allsop, gr. to Lord Hotham.

Amongst others who staged excellent lots were Mr. Bannerman, gr. to Lord Bagot; Mr. Chuck, gr. at Brodsworth Hall, Doncaster; and Mr. Bates, gr. at The Hays, Stone.

Mr. Allen, gr., Gunton Park, sent three boxes, not for competition, of Gunton Park Seedling Strawberry, a variety bearing carriage well.

Melons as usual were shown extensively, Peaches was good, Mr. Blair being 1st with a fine dish of high-coloured Bellegarde. The Nectarines were not so numerous as the Peaches; Cherries were not largely shown—the 1st prize for a dish was awarded to Mr. Reynolds, gr., Gunnersbury Park, Acton, for Biggareau Napoleon.

Strawberries were a thin class, and showed the effects of a showery season, some good British Queen from Yorkshire being passed over on account of bruising. Tomatos made an excellent show, also Cucumbers, and Mr. Gilman, gr., Ingestre Park, was 1st with Blair's Prolific. Very superior vegetables were staged, and Lady Theodora Guest's gardener, who seems at present to be invincible, secured the 1st prize in most classes of vegetables. Mr. Turner, gr. to Mr. Fitzherbert, Summerton Hall, took honours in the vegetable classes.

The cottagers, for whom the society came into existence, showed well, especially cut flowers; but fruits and vegetables, owing to the May frosts, were scarcely so numerous as formerly—still, Gooseberries, for which the district is famous, were as large and as good as ever.

The prizes for the best cultivated cottage gardens, given by the Duke of Sutherland, were keenly contested.

BARNET AND DISTRICT HORTICULTURAL.

July 19.—The third annual show of the above took place on this date, in the grounds of Hadley Manor. The entries numbered but few short of 600, being an increase of 200 over last year. The most noticeable increase was in cottagers' exhibits and those classes open to holders of allotments—a pleasing feature, the primary object of the Society being the encouragement of gardening among working people. As is now usual at shows, groups formed a prominent feature, and the principal plants used in Mr. Martin's, the winning group, consisted of Palms, Crotons, Ferns, Coleus, Begonias, Pandanus, and Isolepis. Mr. Fison's Gloxinias and Mr. J. H. Lorenz's Fuchsias were excellent specimens of good culture. Cottagers showed well, vegetables, window-boxes, and cut flowers.

MANCHESTER ROYAL BOTANIC.

July 21.—The annual show of Roses took place at the Botanical Gardens on the above date. The show was a good one, and there were many exhibitors from the southern counties. The following were among the principal prize-winners:—The Rev. J. Pemberton, Romford; Rev. W. H. Jackson, Stagsden Vicarage; Rev. F. A. Burnside, Hereford; Mr. W. Boyes, Derby; Mr. B. R. Cant, Colchester; Messrs. Harkness & Sons, Bedale; Messrs. Paul & Son, Cheshunt; Messrs. Mack & Son, Catterick; and Messrs. D. Prior & Son, Colchester. In addition to the competitive exhibits, there were many collections of flowering plants exhibited by local and other florists.

Mr. B. Cant, Colchester, took the leading place in the class for seventy-two distinct blooms, and was followed by Messrs. Harkness & Sons, Bedale. For thirty-six, the most successful competitors were Messrs. Prior & Son; Mr. B. R. Cant, in this case, following. Messrs. Prior & Son had the best twelve Tea or Noisettes also, Messrs. Mack & Son being 2nd. These last-mentioned exhibitors were 1st for twelve trusses of any white Rose, and Messrs. Perkins & Sons, Coventry, were 2nd. For twelve crimson blooms, Mr. R. B. Cant was 1st; and Messrs. D. Prior & Son 2nd. Messrs. Perkins had the best three bouquets of Roses.

In the amateur classes, the best thirty-six blooms were from Mr. W. Drew, Ledbury; and the Rev. J. Pemberton was 2nd. The Rev. W. H. Jackson, of Stagsden Vicarage, was 1st for twelve triplets; and the Rev. J. Pemberton 2nd. Teas or Noisettes in bunches of three, twelve varieties, were best from the Rev. F. A. Burnside, Hereford; and the Rev. W. H. Jackson followed. Mr. C. Burgess, Plumbley, was 1st for twenty-four distinct trusses, and was followed by Mr. J. Brown, Heaton, Mersey. Mr. J. Brown was 1st for twelve single trusses, and the Rev. J. H. Pemberton won in the class for twelve blooms of any crimson Rose. The Rev. W. H. Jackson in the class for twelve blooms of any white one was similarly successful.

The annual show of the National Pink Society (Northern Section) was also held on the same date and in the same place. The show was not a very large one, but there were some pretty blooms. The leading prize for twelve blooms of laced Pinks in not less than six varieties, was won by Mr. M. Campbell, Blantyre, and Mr. A. R. Brown, Birmingham, was 2nd. Mr. A. R. Brown had the 1st prize for six blooms, and Mr. Campbell followed. Most of the other classes were contested by Mr. Campbell and Mr. Brown, with the additions of Mr. J. W. Bentley, and Mr. J. Edwards.

TIBSHELF FLORAL HORTICULTURAL AND ROSE.

July 24.—This society, which is affiliated with the National Rose Society and the Royal Horticultural Society, held its nineteenth exhibition on the above date, in the charming colliery ground, Tibshelf, which lies exactly between Nottingham and Chesterfield; atmospherically the conditions were not pleasant, but still there was a large attendance of those interested in floriculture in Derbyshire and the surrounding counties. The Rose growers turned out in great force, and on all hands the verdict was given that it was the finest show of blooms that has been seen this season. The entries came from north, south, east, and west. Messrs. D. Prior & Son of Colchester carried off the 1st prize for seventy-two blooms, fifty distinct varieties, and the National Rose Society's Gold Medal; the Silver Medal of the same society going to Mr. George Prince of Oxford for forty-eight blooms, distinct varieties. There was a consensus of opinion that the exhibition would have done credit to the Crystal Palace, and the hope was expressed that the National Society would hold their show at Tibshelf, which is central and easily accessible from all parts. Most of the blooms were exceptionally clean and of good colour, and the judging was a difficult matter, no fewer than eight prizes having to be awarded in some classes. The most striking varieties were the Corinna Tea, Mrs. John Laing, Catherine Mermet, S.-M. Rodocanachi, Horace Vernet, Her Majesty, Madame G. Luizet, Gustave Piganeau, Baroness Rothschild, Innocente Pirola, and Madame Hoste. These were certainly the pick, and were all extraordinarily good.

The awards in the open classes were:—Tea and Noisette Roses, eighteen varieties, 1st, Mr. G. Prince; 2nd, Messrs. Prior & Son, Colchester; 3rd, Mr. B. Cant, Colchester.

Seventy-two blooms, fifty distinct varieties, 1st, Messrs. Prior & Son; 2nd, Messrs. Harkness & Son, Bedale, Yorkshire; 3rd, Mr. B. Cant.

Forty-eight distinct varieties: 1st, Mr. G. Prince, Oxford; 2nd, Messrs. Harkness & Sons; 3rd, Messrs. Prior & Son.

Thirty-six blooms: 1st, Messrs. Prior & Son; 2nd, Messrs. Harkness & Son; 3rd, Messrs. J. Townsend & Sons.

Amateur's classes.—Twenty-four blooms: 1st, Mr. Wm. Drew, Ledbury, Hereford; equal 2nd, the Rev. H. J. Pemberton, Romford, and Mr. E. B. Lindsell, Hitchin.

Eighteen varieties: 1st, Mr. W. Drew; 2nd, Mr. E. B. Lindsell.

Twelve distinct varieties: 1st, the Rev. H. J. Pemberton; 2nd, the Rev. W. H. Jackson.

There is always a keen competition here for grouping of plants, for which the monetary rewards of success range from £18. There were nine entries. Mr. J. Ward, gardener at Riddings House, Derbyshire, carried off the 1st prize with an excellently light arrangement of some of the finest hothouse flowering and foliage plants that could be brought together, the Crotons being indeed fine; Mr. A. Webbe, of Kelham Hall, Newark, was 2nd, but the plants were hardly so good; Mr. W. Shakespeare, a well-known amateur of Tibshelf, was a meritorious 3rd. The local classes were well filled, and the exhibition was in every respect, both in quality and exhibits, highly successful.

HAYWARDS HEATH HORTICULTURAL.

July 25. — This new society held a successful show on the above date, and as some fifteen parishes are amalgamated under the above title, the show was an extensive one. Groups of plants were a fine feature, consisting of miscellaneous plants and some wholly of Ferns.

Mr. T. Taylor, gr. to T. W. Oliver, Esq., Meads, Haywards Heath, was 1st for the former sort, and Mr. J. Pullen, gr. to W. Seville, Esq., Lindfield, for the latter. Mr. W. Knight, Haywards Heath, was 1st for stove and greenhouse plants. Of Gloxinias there was a fine display, and Mr. F. Baker, gr. to F. H. Broad, Esq., Burgess Hill, was 1st.

Roses and miscellaneous cut flowers, indoors and hardy fruit and vegetables were duly represented, and of, as a rule, excellent quality.

MARKETS.

COVENT GARDEN, July 26.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Calceolarias, per doz.	3 0	6 0
Crassulas, per dozen	9 0	24 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Ericas, various, p. dz.	9 0	24 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	8 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	4 0	8 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Pelargoniums, dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Lobelias, per dozen	3 0	4 0
— small, per doz.	1 0	2 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	4 0	8 0
Musk, per dozen	2 0	4 0
Nasturtiums, p. doz.	2 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	8 0	12 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0
Spiræas, per dozen	6 0	12 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cherries, half-sieve	2 6	3 0
Currants, black, half sieve	2 6	3 0
,, red	1 9	2 0
Figs, per dozen	2 0	3 0
Grapes, 1st quality, black English, per lb.	1 6	2 0
,, Guernsey, per lb.	0 9	1 0
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	2 0	3 0
,, Muscat, 2nd quality, per lb.	0 9	1 0
Melons, each	1 6	2 6
Peaches, large, p. doz.	6 0	9 0
,, small, per doz.	2 0	4 0
Pine-apples, St. Michael, each	5 0	7 0
Strawberries, out-door, per doz. lbs.	9 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	2 0	3 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
— doz. bun.	2 0	4 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	2 0	4 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	3 0	6 0
Iris, dozen blooms	0 6	1 0
Lilium Harrisii, doz.	2 0	4 0
— candidum, 12 blooms	0 3	0 6
— candidum, 12 bunches	12 0	18 0
Maidenhair Fern, per 12 bunches	4 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette, 12 bun.	3 0	6 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pæonies, doz. bun.	6 0	9 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	3 0	6 0
— 12 sprays	0 4	0 8
Pinks, doz. bun.	1 6	4 0
Pyrethrums, 12 bun.	2 0	6 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	6 0
— red, per dozen	0 6	1 0
— Moss, French, doz. bun.	4 0	8 0
— outdoor, doz. bun.	3 0	9 0
Spiræas, 12 bunches	4 0	6 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 4	0 6

Orchid-bloom in variety.

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, Broad, p. sieve	2 0	2 6
,, French, lb.	0 4	0 6
Cauliflowers, p. doz.	1 0	
Cucumbers, per doz.	2 0	3 0
Marrows, per doz.	2 0	
Mushrooms, per lb.	0 4	0 8
Peas, per bushel	2 0	3 0
Tomatos, per lb.	0 4	0 6

Potatos.

Potato market firm. Prices vary from 3*s.* to 7*s.* per cwt. Old Potatos finished.

SEEDS.

London: *July* 25.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that transactions in farm seeds, as might be expected, are now few and small. New English Trifolium offers at low rates. Small orders come to hand for Mustard and Rape seed. There is rather more doing in Tares. Canary seed is for the moment somewhat quiet. Hemp seed keeps steady. Other articles at this inactive period afford no subject for remark.

FRUITS AND VEGETABLES.

Borough and Spitalfields: *July* 24.—Quotations:—Cabbages, 2*s.* to 2*s.* 6*d.* per tally; Carrots, 1*s.* 8*d.* to 2*s.* 8*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Parsley, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.

Stratford: *July* 24.—There has been an abundant supply of all kinds of produce at this market during the past week, and, with a good attendance of buyers a brisk trade was done at the undermentioned quotations:—Cabbages, 1*s.* to 3*s.* 6*d.* per tally; Cherries, Dutch, 1*s.* to 2*s.* per basket; Cucumbers, 1*s.* to 2*s.* per dozen; Pears, 1*s.* to 1*s.* 6*d.* per molly; Turnips, 1*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 1*s.* 6*d.* to 2*s.* do.; Mangels, 18*s.* to 21*s.* per ton; Watercress, 6*d.* dozen.

Farringdon: *July* 23.—Quotations: Cabbages, 3*s.* to 4*s.* per tally; do, rough, 1*s.* 6*d.* to 2*s.* do.; Peas, good blues, 4*s.* to 5*s.*; do., rough, 2*s.* 6*d.* to 3*s.* per bag; Onions, 1*s.* 6*d.* to 2*s.* do.; do., Lisbon, 1*s.* 6*d.* to 2*s.* per dozen bunches; Turnips, 1*s.* 6*d.* to 2*s.* do.; Carrots, 1*s.* 6*d.* to 2*s.* do.; Broad Beans, 1*s.* 6*d.* per bushel. Fruit quotations nearly as elsewhere.

POTATOS.

Borough and Spitalfields: *July* 24.—Quotations ranged from 85*s.* to 100*s.* per ton.

Stratford: *July* 24.—Quotations:—Kidneys, 5*s.* to 7*s.*; Hebrons, 4*s.* 8*d.* to 5*s.* 8*d.*; Snowdrops, 6*s* to 9*s.*; Sutton's Early Regents, 4*s.* 6*d.* to 5*s.*; St. Malo Flukes, 5*s.* to 7*s.* per cwt.

Farringdon: *July* 23.—Quotations:—Kent Hebrons, £4; Essex Puritans, £4 to £4 10*s.*; Sutton's Regents, £4 to £4 10*s.*; Bedford Hebrons, £4 to £5; do., white Beauties, £5 to £5 10*s.*; do. Puritans, £5 to £5 10*s.*; Monarchs, £4 to £5 per ton.

London Averages: *July* 25.—English Hebrons, 80*s.* to 90*s*; Snowdrops, 70*s.* to 90*s.*; Kidneys, 80*s.* to 90*s.*; Rounds, 60*s.* to 80*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 135*s.*; do., inferior, 80*s.* to 120*s.*; do., red, 75*s.* to 98*s.*; hay, best, 101*s.* to 130*s.*; do., specially picked, 138*s*; inferior, 80*s.* to 100*s.*; new, 70*s.* to 90*s.*; Mixture, 90*s.* to 127*s.*; and Straw, 43*s.* to 63*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending July 21, and for the corresponding period last year:—1894: Wheat, 24*s.* 6*d.*; Barley, 19*s.* 6*d.*; Oats, 19*s.* 7*d.* 1893: Wheat, 26*s.* 5*d.*; Barley, 20*s.* 3*d.*; Oats, 21*s.* 9*d.*

TRADE NOTICE.

A Caution to the Trade.—We learn that a person has been calling on several of the seed firms in England, representing that he is a member of our firm, and that he is in temporary difficulties, and in one or two cases he has succeeded, we regret to say, in getting money on the strength of these and similar statements.

We think it only right to inform our friends that this man is a fraud pure and simple, and to warn them in the event of his calling. *Peter Henderson & Co., New York.*

ENQUIRY.

"He that questioneth much shall learn much."—Bacon.

Philadelphus and Syringa. — How, when, and where, originated the popular error, which denotes Philadelphus as Syringa? Is the same mistake made in other countries? There is nothing "pipe-like" in Philadelphus. *B.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Above (+) or below (−) the Mean for the week ending July 21.	Temperature: Accumulated, Above 42°, for the Week.	Temperature: Accumulated, Below 42°, for the Week.	Temperature: Accumulated, Above 42°, difference from Mean since January 1, 1894.	Temperature: Accumulated, Below 42°, difference from Mean since January 1, 1894.	Rainfall: More (+) or less (−) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1894.	Rainfall: Total Fall since Jan. 1, 1894.	Bright Sun: Percentage of possible Duration for the Week.	Bright Sun: Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0aver.	90	0	+ 238	− 51	4 +	131	31·8	18	34
1	1 —	99	0	+ 22	+ 8	4 +	119	21·2	25	35
2	1 —	109	0	+ 88	− 51	4 +	117	14 4	20	34
3	3 —	110	0	+ 106	− 100	0aver.	108	13·7	20	37
4	2 —	113	0	+ 127	− 79	2 —	111	13·7	19	34
5	2 —	121	0	+ 127	− 119	2 +	107	15·0	17	33
6	2 —	97	0	+ 61	− 69	1 —	129	29·6	30	33
7	2 —	108	0	+ 176	− 121	2 +	124	18·8	20	34
8	2 —	111	0	+ 139	− 81	1 —	123	20·0	22	39
9	1 —	101	0	+ 52	− 33	4 +	139	23·6	19	30
10	1 —	109	0	+ 126	− 67	2 —	130	23 5	21	33
*	2 —	123	0	+ 231	− 18	2 +	123	17 8	23	44

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending July 21, is furnished from the Meteorological Office:—

"The *weather* was cool and very unsettled, with frequent showers in all districts. Thunderstorms occurred in Norfolk on the 18th, and over the northern parts of Great Britain generally on the 20th and 21st; the accompanying rainfall being in some cases rather heavy.

"The *temperature* was below the mean in all districts, excepting 'Scotland, N.,' the deficit amounting to only 1° or 2° in most places, but to 3° in 'England, E.' The highest readings were recorded on rather irregular dates, but mostly on the 20th and 21st, when the thermometer rose to 70°, or

a little above in most of the Wheat-producing districts, as well as in 'England, S.W. and Ireland, N.,' and to 75° in the 'Midland Counties.' At a large number of stations in the Grazing districts, the thermometer never exceeded 65°. The lowest readings which were registered at various times in the different districts, ranged from 40° in 'Scotland, E.,' to 49° in 'England, S. and Ireland, N.,' and to 55° in the 'Channel Islands.'

"The *rainfall* was less than the mean in the 'Midland Counties,' 'Scotland, W.,' 'England, S.W.,' and 'Ireland, S.,' and just equal to it in 'England, E.;' elsewhere there was a rather considerable excess. Amounts exceeding an inch were recorded at some of the stations in 'Scotland N.,' on the 17th.

"The *bright sunshine* showed a fair agreement with the average in 'Scotland,' but was very deficient in 'Ireland and England.' The percentage of the possible duration exceeded 25 in one district only ('Scotland, W.'), and was at or below 20 over a considerable portion of England. In 'Scotland, N.,' there was only 18 per cent. of the possible amount, and in 'England, S.,' only 17 per cent.'"

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

Books: *S. P. D.* Nicholson's *Gardeners' Dictionary*, published by Upcott Gill, 171, Strand, W.C.—*The Amateur Orchid Cultivators' Guide Book*, by H. A. Burberry, price 2*s.* 6*d.*, published by Messrs. Blake & Mackenzie, Liverpool. If you require a larger work obtain Williams' *Orchid Manual*, published at the Paradise and Victoria Nurseries, Upper Holloway, London, N.—*Cyclamens.* You should write to the author at the address given in our last issue.

Blackbirds Eating Fruit: *J. W. B.* We cannot recommend the use of poisoned wheat, it is both dangerous to other creatures and a cruel practice. Can you not net your bushes, or pass white cotton thread over them in all directions; or keep a boy to frighten them away with a clapper? but he must be out and about by daybreak, as it is in the quiet hours of early morning that these birds and thrushes commit much havoc with fruit of all kinds.

Cactus Dahlia: *F. C. Smale.* The true form, and the white very pure.

Carnation Mrs. A. Harkett: *A. H.* A capital bloom; full, well formed, nice shade of rose pink, and we think, one that is good enough for exhibition; or, at any rate, it would be an excellent border flower.

Cycas circinalis: *J. Birch.* The cone will bear only infertile seeds or none at all, unless there is a male plant in the neighbourhood.

Diseased Grapes: *N. H.* "Spot," which is extremely common this year, see p. 75 in *Gardeners' Chronicle* for July 21. Please send a leaf.

Dressing Vines in the Winter: *An Ignoramus.* We will let you know shortly.

Drift Seed: *S. H.* The seed found on the shore of the Isle of Wight is the seed of the Mango. It may have drifted from the West Indies or elsewhere, or it may have been thrown overboard from some ship. Your pupil should keep a look-out for similar waifs and strays, which are very interesting.

Grapes: *R M.* It is not shanking of the ordinary sort, for the berries are sweet and plump. The stalk has the appearance of having been twisted. Are all the bunches injured in the same manner?

Insects: *Thos. Bonsall.* To all appearance the nest of some species of Bombus (Humble Bee or Bumble Bee). The situation is unusual, and we shall be glad to see a specimen of the bee itself, which may possibly be seen to visit the nest. *R. McL.*

Kainite, &c: *C. W., Hull.* You could obtain this mineral manure from the large dealers in manures, probably in your town. We know of no work that gives the chemical analysis of plants (garden?) and fruits.

Fungus on Gentian: *G. H. G.* The fungus is Puccinia Gentianæ, figured in our columns by



Fig. 17.—Puccinia Gentianæ: a fungus affecting the leaves of Gentiana acaulis.

A, clusters of spores; B, C, teleutospores.

Mr. Worthington Smith on September 19, 1885. We advise you to burn your plants. We append an illustration, fig. 17.

Maréchal Niel Roses: *J. R.* The plants, introduced through the wall to the greenhouse, are exhausted with profuse blooming, aggravated probably by not being well supported by the use of manure-water during the period of bloom. The proper course would have been, had they been strong, to cut them hard back; but now it will be wise to mulch the soil over the roots, keep the shoots quite free from greenfly, syringe them night and morning for five or six weeks, and place a slight shade over the glass when the weather is bright. Another way of dealing with them would be to draw the canes out of the house, and secure them to short stumps driven into the border about 6 or 8 inches above the soil. If you cut back these weak stems the plants will die.

Names of Fruit: *Greenfield.* Cherry: so far as one may judge without seeing wood and foliage, it is Black Tartarian (Circassian). The fruit is rather large.—*T. C.* 1, Peach Grosse Mignonne; 2, a poor specimen, not recognised; 3, the fruit was crushed in box.

Names of Plants: *W. F. M.* Diplopappus chrysophyllus. — *R., Florence.* Flower crushed and pollinia gone; but it appeared to be Lælia xanthina var. agraphis, Rchb. f.—*W. E.* Triglochin maritimum.—*W. T.* Bambusa tessellata (B. Ragamowski of gardens), figured p. 167, vol. xv. of *Gardeners' Chronicle.*—*R. M.* 1, Lysimachia vulgaris; 2, Alchemilla vulgaris.—*C. B.* Veronica spicata.—*R.* 1, Sedum spurium; 2, Sedum album; 3, Sedum acre; 4, Sedum glaucum.—*Pilmuir.* Stenactis speciosa. We presume you mean Kennedya rubicunda, which is still in cultivation.—*G. M.* 1, Silphium laciniatum; 2, Philadelphus coronarius; 3, Vitis heterophylla variegata; 4, Funkia ovata; 5, Sidalcea malvæflora; 6, Nierembergia gracilis.—*T. C., Totteridge.* 1, Achillea Ptarmica, double; 2, Cephalaria tartarica.—*No name.* Calycanthus floridus.—*A. H. T.* 1, Digitalis lutea; 2, Stenactis speciosa; 3, Geranium sanguineum; 4, Cephalaria tartarica; 5, Lilium elegans; 6, a garden variety of Delphinium.—*C. G.* 1, Teucrium Scorodonia; 2, Campanula rotundifolia; 3, Caucalis infesta; 4, Hypericum pulchrum; 5, Agrimonia Eupatorium; 6, Jasione montana; 7, Carduus lanceolatus.—*W. H. S.* Campanula pusilla alba.—*Durham.* 1, Œnothera Youngi; 2, Agrostemma coronaria; 3, Lychnis chalcedonica; 4, Spiræa ulmaria, double fl.; 5, Œnothera grandiflora; 6, Gnaphalium margaritaceum; 7, Spiræa filipendula, double fl.; 8, Tradescantia virginica.—*A. P. S.* 1, Scrophularia aquatica; 2, Hypericum perforatum; 3, Equisetum arvense; 4, Epilobium montanum; 5, Picris hieracioides; 6, Artemisia maritima. Some numbers were detached, so you must check the names by a book.—*W. H. D.* has exceeded the number we undertake to name, but has enclosed a shilling for the Orphan Fund, for which we thank him. 1, next week; 2, Sanguisorba canadensis; 3, Epilobium angustissimum; 4, Collomia grandiflora; 5, Dicksonia pilosiuscula; 6, Lysimachia clethroides; 7, not recognised (Leguminosæ); 8, Comptonia aspleniifolia; 9, Digitalis lutea, with no flowers; 10, Campanula lactiflora; 11, Campanula latifolia; 12, Sedum Maximowiczii.—*C. W. C.* 1, Adiantum Waltoni; 2, A. affine (Cunninghamii); 3, A. concinnum latum; 4, Litobrochia biaurita; 5, Thalictrum minus; 6, Asclepias curassavica; 7, Stenactis speciosa; 8, Lastrea Sieboldi.—*D. W.* 1, Lonicera Ledebourii; 2, Centaurea macrocephala; 3, Œnothera Youngi; 4, Eryngium alpinum.—*G. D., Waterford.* 1, Adiantum cuneatum gracillimum; 2, Pteris cretica albo-lineata; 3, Cheilanthes frigida; 4, Nephrolepis exaltata; 5, Blechnum polypodioides; 6, Pteris serrulata cristata; 7, Adiantum hispidulum; 8, A. tenerum; 9, Selaginella Wildenovii.—*Mersey.* 1, Polystichum (Aspidium) angulare proliferum; 2, Athyrium filix-fœmina cristatum; 3, Scolopendrium vulgare crispum; 4, Athyrium f.-f. corymbiferum; 5, Trichomanes radicans; 6, Athyrium f.-f. plumosum.—*Tar.* Yours is a very fine variety of true Lælia xanthina. L. tenebrosa is now generally considered to be a distinct species.—*T. M.* Calycanthus occidentalis (Californian species).—*S. A. B.* Anthyllis vulneraria, a wild plant on chalky soil.

Notice to Leave Employment: *T. K.* We think that in your case a week's notice would suffice.

Rhododendron ferrugineum: *W. L, Glasgow.* The gall-like formation is due to a fungus, Exobasidium Vaccinii.

Roses A. K. Richardson and l'Idéale: *E. T. M.* We should suppose from the ill-developed bloom buds that the plants are suffering from poverty of the soil. You can do but little for them this season, beyond affording guano-water or liquid manure from the stables, diluted one-half with water, not oftener than once in seven or ten days. If the plants on being gently pulled upwards, are found to have little root-hold, the liquid manure must not be given, but the plants lifted late in October or early November, and replanted after pruning off down to the quick wood every root showing decay or unhealthiness. Use a loamy soil mixed with about quarter of rich manure, or what is perhaps better, loam only, the manure being supplied, until the return of vigour in the plants in the form of a mulch.

Smut on Black Currant Leaves: *L. G. P.* The appearances are due to a small fungus, Fumago, which does not appear to do harm.

Trees: *A. D. W.* Abies lasiocarpa (Hooker), and A. subalpina (Engelmann), are identical; A. Lowiana (Murray), and A. concolor (Veitch), are also identical. Abies concolor (Lindley and Gordon), is the true concolor. The American Larch, we know nothing about as a forest tree in this country.

Tomatos and Mildew: *T. D.* The plants and fruit are very susceptible to disease, but mildew is not one of them, neither would dryness of the soil induce it; on the contrary, dryness rather conduces to healthiness. Please send affected foliage.

Vines and the Evaporating Pans: *An Ignoramus.* The use of these has been discontinued by most of the best Grape-growers, moisture being supplied to the air in the vinery in greater or less quantity as may be demanded by outside conditions. One of the best remedies we know for insects in vineries is Richards' vaporising liquid, and the simple cheap apparatus used to distribute it. It disfigures no fruit, leaf, or flower, imparts no taste to fruit, and is very effectual as an insecticide.

Communications Received.—Prof. Penzig, Genoa.—Comte de K., Ghent.—W. S., Dublin.—Ch. de B.—J. A.—N. E. Br.—M. C. C.—A. B.—L. r. d. B, Tirlemont.—W. T.—F. C.—H. C.—G. T. F.—F. Nash.—G. W. Cummins.—J. M.—Fr. de Laet, Contich.—J. Hughes.—J. O'B.—W. E. G.—F. C.—J. C. D. & B.—D. F. Y.—J. J.—G. G.—T. S. J., Qu'Appelle, Canada.—H. W. W.—C. B. Plowright.—R. W. W.—E. Preece.—H. C F.—R. D.—J. B.—W. E.—J.—D. T. F.—H. M.—W. H. W.—G. Woodward.—G. Schneider, the correction will be made in due course.

Drawings, Photographs, Received with Thanks.—J. A.—G. N.—J. W.—E. F. S.—H. H. S.

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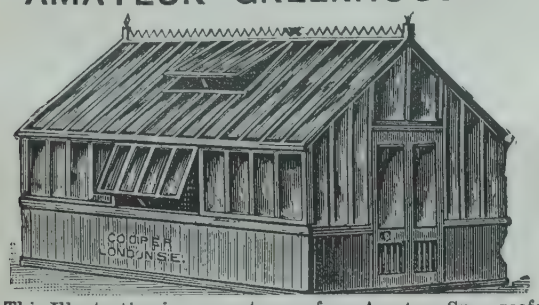
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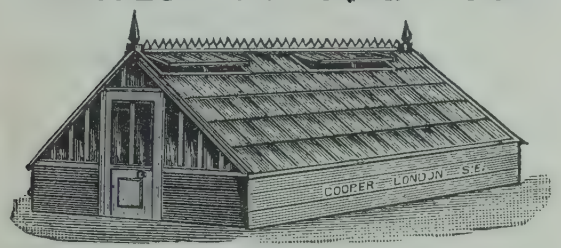
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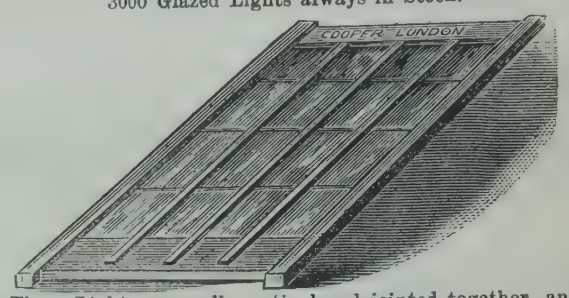
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In answer to numerous inquiries, we regret to say no ordinary shares were offered to the public, the Directors taking the whole of them. A limited number of Preference Shares, which carry interest at £6 per cent., and are preferred as to capital, are available for issue. For terms of issue, apply to the Directors.

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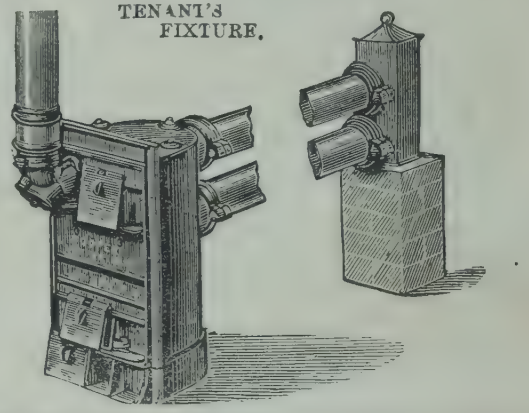
3 ft. by 2 ft., painted and glazed	5	0
4 ft. by 3 ft., ,, ,, ...	6	6
6 ft. by 4 ft., ,, ,, with 21-oz. glass ...	9	0
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1-lb. tins Sunshade...	,,	0	6 0
Cocoa-nut Fibre Refuse	per sack	0	1 0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0	2 3
Best Orchid Peat	,,	0	3 0
,, Rhododendron Peat...	,,	0	1 9
,, Brown Fibrous Peat	,,	0	2 0
,, General Peat...	,,	0	1 9
,, Loose Peat	,,	0	1 9
,, Surrey Loam	,,	0	1 9
General Potting Compost	,,	0	1 6
Fern Compost	,,	0	1 6
Bulb Compost	,,	0	1 6
Leaf Soil, well decayed	,,	0	2 0
Pure Wood Charcoal	,,	0	2 6
Fertiliser for Farming and Market Gardening, in 1-cwt. sacks	per sack	0	13 0
Worm Destroyer	per ½-pt.	0	0 6
Insecticide	each	0	0 3
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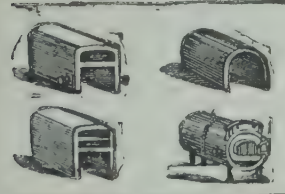
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THE CORPORATION require an OFFICER to take the Management, under the Borough Surveyor, and assist in enforcing the Bye-laws relating to the Cliffs and Pleasure Grounds under their control. He will also be required to attend to the Planting, Formation of Paths, and Drainage of the Grounds. A uniform will be provided, and the wages will commence at 25*s.* per week.

Particulars of the duties required will be supplied on application to Mr. C. T. Copley, Borough Surveyor, Clarence Road, Southend.

Applications, with testimonials, and stating age and present occupation, to be delivered at my office, on or before Wednesday, August 1. By order,

WILLIAM GREGSON, Town Clerk.
Southend-on-Sea, July 17, 1894.

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Applications in writing, stating age and qualifications, and with testimonials, must be addressed to Mr. H. C. OVERALL, Clerk to the Managers of West Ham Park, Guildhall, E.C., not later than Wednesday, August 1 next.

Guildhall, July 24, 1894.

WANTED, a HEAD WORKING GARDENER, end of August, smart industrious man, not over 40, to take charge of 4 acres, consisting of Orchard, Pleasure, and Kitchen Garden, Lawn, Stove and Greenhouse, and Vinery. Must understand Late and Early Forcing, and be able to Grow a succession of good Table Plants the year round. Wife required to look after Poultry, and rear Chickens and Ducks. One child not objected to; three Under Gardeners kept. Wages combined, 25*s.* with nice cottage. Personal character as to abilities, honesty, and sobriety required. The situation is for a large business establishment, and not private.—Apply to H. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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WANTED, a Thorough GARDENER, must understand Vines and Stoves, besides ordinary work inside and out. Address, with full particulars—E. CHAPLIN, Esq., Rugby.

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WANTED, a FOREMAN, for the Houses.—Not under 25; good knowledge of Fruit and Plants. Wages 18*s.* per week, bothy, milk, and vegetables. Abstainer preferred.—J. BOWERMAN, Hackwood Park, Basingstoke, Hants.

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WANTED, good SECOND, for the Houses.—Six kept. No bothy.—JAMES PULLEN, Finches, Lindfield, Hayward's Heath, Sussex.

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GARDENER (HEAD); age 27; Scotch.—ROBERT GRIGOR, Gardener to Sir John Amory, Bart., Knightshayes Court, Tiverton, Devon, can with confidence recommend his Foreman, Arthur Smith, to any Lady or Gentleman requiring a Gardener where five or six men are kept.

£5 IS OFFERED to anyone who will obtain Advertiser a situation as HEAD GARDENER where three or four are kept.—Thoroughly experienced in all branches. Good knowledge of Orchids. Excellent character. Age 30, married when suited.—J. L., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD, where several under are kept, preferred). Has had entire management of good and well kept gardens. Also Haymaking, Land and Stock. Several years' excellent character and testimonials from Ladies and Gentlemen.—S. GARDENER, Oatlands, Horley, Surrey.

GARDENER (HEAD); age 43, married.—A GENTLEMAN wishes to recommend his late Head Gardener as a thoroughly trustworthy and practical Man in all branches, who has been in his service six and a half years.—W. M., 2, Osborn Cottages, Turner's Hill, Cheshunt, Herts.

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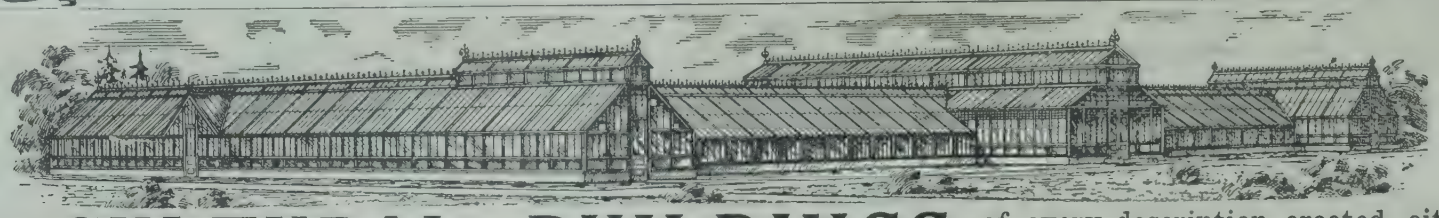
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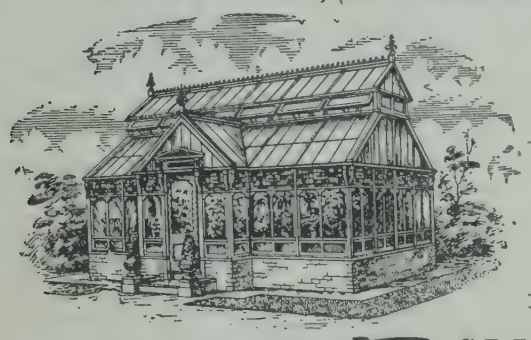


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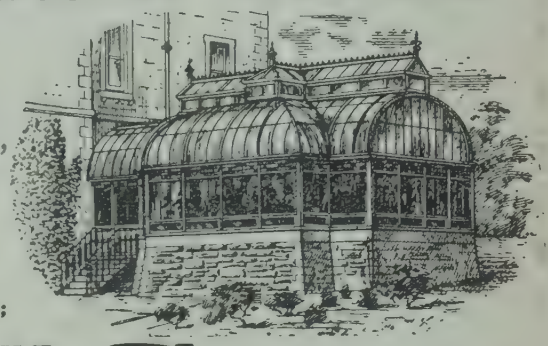


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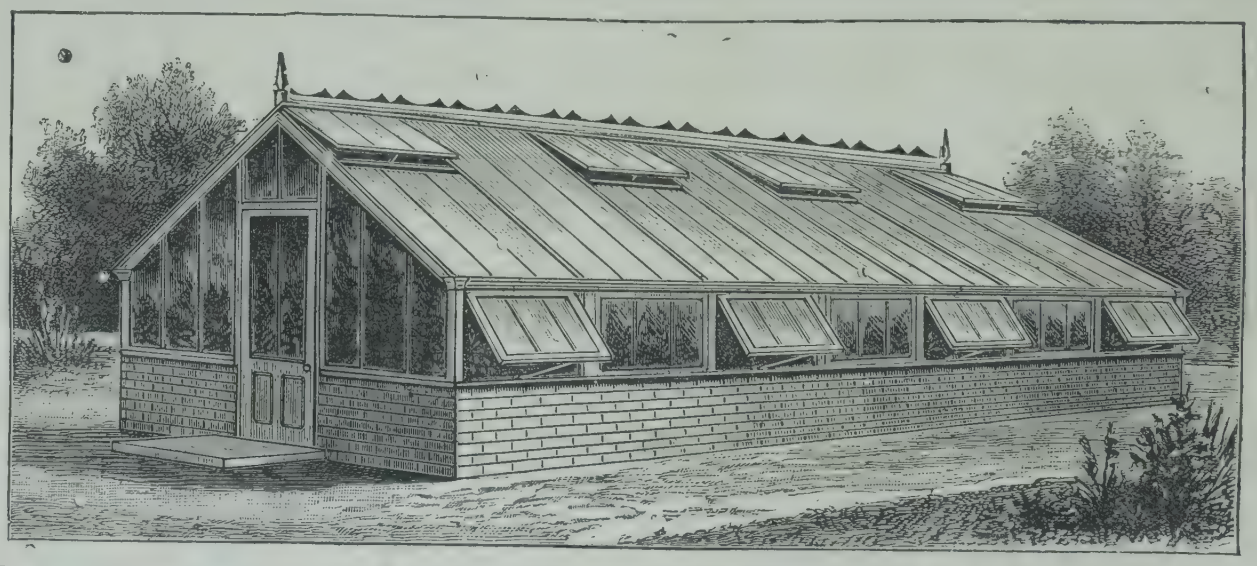
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PANDANUS VEITCHII, beautifully variegated, in 48's, 18*s*. per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

CINERARIA HYBRIDA.—A reliable market strain in 3-inch pots, ready for potting on, 16*s*. per 100; £7 10*s*. per 1000.
W. COOPER, Ltd., 755, Old Kent Road, London, S.E.

DOUBLE WHITE PRIMULAS.—60's, 25*s*. per 100; 48's, 6*s*. per dozen. Free on rail for cash with order.—G. BENNETT, Florist, Hanwell.

CROSS'S GARDEN FERTILISER. — For Vines, Pot Plants, Fruit Trees, Vegetables.
MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.
ALEXANDER CROSS AND SONS, 79, Mark Lane, London.

AGENTS WANTED in Districts where not already represented, to SELL SPENCER'S New "ELECTRIA" GUANO. A liberal Commission allowed.—Apply, ISAAC SPENCER AND CO., 2, High Street, Hull.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10*s*. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

BEESON'S MANURE
Crushed Bones and all High-class Fertilisers.
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

SALES BY AUCTION.

Friday Next.

By order of Messrs. W. L. Lewis & Co., of Chase Side, Southgate,

An Importation of about 700

CATTLEYA AUREA

(the Gem of all the Cattleyas),

Including many grand pieces in exceptionally fine condition; and having been gathered in districts whence such treasures as Cattleya Hardyana Massowanii and kindred varieties emanate, it is only reasonable to expect that many fine hybrids and varieties will appear amongst these. All the plants received are offered.

Also about 40 plants of ODONTOGLOSSUM ROEZLII, best type, in magnificent order.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 10, at half past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

Six Cases of ODONTOGLOSSUM ALEXANDRÆ (Pscho variety), received direct for Unreserved Sale.

An importation of LÆLIA TENEBROSA, CATTLEYA CRISPA, SOPHRONITIS GRANDIFLORA, ONCIDIUM CONCOLOR, O. FORBESI, and SCUTICARIA STEELI, from Messrs. F. Horsman & Co.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 10, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Monday August 20.

DUTCH BULBS.—SPECIAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., as follows:—

MONDAY, August 20	... ...	over 2000 Lots
THURSDAY, August 23	... ...	,, 1800 ,,
MONDAY, August 27	... ...	,, 1500 ,,
THURSDAY, August 30	... ...	,, 1300 ,,

And SATURDAY, September 1, about 600 Lots.

Large consignments of named HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with White ROMAN HYACINTHS, and Paper White NARCISSUS, received direct for unreserved Sale.

These early Auctions have been specially arranged in Lots to suit the trade and other large buyers. The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists, who may desire a regular supply of Catalogues for these Sales.

Auction Rooms and Offices, 67 & 68, Cheapside, London, E.C.

Sevenoaks, Kent.

UNRESERVED SALE of the whole of the EXHIBITION and other DECORATIVE PLANTS, ORCHIDS, &c., by order of Mrs. Laura Crawshay, who has given up exhibiting.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the premises, Bradbourne Hall, Sevenoaks, Kent, on THURSDAY NEXT, August 9th, at 12 for 1 o'clock precisely, the whole of the well-known and successfully exhibited STOVE and GREENHOUSE PLANTS, comprising fine specimen FERNS in variety, PALMS of Sorts, Allamandas, Ixoras, Lapagerias, Stephanotis; also grand examples of CYCAS REVOLUTA, 70 leaves, Dasylirion; 50 lots of ORCHIDS, viz., Cattleyas, Lælias, Odontoglossums, &c., together with Bouvardias, Camellias, Agapanthus, Caladiums, Callas, Spiræas, Violets, Deutzias, &c.

May be viewed any day prior to Sale. Catalogues may be had of Mr. JAMES GOODMAN, Gardener, on the premises, and of the Auctioneers, 67 & 68, Cheapside, E.C.

Note.—The above Plants have for years past annually taken prizes at the Sevenoaks and other Shows. All are in grand health and suitable for exhibitors and decorative purposes.

ESSEX.—In an important Market Town. Capital FREEHOLD NURSERY, about 2 Acres of Land, 5 newly-erected Greenhouses, specially adapted for Plant, Tomato, and Cucumber-growing. Suit beginner. Part purchase-money payable by instalments.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

RAYLEIGH, ESSEX.—Important to Market Gardeners and Seed Growers. About 100 acres of capital FREEHOLD LAND, excellent soil specially adapted for the growth of Market Garden produce, Nursery Stock or Seeds, the farm having the reputation of being one of the best in the county. Will be sold as a whole or in portions of 5 to 10 acres to suit the requirements of intending buyers. Immediate possession given on payment of deposit. The balance may be paid by quarterly instalments.—Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

LONDON, N. (Folio 8245).—Capital NURSERY, comprising eight span-roof Greenhouses, well-heated; Stables, and other Outbuildings. Lease twenty-one years. Ground Rent £10. Price for the whole, including Stock, Glasshouses, and Utensils in Trade, £350. Ill-health reason for Disposal.—Full particulars of Messrs. PROTHEROE AND MORRIS, as above.

LONDON, S.E. (Folio 7640).—A NURSERY, of half an acre, with six Greenhouses, Pits, and Outbuildings. Good local Trade done. Lease thirteen years. Rent £10. Price £300. Open to an Offer.—Full particulars of Messrs. PROTHEROE AND MORRIS, as above.

SOUTH COAST (Folio 7905).—Walled-in NURSERY, of an acre in extent, 4 capital Greenhouses, and Outbuildings. Lease 93 years. Ground-rent, £15. Stock, about £200. Price for whole, £1600; £600 can remain.—Full particulars of Messrs. PROTHEROE AND MORRIS, as above.

WANTED, to RENT, for a term, a SMALL NURSERY, or PREMISES suitable for same. No stock required.—B., 394, West Green Road, Tottenham, N.

FREEHOLD LAND for SALE, suitable for Horticultural Purposes. Easy terms, if required. Full particulars of S. SINGLE, Land Agent, 20, Bucklersbury, E.C.

SMALL NURSERY for SALE, Cheap.—Eight Greenhouses, range of Heated Pits and Cold Frames, well-stocked; Eight-roomed Dwelling-house; facing main road. Close to railway-stations. Eight miles from Covent Garden. Long Lease. Low Rent. £35.—Apply to—B., 127, Mansfield Road, Gospel Oak, N.W.

SEED and NURSERY BUSINESS for SALE.—Sound going trade. Good premises and room for a large concern as a branch establishment. Particulars on *bonâ fide* application, to R. H. POYNTER, Seed Merchant and Nurseryman, &c., Taunton.

NURSERY for SALE.—Land 40 feet frontage, 100 feet deep; two Cucumber Houses, 40 feet by 10 feet; Conservatory and Tomato Houses, 20 feet by 15 feet; Numerous Pits and Houses. Good business connection with Gardening Implements. Good stock of Geraniums, Fuchsias, &c. Situated within 5 miles of Covent Garden. Price, £300. Long lease, or option of purchase of Freehold.

W. E. TAYLOR, 140, Trinity Rd., Wandsworth Common, S.W

TO MARKET GARDENERS or NURSERYMEN.—A Lady will LET, Rent £50 (or SELL, Price £1,250), her FREEHOLD RESIDENCE, 8 Rooms, and GARDENS, about 3 Acres, 4 Glasshouses, two heated; situate in centre of three large market towns in Oxfordshire. No similar business in neighbourhood; under a mile from Station to all parts.—Mrs. EVANS, Woodfield, Bicester, Oxon.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers. FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO LET, on account of death, a Small MARKET GARDEN, containing about 4 acres, with House and Barn, and three good Glass houses, one well stocked with Grapes and the others with Tomatos and Plants; also good crop of Apples and Plums. Lease nine years to run. Rent, £45 per year.—For terms apply to Mrs. STARKEY, Bridge Road, East Moulsey, Surrey. No agents need apply.

Dursley, Gloucestershire.

TO NURSERYMEN, FLORISTS, MARKET GARDENERS, AND OTHERS.

TO BE LET, with Immediate Possession, at a moderate rental, the DURSLEY NURSERY, situate at Woodmancote, Dursley, about a quarter of a mile from Dursley Station, on the Midland Railway, consisting of a substantial and roomy brick-built Dwelling-house, with a convenient Shop, with plate-glass front, stable, coach-house, potting sheds, and 2 acres of rich, clean, well drained, and good working Land.

The above Nursery has been in the possession of, and a lucrative business carried on by Messrs. John Morse & Son, during the past 40 years. There is a good local business, and a widespread and well-known connection for the sale of cuttings and plants of Florists' Flowers throughout Great Britain and Ireland, for which the Nursery has long been noted, and there is a considerable trade in Cut Flowers, Furnishing, &c., and every convenience for a Retail Seed Business.

The premises are abundantly supplied with good water.

The whole of the Stock-in-Trade, thirteen Glass-houses, five long rows of Pits, three Upright Tubular Boilers, and other fixtures, to be taken at a valuation.

To view, apply on the Premises; and for further particulars to Messrs. D. LEGGE, SON, AND PEARCE, Auctioneers, Berkeley; or to Messrs. VIZARD, WENDEN, AND SON, Solicitors, Dursley.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

CUT FLOWERS.—CUT FLOWERS.

We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.

POPE AND SONS, 6, Phillips Street, Birmingham.

1,000,000 Strawberry Plants.

H. CANNELL AND SONS will be glad to quote price of Sir J. Paxton and Garibaldi, in any quantity; also all other kinds. 4000 Royal Sovereign, fine plants, in pots. Send for CATALOGUE.

SWANLEY, KENT.

MALMAISON CARNATION.—Blush-white, strong, well-rooted Plants, in large 60's, layered in May, free from disease, 9s. per dozen, 50s. per 100.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

To Gentlemen, or Collectors of Rare Plants.

FOR SALE, two or three NEW ZEALAND TREE FERNS, in grand foliage; height, 5 feet; circumference, 3 feet; fourteen fronds each this summer. Can be seen by appointment.

A. PANTON, 434, Barking Road, Plaistow, London, E.

SALE of GREENHOUSE PLANTS, Orchids, Palms, Cold and Hot-house Plants, bushy and high-stemmed Azaleas and Camellias, &c. For further particulars and Price Lists address—

Mr. MASCK, Gartendirector, Sichrow, Bohemia.

EXHIBITIONS.

LEEDS CHRYSANTHEMUM SHOW.—Owing to the Re-decorating of the Town Hall, the Committee are compelled to POSTPONE Advertising the Building for holding the Show in till the SECOND SATURDAY IN SEPTEMBER.

MAIDENHEAD HORTICULTURAL SOCIETY'S SHOW.

"CURTISFIELD," AUGUST 16, 1894.

Flowers, Fruit, and Vegetables; Poultry, Pigeons, Rabbits, and Cats; Bees, Honey, and Appliances. Entries close Aug. 9.

D. A. VARDY, Hon. Sec.

CARDIFF HORTICULTURAL SOCIETY.

President:—THE MAYOR.

The SIXTH ANNUAL SHOW will be held on WEDNESDAY and THURSDAY, August 15 and 16.

Prizes and Specials, £300. Entries close August 7.

66, Woodville Road, Cardiff. H. GILLETT, Secretary.

KNARESBROUGH SHOW, August 17.—Prizes for PLANTS, CUT FLOWERS, FRUITS, and VEGETABLES. Prize-money nearly £200.

Schedules now ready.

F. SCOTT, Secretary, High Street.

SHREWSBURY GREAT FLORAL FÊTE, August 22 and 23, 1894.

SCHEDULES now ready. £720 offered in Cash Prizes.

ADNITT AND NAUNTON, Hon. Secs., Shrewsbury.

KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE HORTICULTURAL SOCIETY.

ANNUAL SHOW, on WEDNESDAY, August 22, 1894.

PRIZES OVER £200.

Schedules may be had on application to—

Kingswood, near Bristol. F. H. JULLION, A. W. COTTLE, } Hon. Secs.

BRIGHTON and SUSSEX NEW HORTICULTURAL SOCIETY.

SUMMER SHOW, August 28 and 29.

SPECIAL ANNOUNCEMENT.—In addition to the Prize-money in Class 6, 8 Stove and Greenhouse Plants, 4 in Flower, and 4 Foliage, not including Ferns.

A HANDSOME SILVER CHALLENGE BOWL, presented to the Society by J. M. Kidd, Esq., President, will be held by the First Prize Winner for the one year; the SOCIETY'S SILVER MEDAL will also be awarded to the Gardener.

For further particulars and Schedules, application should be made to the Secretary, MARK LONGHURST, 18, Church Road, Hove, Sussex. Entries close August 23.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

WHAT OFFER?—50 dozen TOMATO PLANTS for SALE, 30 inches, Perfection, Trophy, Golden Queen.—The Vineries, Peckham Rye.

ORCHIDS.—Splendid plants at reasonable prices. Send for Special List.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

CUTHBERT'S BULBS for EARLY FORCING.

ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.

R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.

Bulb Importers, Seed Merchants, &c., Southgate, N.

Established 1797.

STROBILANTHES DYERIANUS, the most attractive ornamental foliage plant of recent introduction, was exhibited in collection, awarded 1st prize at International Quinquennial Exhibition, Ghent; price 1s. each, 9s. per dozen.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

To Gardeners, Nurserymen, and Others.

FOR SALE, through changing hands, a large NURSERY STOCK, at Valuation Prices, consisting of Azaleas, Camellias, Eucharis, Lilies, Arums, Double Primulas; also all kinds of Roses in pots, all kinds of Ferns, &c.

For particulars apply to H. LEE, Manager, Victoria Nurseries, Sleaford, Lincs. No reasonable offer refused.

To the Trade only.

MESSRS. THOMAS CRIPPS AND SON, The Tunbridge Wells Nurseries, Kent, beg to offer the undermentioned strong, healthy stuff, in pots:—

FREMONTIA CALIFORNICA, 5s. each.

CLEMATIS, Madame Edouard André, scarlet, 2s. 6d. each; 24s. per dozen.

ARAUCARIA EXCELSA, in 48-pots, heads 6 to 7 inches high, 15s. per dozen.

EUCALYPTUS GLOBULUS, nice bushy stuff, 6s. per dozen.

CISTUS LADANIFERUS, strong, 6s. per dozen.

LIGUSTRUM japonicum macrophyllum marginatum aureum, 9s. per dozen.

ESCALLONIAS Ingrami, macrantha, Philipiana, Montevidensis, sanguinea, and rubra, 6s. per dozen.

FERNS.—GREAT ANNUAL SALE.—SURPLUS STOCK (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 10s. per 100; 200 out of pots, 16s.; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronde), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 20s. per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, 1s. each. Pelargoniums and Hydrangeas, 9d. each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries Loughborough Junction, London, S.W.

EUCHARIS AMAZONICA. — Established from an importation received last spring. Strong and healthy. Price on application.—G. BETHELL, Whiteley's Nurseries, Hillingdon Heath, Uxbridge.

LARGE TOMATO PLANTS, 6*d.* per dozen. CABBAGE, CAULIFLOWER, SPROUTS, BROCCOLI, &c., 4*d.* per 100. LEEKS and CELERY, 1*s.* per 100. Postage extra DULLEY, Copyhold Farm, Redhill.

BULBS for AUTUMN FLOWERING.—DESCRIPTIVE LIST on application, of Beautiful and Rare Species of Autumn and Winter CROCUSES, and Autumn-flowering MEADOW SAFFRONS, producing a beautiful effect in September—FLOWER OF THE WEST WIND (white); LILY OF THE FIELD (yellow). Autumn-flowering SCILLAS and SNOWFLAKES, &c.
BARR'S DAFFODIL CATALOGUE for 1894, now ready, free on application.
BARR'S GENERAL BULB CATALOGUE, ready September 1.
BARR AND SON, King Street, Covent Garden, London.

IMPORTED ORCHIDS,

AT LOW PRICES.

VANDA CŒRULEA,
VANDA KIMBALLIANA,
CYPRIPEDIUM NIVEUM,
CYPRIPEDIUM BELLATULUM.

All from hitherto unsearched districts, and in the finest possible condition. Prices on application.

W. L. LEWIS & CO., SOUTHGATE, LONDON, N.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6*s.* per bushel, 1*s.* extra for package; or, 1*s.* per cake, free per Parcel Post.
WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

PTERIS CRISTATA AND TREMULA,

In 48's, at 4*s.* 6*d.* per dozen.
A large quantity of the above: strong, healthy, young stuff. Packed free for cash with order.
B. PRIMROSE, Blackheath Nursery,
ST. JOHN'S PARK, BLACKHEATH, S.E.

To the Trade.
CABBAGE SEEDS for AUTUMN SOWING.

H. AND F. SHARPE are now prepared to give Special Quotations for their extra-selected Stocks of CABBAGE SEEDS of 1893 growth, which comprise the following varieties, viz.:—

Early Nonpareil	Mein's No. 1
,, Enfield Market	Carter's Heartwell
,, Rainham	Daniel's Defiance
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,, Wheeler's Imperial	Robinson's Champion Drumhead
,, Ellam	Dwarf Flat Dutch Drumhead
,, Large York	Dwarf Drumhead Selected
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STRAWBERRIES

All the leading varieties, in 1-yr. prepared plants, ready for immediate delivery, 6*s.* per 100. Orders despatched by return of post. Plants in small pots and runners of all the best forcing varieties and Novelties ready shortly. Catalogue free.

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EARLY WHITE ROMAN HYACINTHS.

First consignment to hand in excellent condition.

For particulars of these and all other Bulbs, see CATALOGUE, No. 441, sent Post-free, on application.

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See our Special Wholesale Catalogue of Bulbs.
Containing List of all the Best Varieties of HYACINTHS, TULIPS, CROCUS, LILIUMS, DAFFODILS, SNOWDROPS, IRIS, &c., free on application.
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WATKINS & SIMPSON,

SEED and BULB MERCHANTS,
EXETER ST., STRAND, LONDON, W.C.

SPECIALITY— FOLIAGE PLANTS
ICETON'S
LARGE PALMS.
PUTNEY, S.W.

Novelties, 1894.

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SANDER AND CO., St. Albans.

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THE ROYAL SET of COLEUS.—Unique and superb; the handsomest ever offered; foliage rivalling the best Caladiums. Empress of India, Princess of Wales, Princess May, Princess Beatrice, Prince Albert Edward, Duke of York. Seven varieties for 21*s.*
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BOUGAINVILLEA GLABRA SANDERIANA.—The most useful and brilliant flowering plant known. First-class Certificate, Royal Horticultural Society, April 24, 1894. Of the most easy culture, either in the greenhouse, conservatory, or plant-stove, producing its magnificent rosy-crimson bracts and yellow blossoms in the smallest pots, under all conditions, in the greatest abundance and amazing profusion. Price 7*s.* 6*d.* each.
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DIPLADENIA ATRO-PURPUREA.—Flowers rich, glowing crimson-maroon, with deep orange throat. First-class Certificates wherever shown. Plants now ready. Price, 12*s.* 6*d.* each.
SANDER AND CO. St. Albans.

"ONLY THE BEST."

BULBS FOR EARLY FORCING.

GARAWAY & CO.

Offer best quality Bulbs.

WHITE ROMAN HYACINTHS	9/-	per 100.
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PAPER-WHITE NARCISSUS	5/-	,,
DOUBLE ROMAN NARCISSUS	5/-	,,
DOUBLE DAFFODILS, extra large bulbs ...	7/6	,,
FREESIA REFRACTA ALBA	6/-	,,

All orders over 5s. free by post or rail.
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Seed Growers—Seed Merchants
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VIOLA CUTTINGS.—We are now supplying excellent Cuttings from our unrivalled Collection of Named Varieties, at the following very moderate rates. These Cuttings will root readily in a cold frame, and make fine plants for October or Spring Planting:—1000 cuttings, in 100 very fine varieties, for Bedding or Exhibition purposes. £2 10*s.*; 500 cuttings, 50 varieties, £1 10*s.*; 100 cuttings, 25 varieties, 6*s.* 6*d.*; 50 cuttings, 25 varieties, 4*s.*; 25 cuttings, 12 varieties, 2*s.* 6*d.* All carriage free. Each variety separately named.
DOBBIE AND CO., Florists to the Queen, Rothesay.

PALMS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s.* per dozen; six sorts of PALMS, in 48's, 9*s.* and 12*s.* per doz.; Large KENTIAS, in 60's, 5*s.* and 6*s.* per doz.; eight sorts of PALMS, in 60's, 4*s.* and 5*s.* per doz.; do. in large thumbs, 3*s.* per doz., 20*s.* per 100; ARALIAS, in 48's, 5*s.* and 6*s.* per doz.; twelve best sorts of FERNS, 12*s.* per 100; ASPARAGUS PLUMOSUS NANUS, 18*s.* doz., in 48's; variety of FERNS in 48's, 5*s.* & 6*s.* doz. Free on rail. Cash with order.
LANE AND MARTIN, 227, Brixton Road, London, S.W.

GLASS! CHEAP GLASS!

In Stock Sizes.

15-oz., per 100 ft., 8*s.* 6*d.* { 12×10, 18×12, 18×14, 24×14
21-oz., ,, 11*s.* 9*d.* { 14×12, 20×12, 18×16, 24×16
{ 16×12, 16×14, 20×16, 24×18, &c.

1½ × 3 Prepared Sash Bar at 5*s.* per 100 feet.
Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½*d.* per foot run; 2×7 at 1*d.*
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free. **THE CHEAP WOOD COMPANY,**
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ARE THE **FLOWER POTS** BEST.

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Quotations given for quantities. Carriage paid to any **The Best** Railway Station. **are Cheapest.**
SAMPLES and LISTS FREE. Crates packed.

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ORCHID and Other PEATS,
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THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brickwork excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36*s.* 6*d.*; 2-light frame, 6 × 8, 58*s.*; 3-light frame, 12 × 6, 85*s.* 6*d.*
Span-roof Frames, 9 × 5, £3 15*s.*; 12 × 6, £5; 16 × 6, £7 10*s.* Can send off same day as ordered.
HARDY BRUIN & CO., Graham Street, **LEICESTER**



EUCHARIS LOWII.—Strong flowering bulbs of this lovely and distinct Eucharis, recently exhibited at the Drill Hall and Temple Show. R.H.S. Award of Merit, April 11, 1893. 5*s.* each, 42*s.* per dozen.
HUGH LOW AND CO., Clapton Nursery, N.E.

Bougainvillea glabra var. Sanderiana.

HUGH LOW AND CO. offer fine Plants of this free-flowering and brilliantly-coloured variety of the old Bougainvillea glabra, as exhibited by them, and Certificated by the Royal Botanic Society, Regent's Park, May 30, 1894. Price, 5*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

LILIUM LOWII. (First-class Certificate Royal Hort. Soc., July 11, 1893.)—Several plants of this rare and beautiful Lily are now flowering at the Clapton Nursery.
HUGH LOW AND CO., Clapton Nursery, N.E.

CROTON RUSSELLII. (First-class Certificate, Royal Hort. Soc., November 14, 1893.) Most distinct novelty, excelling any other variety in brilliancy of colour. Price, 21*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

DICHORIZANDRA MUSAICA GIGANTEA (First-class Certificate at Temple Show, 1894).—A very handsome improvement on the type. Price, 21*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

NEW, SINGLE, SCARLET CLEMATIS, Mädame Edouard André. Fine plants, 5*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

STRAWBERRIES.

WM. CUTBUSH & SON

Have all the Leading Varieties READY in pots.
Strong plants for immediate delivery.
LIST, including several Novelties, Post-free upon application.
EARLY ORDERS REQUESTED.

HIGHGATE NURSERIES, LONDON, N,
And BARNET, HERTS.

CHRYSANTHEMUMS.

All Gardeners who hope to have really fine blooms this autumn will now be beginning to feed their plants. The best of all Manures for this purpose is "PEARSON'S CHEMICAL," as it is a perfect plant food, has no offensive odour, and is always perfectly identical in composition, so that its use once learned there is no further risk or trouble in applying. Some of the finest exhibition blooms shown in the Midlands have been grown by its aid alone, without any other fertiliser. In wet weather a teaspoonful to each plant may be sprinkled on the surface of the soil, but we ourselves prefer to use it as a liquid, our method being to dissolve a 6-inch potful in a 36-gal. tub, this being afterwards used at the rate of 2 gals. in each water-barrow (25 gals.). Gardeners are cordially invited to call and see our plants, and judge of the effect for themselves. Price and all information free on application.

J. R. PEARSON & SONS,
CHILWELL, NOTTS.

ARMITAGE BROS.

Have received, in SPLENDID CONDITION for FORCING, their first consignment of FRENCH BULBS, which they offer at the following specially MODERATE PRICES:—

	Per 100.	Per doz.
HYACINTHS, White Roman, 1st size ...	15*s.* 0*d.*	2*s.* 0*d.*
,, ,, 2nd size ...	11*s.* 0*d.*	1*s.* 6*d.*
,, Blue Roman	9*s.* 0*d.*	1*s.* 3*d.*
FREESIAS, refracta alba	6*s.* 0*d.*	1*s.* 0*d.*
NARCISSUS, Double Roman	5*s.* 0*d.*	1*s.* 0*d.*
,, Paper White	5*s.* 0*d.*	1*s.* 0*d.*
,, ,, large flowering	6*s.* 6*d.*	1*s.* 3*d.*
LILIUM CANDIDUM...	12*s.* 0*d.*	2*s.* 0*d.*

☞ All Orders 5*s.* and upwards in value *delivered free.*
For other BULBOUS and FLOWERING ROOTS, SEEDS for AUTUMN SOWING, &c., see New Catalogue, post-free on application.

ARMITAGE BROS., High Street, NOTTINGHAM.
☞ Please mention this Paper.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 10 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

EARLY WHITE ROMAN HYACINTHS,
Early Snowflake and Paper-white Narcissus.

JAMES VEITCH & SONS
BEG TO ANNOUNCE THE ARRIVAL OF, IN EXCEPTIONALLY FINE CONDITION,
THE ABOVE VALUABLE BULBS FOR EARLY FORCING,
And will be pleased to receive Orders for Immediate Delivery.
BULB CATALOGUE for 1894 now ready, and may be had on application.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, LONDON, S.W.

CRIMSON PERPETUAL-FLOWERING CARNATION,
"URIAH PIKE."

Awarded Four First-class Certificates, besides the Silver-Gilt and Silver Medals of the R.H.S.
Come and see my magnificent stock of this noble flower, much the largest and best in existence.
A veritable CARNATION FEAST. Thousands of Plants and Millions of Flowers ready for Sale.
Price:—48's, 5s. each, 50s. per dozen; 60's, 2s. 6d. each, 24s. per dozen.
Terms, cash with order. N.B.—COLOURED PLATE post-free on application.
Special Prices per 1,000 or 10,000.

GEORGE MAY, THE NURSERIES, UPPER TEDDINGTON, MIDDLESEX.

GARDEN HOSE.



MERRYWEATHER'S
CHIEF SPECIALTIES IN HOSE:
1.—NON-KINKABLE "RED-GREY" HOSE.
2.—"SPHINCTER GRIP" ARMOURED HOSE.
3.—HIGH-CLASS RED RUBBER HOSE.
Made on the same lines as the Hose used with their celebrated Fire Engines.

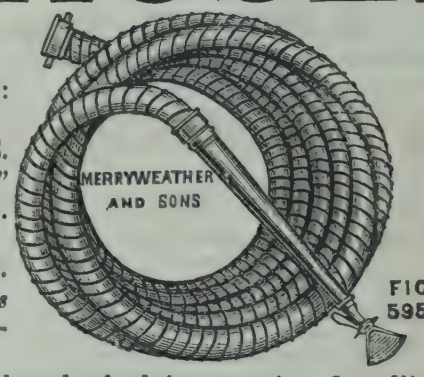
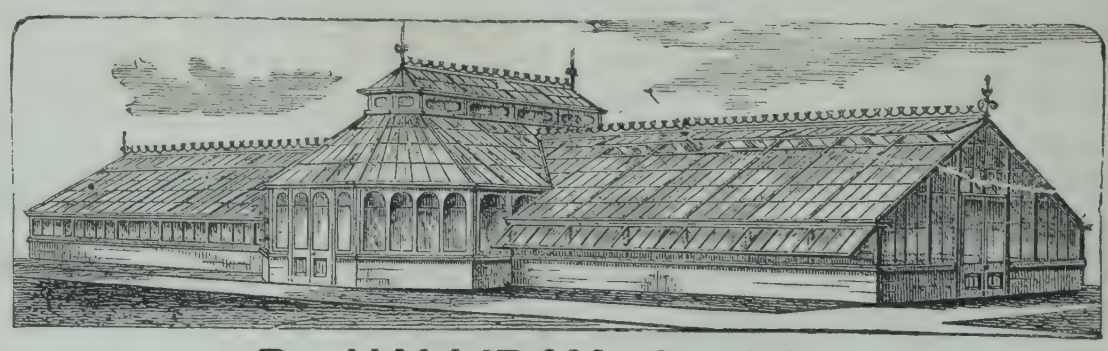


FIG 595.

See that Merryweather's name is embossed on every length, this is the only absolute guarantee of quality
Merryweathers' introduced Sphincter Grip Hose into this country in the year 1887; they are the Original Makers, and they still sell a Hose which is far superior to every other in the Market.
Beware of Wire-armoured Hose which is counterfeit, and inferior Foreign make.
Users of Hose are cautioned against inferior qualities sold by dealers who have copied our method of advertising, but have not adhered to our high quality. Orders executed the same day as received.
Merryweather's High-class Garden Pumps and Watering Appliances to be seen in action at
63, LONG ACRE, LONDON, W.C.; or write, Greenwich Road, S.E.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,
HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.
Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.
Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.
Our Maxim is and always has been—
MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

ANT. ROOZEN & SON'S

Celebrated Bulbs

FOR

EARLY FORCING.

ROMAN HYACINTHS,

ROMAN NARCISSUS,

PAPER-WHITE NARCISSUS, &c.

The above are now ready for delivery, and for full descriptive details of the same and other BULBS for Forcing, see our **CATALOGUE for 1894**, which will be sent free, on application to our offices, at OVERVEEN, near HAARLEM, HOLLAND, or to our General Agents—

Messrs. MERTENS & CO.,

3, CROSS LANE, LONDON, E.C.

FORCING BULBS

Williams'

Well Ripened and Heavy Bulbs of

ROMAN HYACINTHS,

Early White, from 5 inches to 5¾ inches in circumference.

PAPER-WHITE NARCISSUS,

From 5 inches to 6 inches in circumference.

DOUBLE ROMAN NARCISSUS,

From 5 inches to 6½ inches in circumference.

LILIUM CANDIDUM,

PURE WHITE,

Extra strong. Early orders solicited.

LILIUM HARRISII,

Very fine Bulbs.

VICTORIA & PARADISE NURSERIES,

UPPER HOLLOWAY, LONDON, N.

STRAWBERRIES

LAXTON'S "ROYAL SOVEREIGN."

An earlier higher quality and Improved Sir J. Paxton

Three Medals and Five First class Certificates awarded.

All must have the finest early Strawberry yet introduced. Fruit of the largest size, brighest glossy scarlet colour, flavour rich (quite equal to British Queen), ripens with Noble; a splendid cropper and grower, and we consider it to be the long-sought EARLY HIGH-FLAVOURED AND IMPROVED SIR J. PAXTON, a splendid forcer, and in every way worthy of its name. Handsome coloured plate, now ready, 6*d.* (gratis to customers).

12*s.* per doz., £3 per 100; in pots, 18*s.* per doz., £4 per 100.

LAXTON'S SENSATION.

First-class Certificate Gardening and Forestry Exhibition, May 10, 1893.

An enormous second early variety of good flavour, and probably the largest Strawberry ever introduced. A remarkably strong grower, and producing fruit in wonderful clusters. Will prove a welcome addition to the list of good sorts. Forces splendidly.

20*s.* per 100, 4*s.* per doz.; in pots, 30*s.* per 100, 6*s* per doz.

LAXTON'S SCARLET QUEEN.

(First-class Certificate)

The best first early—very early. Fine colour and shape, and the richest flavour. Habit strong, a very prolific variety, a splendid early table and market fruit.

10*s* per 100, 3*s.* per doz.; in pots, 18*s.* per 100, 4*s* per doz.

LAXTON'S LATEST OF ALL.

The best late Strawberry, and the largest and best late variety. A seedling from British Queen, but much later. Flavour grand.

8*s.* per 100, 2*s.* per doz.; in pots, 16*s.* per 100, 3*s.* per doz.

The following best varieties for forcing or early planting can be supplied STRONG in pots at once:—

	Per 100.		Per 100.
A. F. Barron	15*s.*	King of Earlies	15*s.*
Nicaise	15*s.*	Grosse Sucrée	16*s.*
British Queen	15*s.*	Latest of All	16*s.*
Dr. Hogg	16*s.*	Noble	16*s.*
Jas. Veitch	15*s.*	President...	15*s.*
Ruskin	16*s.*	Napier	15*s.*
Commander	16*s.*	Paxton	15*s.*
Competitor	16*s.*	Viscountess	15*s.*
Keen's Seedling... ...	15*s.*	Waterloo...	16*s.*

Also, strong Open Ground Runners can now be supplied at usual prices, of—

Nicaise, Sucrée, Vicomtesse, British Queen, Paxton, President, Albert, Captain, King of Earlies, Marguerite, Dr. Morère, Dr. Hogg, Stirling Castle, Sharpless, A. F. Barron, Waterloo, Countess, Jas. Veitch, Unser Fritz, Elton Pine, Lucas, Filbert Pine, and all other best sorts. English and Foreign (about 200 varieties in stock). Full LIST on application to—

LAXTON BROTHERS, BEDFORD.

LATE STRAWBERRIES.

Let us sing to the praises of three late Strawberries.

FROGMORE LATE PINE, which is absolutely the flavour of Ripley Queen Pineapple, sturdy in growth, large in size, and an abundant cropper. 7*s.* 6*d.* per 100.

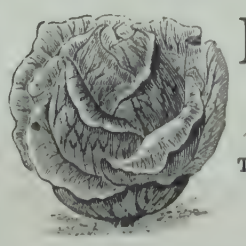
OXONIAN, true, not Eleanor, which it is generally supplied for. It is simply an enormous cropper, rather sharp in taste, and the latest Strawberry on record. 5*s.* per 100.

Now comes lastly, but not leastly, that good old public servant, ELTON LATE PINE, warranted true; no other Strawberry like it for preserving.

All the New Strawberries supplied, all warranted true, and the best plants in the trade.

R. GILBERT, Burghley, Stamford.

WEBB'S'



EMPEROR CABBAGE.

THE EARLIEST AND BEST.

6d. and 1s. per packet,

1s. 6d. per ounce.

From Mr. J. S. HARRIS, *Mansfield, June* 17, 1894.

"I have shown your Emperor Cabbages this year at Nottingham, Basford, Hucknall, Sutton, and Mansfield Shows, and I have taken 4 First and 1 Second Prizes with them; they are the best I have ever grown. I have cut one this morning weighing 16 lb. as it stands."

	Per ounce.
EARLY NONPAREIL CABBAGE	8d.
ENFIELD MARKET do.	8d.
EARLY RAINHAM do.	8d.
RED DUTCH ... do.	9d.

ONION.

	Per pkt.	Per ounce.
WEBBS' RED GLOBE TRIPOLI ...	6d.	1s. 6d.
LARGE FLAT RED TRIPOLI ...	6d.	... 10d.
GIANT ROCCA	6d.	... 10d.
WHITE LISBON		... 6d.

All Garden Seeds Free by Post or Rail.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales,

WORDSLEY, STOURBRIDGE.

THE

Gardeners' Chronicle.

SATURDAY, AUGUST 4, 1894.

THE FRUIT CROPS.

(See pp. 119—125.)

THE tabular report on the condition and prospects of the Fruit Crops in Great Britain and Ireland for the present year, will be read with interest, not only for its intrinsic importance commercially and economically, but also by reason of the peculiar climatal conditions to which the trees have been subjected. Before entering on that subject, it is incumbent on us to offer our thanks and those of our readers to the very numerous correspondents, from Orkney to Scilly, from Galway to Kent, who have so kindly responded to our enquiries. Their numbers, their experience, and their capabilities will go far to outweigh the inevitable vagueness of general statements; whilst the remarkable substantial agreement of the reports, as a whole, shows that, though not capable of precise mathematical demonstration, the words "average," "over," and "under," do really represent a very close approximation to the truth. Moreover, the majority of the reporters have been in the habit of filling in similar forms for us for many years, so that as much uniformity of statement is secured as is possible under the circumstances. In future numbers we shall publish the more extended remarks with which we have been favoured. In the meantime we may briefly allude to some of the more prominent features revealed by an inspection of the Report, and we would fain hope that some one with more leisure and opportunity than we possess, will analyse the report more fully with reference to climatal and other details, as we are convinced that valuable information from a physiological, and therefore from a cultural point of view, may be extracted from it.

Gardeners are not likely to forget the season of 1893, and the excellent conditions under which the wood was ripened last autumn. This gave good auguries for the abundance of the crop this season, and when spring came the trees were indeed robed in splendour beyond average. And then came that terrible frost in May, which recalled to every Shakespearian the famous speech of Wolsey, and we all trembled for the result, with what justification we now proceed to show. We omit from our present purview Peaches, Apricots, small fruits, and Strawberries, not by any means as devoid of interest, but because statistically they are of less importance than the others. Arranged in numerical order the results come out as in the accompanying table:—

SCOTLAND.

No. of records ...	Apples (66)	Pears (64)	Plums (68)	Cherries (67)	Nuts
Average ...	10	21	24	45	—
Over	2	13	3	7	—
Under	54	30	41	15	—

ENGLAND, WALES, IRELAND, &c.

No. of records ...	(245)	(246)	(248)	(242)	(176)
Average ...	33	89	85	126	60
Over	0	108	53	25	67
Under	212	49	110	91	49

From this we see that Apples are so greatly deficient that no fewer than fifty-four reporters in Scotland and 212 in England and Ireland,

report a small crop. Only two in the whole kingdom mention a crop above average, and those two are in Scotland!

With regard to Pears, an almost equally remarkable result is record, but of an opposite character, Pears being almost everywhere abundant, the figures for Scotland being 21 average, 13 over average, and 30 under. In England the results are more favourable: 89 being average, 108 over average, and only 49 below it. It must be remembered, however, that Pears are often grown on walls, and that in the tabular statement this fact is not always mentioned, though it is so in the reports we shall have to make later on.

Plums are generally deficient. Cherries, on the other hand, are remarkably abundant, there being forty-five "average" reports from Scotland, and no fewer than 126 from England, &c.

Nuts are not much grown in the northern counties, but in the south they are rather above average; Walnuts, however, suffered from the frost; Strawberries have been universally scarce and bad in quality; Currants, Raspberries, and Gooseberries, fairly good. These are the main facts, but there are abundant materials for that more searching analysis to which we have already alluded, and in subsequent issues we shall publish the comments with which our correspondents have favoured us.

New or Noteworthy Plants.

Cypripedium × denisianum (selligerum × superbiens).

A fine three-flowered inflorescence of this massive and striking hybrid, named in honour of one of the sons of Monsieur A. Madoux of Auderghem, Brussels, whose fine collection of Orchids was reported in the *Gardeners' Chronicle*, April 7, 1894, comes from Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, and as its parentage has been wrongly recorded, the present remarks will be useful. When I first saw it in Brussels last spring, I find I mentioned it in my notes as being of the C. × Morganiæ class, but larger, firmer in texture, and with broader petals, more thickly spotted than in C. × Morganiæ, and as a rough description that answers very well. The leaves are fleshy, and of light green colour, with obscure dark green markings. The stout, purple, hairy flower stem is over 1 foot in height. The flowers have the upper sepal nearly 2 inches wide, white, with a pale green base, surmounted by a broad rose-coloured band, and having numerous purple lines radiating from the base; lower sepals similar, but smaller. The petals are 4 inches long and three-quarters of an inch wide, ciliate at the edge, ivory-white, flushed with rose, and bearing some ten rows of purple spots. The lip large, greenish-white, with a faint lilac hue; the staminode greenish-white, veined with emerald green, and bearing short purple hairs. It is a distinct advance in its section upon C. × Youngianum and others of its class. *James O'Brien.*

Sobralia xantholeuca, Wigan's variety.

The above is a charming variety of the large, yellow-flowered Sobralia xantholeuca, with which it was imported, its delicate tints being quite remarkable in Sobralias, or, indeed, in any large-flowered Orchid which I can call to mind. The sepals and petals are creamy-white, with, in places, a slight pink tinge. The large labellum is also creamy-white, the interior of the tube formed by its folded sides being bright chrome-yellow, a faint tinge of which is spread over the front of the lip, the surface of which also is of pale lilac, which mingles with the yellow, and overlays the cream-white ground, producing a tint not easy to describe in words. It flowered in the collection of F. Wigan, Esq., Clare Lawn, East Sheen, Richmond.

Hard-wooded Greenhouse Plants.

(*Continued from p.* 36.)

Acrophyllum venosum.—This is a very fine plant, which, as regards general cultural detail, does not vary materially from that laid down for Darwinias, but, comparatively speaking, it is a more difficult plant to cultivate, a well-managed specimen of it always pointing to high-class culture. Some years back it used to be shown during the month of May in beautiful condition, one of the best growers of it being Mr. Chilman, when gardener at Ashtead, Surrey. It has one peculiarity, viz., that of starting into fresh growth from the point of each of the flower-spikes, which are dense, superficially of Spiræa-like appearance, and pale pink in colour. Care is needed in looking after all back breaks and side-shoots, otherwise the height of the plant increases too rapidly. White-scale, thrips, and red-spider are its greatest enemies, and these must be exterminated, or at least be kept in check if success is to be achieved. Too dry a situation is conducive to the spread of the two last-named insects, which shows that the syringe should be used frequently. White-scale may be kept down by hand-picking, or by using an insecticide when the growths are well-hardened. Plenty of light should be afforded to prevent the young shoots from being drawn, but only in the most favourable situations should it be stood outside during the summer months. *James Hudson.*

(*To be continued.*)

Lycaste Schönbrunnensis ×.

This interesting hybrid was shown at the last meeting of the Royal Horticultural Society by Messrs. F. Sander & Co. (fig. 18). It was raised by Mr. Umlauft, the head gardener at the gardens of the Emperor of Austria at Schönbrunn, the parentage being stated to be L. gigantea × Skinneri. In the *Orchid Review*, February, 1893, Mr. Rolfe suggests L. Skinneri × Schilleriana. In any case a very pretty garden hybrid of unusual colouring has resulted.



Fig. 18.—Lycaste Schönbrunnensi- ×.

In its stature, and in the habit of its growth, L. schönbrunnensis much resembles L. Skinneri. The flowers have the sepals of firm texture, and of a peculiar brownish-rose colour. The petals are yellowish-white, suffused with rose-pink on the outer halves. The lip is light yellow at the base, spotted with purplish-crimson, and bearing a thickened callus; column white. It was exhibited by Messrs. F. Sander & Co. of St. Albans at the Royal Horticultural Society, July 24, and received an Award of Merit.

REPORT ON THE CONDITION OF THE FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS, AUGUST, 1894.]

The words "average," "over," or "under," as the case may be, indicate the amount of the crop; and "good," "very good," or "bad," indicate the quality.

The counties are arranged in numbered groups, to correspond with those adopted in the Weather Reports of the Meteorological Department, and followed in our weekly Weather Tables.

*** **Fuller comments will be given in the following numbers.** See also Leading Article on page 117.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND—										
0, Scotland, N.										
MORAYSHIRE	Average; good	Over	Average; good	Average	Over	Over	Average	Under; bad	.....	C. Webster, Gordon Castle, Fochabers
	Average; good	Over; good	Average; good	Under; good	Over; good	Under; good	Over; good	Under; good	.....	D. Cunningham, Darnaway Castle Gardens, Forres
	Average; very good	Over; good	Under; good	Over; good	Over; good	Average; good	Over; good	Average; bad	.....	Wm. Ogg, The Gardens, Duffus House, Elgin, N.B.
NAIRNSHIRE	Average; good	Over; good	Average; good	Over; very good	Average; very good	Under; bad	Over; good	Over; good	.....	Wm. Morrison, Kilravock Castle Gardens, Fort George
	Under	Over	Under	Average	Average	Under	Average	Under	.....	James Maitland, Cawdor Castle, Nairn
ORKNEY	Over; very good	Average; good	.....	Average; good	Over; good	.....	Average; good	Under; good	.....	Thos. Macdonald, Balfour Castle Gardens, Kirkwall
ROSS-SHIRE	Good	.....	Average	Good	.....	.....	Under	Average	.....	Robert Massie, Ardross Castle
	Under	Under	Under	Average	Average	Under	Under	Under	.....	D. Harvey, Invergordon Castle Gardens
SUTHERLANDSHIRE	Over	Over	Average	Average	.....	.....	Over; good	Average	Over	D. Melville, Dunrobin Castle Gardens, Golspie
1, Scotland, E.										
ABERDEENSHIRE	Under; bad	Over; good	Average; good	Average; good	.....	.....	Under; bad, except Gooseberries, they are over; very good	Average; good	.....	John Forrest, The Gardens, Haddo House, Aberdeen
	Bad	Good	Very good	Very good	.....	Good	Very good	Average	.....	Simon Campbell, Fyvie Castle Gardens, Aberdeen
	Average	Under	Under	Average; good	.....	.....	Over	Over	.....	George Tait, Castle Forbes Gardens, Whitehouse, Aberdeen
BANFFSHIRE	Under; bad	Under	Under	Average; good	Average; over	.....	Under; good	Under; good	.....	W. Jamieson, Ballindalloch Castle Gardens, Ballindalloch
	Under	Over	Under	Over; very good	Over	Over	Average	Average	.....	J. Fraser Smith, Cullen House Gardens, Cullen
BERWICKSHIRE	Under	Average	Under	Average	Average	Over	Average	Under	.....	J. Gemmell, Ladykirk Gardens, Berwick-on-Tweed
	Under; bad	Average; good	Under; bad	Average; good	Few grown	.....	Average; good	Average; good	.....	Wm. Cairns, The Hirsel Gardens, Coldstream
	Under; good	Average; good	Under; good	Average; bad	Over; good	Over; good	Average: very good	Under; good	.....	J. Ironside, Blackadder Gardens, Edrom
CLACKMANNANSHIRE	Under	Under	Average	Average	Average	.....	Average	Average	Under	T. Ormiston, Alloa Park Gardens, Alloa
EAST LOTHIAN	Under; good	Average; good	Average; good	Average; good	Over; good	Over; good	Average good	Under; small	.....	R. P. Brotherston, Tyninghame, Prestonkirk
	Under; good	Over; good	Under; good	Average; good	Over; good	Average; good	Under; good	Under	Under	L. Dow, Newbyth Gardens, Prestonkirk
	Under; good	Average; good	Average; good	Average; good	Average; good	Over; very good	Over; very good	Over; very good	Under	Wm. McKelvie, Broxmouth Park, Dunbar
FIFESHIRE	Under	Under	Average	Average; very good	.....	Average	Average; very good	Under	.....	George Ramsay, Fordell House Gardens, Inverkeithing
	Under; very small	Under	Under	Average; Morello under	.....	Under	Currants and Gooseberries under; Raspberries average	Average	.....	W. Henderson, Balbirnie Gardens, Markinch
	Under	Under	Over	Under	Under	Average	Average	Under	.....	J. Proctor, Donibristle Gardens, Inverkeithing
	Under; bad	Average; good	Under; very good	Average; good	Average; good	Average; good	Under; good	Over; very good	.....	W. Williamson, Tarvit, Cupar
	Under	Under	Under	Average; good	Average; good	Under; good	Under; good	Under; bad	.....	Peter Duncan, Dysart House Gardens, Dysart
FORFARSHIRE	Under	Under	Over	Over	.....	Average	Average	Under	.....	W. McDowall, Brechin Castle Gardens, Brechin
	Under; good	Under; good	Under; good	Average; very good	Average; good	Over; very good	Average; very good	Average; good	.....	C. Wilson, Glamis Castle Gardens, Glamis
KINCARDINESHIRE	Under	Average	Under	Average	.....	.....	Average	Average	.....	J. M. Gairns, Arbuthnott Gardens, Fordoun
	Average	Average	Average	Over; very good	.....	Under	Over; good	Over; very good	.....	W. Knight, The Gardens, Fasque, Laurencekirk
	Under; bad	Under; bad	Average; good	Average; good	Over; very good	Under; bad	Under; bad	Under; bad	Under; bad	J. Caire, Fettercairn House Gardens, Fettercairn
KINROSS-SHIRE	Under; good	Under; bad	Under	Average; good	.....	.....	Average; good	Under; bad	.....	J. Fortune, Blair Adam Gardens, Blair Adam
MIDLOTHIAN	Under; very good	Over; very good	Average; very good	Average; very good	Over; very good	Over; very good	Average; good	Average; good	Under; good	Malcolm Dunn, Dalkeith Palace Gardens
	Average; very good	Over; very good	Average; very good	Over; very good	Average; very good	Over; very good. Last year Moorpark weighed 6 oz	Average; very good	Average; very good	Under	Niel McDougall, The Gardens, Riccarton, Currie
	Under	Over on walls; good	Under; bad	Average; good	.....	Average; bad	Average; good	Under; bad	.....	A. McDonald, Newbattle Abbey, Dalkeith
	Under	.....	Average	Under	Under	Under	Average	Over	.....	M. Chapman, Easter Duddingston Lodge, Portobello
PEEBLESHIRE	Under	Under	Under; good	Average; good	.....	Under	Average; good	Average; good	.....	Wm. McDonald, Cardrona, Peebles
	Under	.....	Under	Under	.....	.....	Average; good	Average; good	.....	M. McIntyre, The Glen, Innerleithen
PERTHSHIRE	Under; good	Under; good	Average; good	Under; bad	Over; good	Over; very good	Over; very good	Over; very good	.....	R. Goodfellow, Kinfauns Castle Gardens, Perth
	Average; bad	Average; good	Good; but late	Average	.....	.....	Very good	Very good	.....	D. Robb, Drummond Castle Gardens, Crieff
	Under	Average	Under	Average	.....	.....	Over	Over	.....	G. Croucher, Ochtertyre Gardens, Crieff
	Very bad	Bad	Very good on walls	Very good on walls	Very good	Bad	Gooseberries very good; Currants bad	Good	.....	P. W. Fairgrieve, Dunkeld House Gardens, Dunkeld

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
1, Scotland, E.										
PERTHSHIRE	Average; good	Average; good	Over; good	Average; good	.....	Over; good	Over; very good	Over; good	.....	James Ewing, Castle Menzies Gardens, Aberfeldy
	Under; bad	Under	Under	Average; good	Average	Under	Average; good	Under; bad	.....	J. Beisant, Castle Huntly, Langforgan
ROXBURGHSHIRE	Under	Under	Under	Average	Average	Under	Under	Under	.....	R. G. Milne, Minto, Hawick
	Over on walls; good	Average; good	.....	Average; May Duke and Morrellos good	Peaches under average	Over	Under average; bad	Good	.....	John Page, Monteviot Gardens, Jedburgh
SELKIRKSHIRE	Under	Average	Average	Average	Average	Average	Under	Average; good	.....	Wm. G. Pirie. Sunderland Hall Gardens, Selkirk
	Under; good	Average; good	Under; very good	Over; very good	.....	.....	Average; very good	Average; very good	.....	John C. Lunt, The Gardens, Bowhill, Selkirk
	Under	Under	Under	Under	Over; good	Over; good	Average	Under; good	.....	James Hunter, Kings Knowes Gardens, Galashiels
6, Scotland, W.										
ARGYLLSHIRE	Under; bad	Under; good	Under; good	Average; good	.....	Under; bad	Under; good	Under; bad	.....	G. Taylor, Castle Gardens, Inverary
	Under; bad	Under; bad	Under; good	Average; good	.....	.....	Over; good	Over; very good	.....	Charles Grierson, Torloisk Gardens, Tobermory, Isle of Mull
AYRSHIRE	Under	Average	Under	Under	Average	Under	Under; good	Under; good	.....	W. Priest, Eglinton Castle Gardens, Irvine
	Under	Average	Under	Under	.....	Under	Under	Under	.....	D. Murray, Culzean Castle Gardens, Maybole
	Under; bad	Over; very good	Average; good	Under; bad	Average; good	Over; very good	Average; good	Under; bad	Under; bad	D. Buchanan, Bargany Gardens, Girvan
	Under; good	Average; good	Average; good	Average; good	Over; very good	Average; very good	Over; very good	Average; good	.....	A. Wilson, Auchencruive Gardens, Ayr
LANARKSHIRE	Average; bad	Under; bad	Under; good	Average; very good	.....	.....	Under; very bad	Average; good	.....	Robert Grieve, Carstairs House, Carstairs
	Under; bad	Under; bad	Under	Average	Under; bad	Under; bad	Under	Average	.....	W. M. Sutherland, Bothwell Bank Gardens, Bothwell
	Under; bad	Under; bad	Under; bad	Under; good	Under; bad	Under; bad	Average; good	Average; good	.....	J. Miller, Castlemilk Gardens, Rutherglen
RENFREWSHIRE	Under; bad	Under; bad	Under; bad	Under; bad	.....	.....	Average; good	Average; good	.....	F. Fulford, Eastwood Park Gardens, Giffnock
	Under	Under	Under	Average	.....	.....	Under	Under	.....	T. Lunt, Ardgowan Gardens, Greenock
	Under	Under	Under	Average	.....	.....	Under	Under	.....	H. Maxwell, Ralston, Paisley
	Under	Under	Under	Average	Under	Under	Average	Average	.....	John Methven, Blythewood Gardens, Renfrew
	Under; bad	Under; good	Under; bad	Average; good	.....	.....	Under; good	Under; bad	.....	Pollokshaws
	Under	Under	Under	Average	Average	Under	Average; good	Over; very good	.....	Johnstone
STIRLINGSHIRE	Under	Under	Under	Average	.....	Under	Average	Under	.....	A. Crosbie, Buchanan Castle Gardens, Drymen
	Under	Average; hardy sorts abundant	Under	Under	Average	Under	Over; very good	Over; good, except very early vars.	.....	M. Temple, Carron, near Falkirk
WIGTONSHIRE	Under	Under	Average	Under	Average	.....	Under	Under	.....	J. Bryden, Dunragit Gardens, Dunragit
	Under; good	Average; bad	Under; bad	Average; good	.....	.....	Average; good	Under; good	.....	Wm. Cruden, Castle Kennedy Gardens, Stranraer
	Under; bad	Average; good	Under; good	Under; good	Average; good	Average; good	Average; very good	Under; good	Under; bad	J. Day, Galloway House Gardens, Garliestown
ENGLAND—										
2, England, N.E.										
DURHAM	Under	Average	Under	Average	.....	Under	Under	Under	Under	R. Draper, Seaham Hall Gardens, Seaham Harbour
	Under	Under	Under	Under	.....	Under	Under	Under	.....	J. Hunter, Lambton Gardens, Fence Houses
	.....	Under	Under	Under; bad	.....	Average	Under; bad	Under; bad	.....	J. Moore, Castle Hill Gardens Wylam-on-Tyne
NORTHUMBERLAND	Under	Average	Under	Average; good	Over; good	Over; good	Under	Under	.....	George Harris, Alnwick Castle Gardens
	Under	Under	Under	Average	.....	Average	Under	Under	.....	Wm. Fell & Co., Seed Merchants and Nurserymen, Hexham
	Under	Average	Average	Average; good	Over; good	Over; very good	Over; good	Average; very good	Under	David Inglis, Howick Hall Gardens, Lesbury
	Under; bad	Average; good	Under; bad	Under; bad	Over; good	.....	Average; good	Average; good	.....	Edward Keith, Wallington Hall, Cambo
	Under; good	Under; good	Under; good	Over; very good	Over; good	Over; good	Average; good	Average; good	.....	Henry Trotter, Ford, Cornhill
YORKSHIRE	Under	Over	Average	Average	Over	Over	Average	Under; bad	Under	J. Riddell, Castle Howard Gardens, York
	Under; good	Under; good	Under; good	Under; good	Average; good	Average; good	Average; bad	Under; bad	.....	T. Jones, Ribston Gardens, Wetherby
	Under; bad	Average; good	Under; bad	Under; bad	Average; good	Average; good	Under; good	Under; bad	.....	Bailey Wadds, Birdsall Gardens, York
	Bad	Average	Under	Under	Good	Good	Moderate	Under average	Under average	W. Culverwell, Thorpe Perrow, Bedale
	Under; bad	Under; bad	Under; bad	Under; bad	Average	Average; good	Average	Under; bad	.....	G. S. Purdy, Wilton Castle, Redcar
	Under; bad	Over; good	Under; bad	Average; good	.....	Over; very good	Average; good	Under; bad	Average	J. P. Leadbetter, Tranby Croft, Hull
	Under	Average	Under	Morello average	.....	Over; very good	Over	Average	.....	Geo. Batley, Wentworth Castle Gardens, Barnsley
	Under	Under; good	Under	Under	.....	Over average; very good	Average	Average; very good	Under	W. Higgins, Stanwick Gardens, Darlington
	.....	.....	Under	Under	.....	.....	Under	Good	.....	J. Simpson, Wortley Hall Gardens, Sheffield
	Under	Average; good	Under	Average	Under	Average; good	Under	Under	.....	J. Easter, Nostell Priory Gardens, Wakefield
	Under; bad	Over; good	Under; bad	Average; good	Under; good	Over; very good	Under; good	Under; bad	Under; bad	G. Knight, Conyngham Hall Gardens, Knaresborough
3, England, E.										
CAMBRIDGESHIRE	Under	Over; very good	Average	Over; good	.....	Over	Average	Under; bad	Under; bad	A. Grant, The Vineries, Willingham
	Under	Average	Under	Under	Over	Over	Under	Under	Under	J. Hill, Babraham
	Under; good	Average; good	Under; bad	Under	Average; good	Average; good	Over; very good	Under; bad	Average; good	W. C. Smythe, Upwell House, near Wisbech
ESSEX	Under; bad	Average; very good	Under; good	Average; good	Over; very good	Over; very good	Average; good	Under; bad	Average; very good	J. Vert, Audley End Gardens, Saffron Walden
	Under; bad	Average; good	Over average	Over average	Average; good	Under average	Average	Under; bad	Over	C. Butler, Parndon Hall Gardens, Harlow
	Average; good	Over; very good	Average; good	Under average	.....	Average	Average; very good	Under; bad	.....	H. May, Havering Park Gardens, near Romford

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
3, England, E.										
ESSEX	Average; good	Over; very good	Under; good	Average; good	Over; good	Over; good	Average; good	Under; bad	Average; good	H. Lister, Easton Lodge, Dunmow
	Under; bad	Over; good	Over; good	Average; small	Average; small	Over; good	Over	Under; bad	Over; good	Wm. Plester, Elsenham Hall
	Under	Over	Under	Average	.....	Over	Over	Under	Under	J. Overall, Stansted Hall Gardens
LINCOLNSHIRE	Average	Over	Average	Over	.....	Under	Average	Average	Under	J. Douglas, Great Gearies, Ilford
	Under	Under	Under	Under	Average on walls	Average	Under	Under	Under	D. Lumsden, Bloxholm Hall Gardens, Lincoln
	Under	Average	Under	Average	Over	Over	Under; bad	Under; bad	.....	T. Vinden, Harlaxton Manor, Grantham
	Under	Average; good	Under	Under	.....	Over	Under	Under	Average	J. Rowlands, Bardney Manor Gardens, Lincoln
	Under	Under	Under	Average; good	Over; good	Over; good	Average; good	Under; bad	Average	T. Spilsbury, Blankney Hall, Lincoln
NORFOLK	Under	Over	Average	Under	Under	Over	Over	Under	Small nuts average; Walnuts under	H. Batchelor, Catton Park Gardens, Norwich
	Under; bad	Over; very good	Under	Under; bad	.....	Over; very good	Under; bad	Under; bad	Under	F. Lee, Lynford Hall, Mundford
	Under; good	Average; good	Under; good	Under; bad	Over; very good	Over; very good	Over; very good	Under; bad	Over; good	J. W. Musk, Haverland Hall Gardens, Norwich
SUFFOLK	Under	Average; very good	Average; good	Under	Average	Over; very good	Over; very good	Under	Under	H. Fisher, Flixton Hall Gardens, Bungay
	Under; bad	Average; good	Under; bad	Under; good	Average; good	Average; good	Under; bad	Under; bad	Under; bad	W. Messenger, Woolverstone Park Gardens, Ipswich
	Under	Over	Average	Over	Over	Over	Over	Under	Over; Walnuts under	D. T. Fish, Bury St. Edmunds
	Under	Under	Average	Under	Average	Over	Average	Under	Over	T. Wallis, Orwell Park Gardens, Ipswich
	Average; good	Average; very good	Over; very good	Over; good	Under; good	Average; very good	Over; good	Under; bad	Over; good	J. W. Eden, Henham Gardens, Wangford
	Under	Average	Average	Average	Under	Over	Under	Under	Average	T. Coster, Ickworth Park Gardens, Bury St. Edmunds
	Under; bad	Over; good	Over; good	Average; good	Average; good	Over; good	Average; good	Under; bad	Under; bad	T. Perkins, Thornham Hall Gardens, Eye
4, Midland Counties.										
BEDFORDSHIRE	Average; good	Over; good	Over; good	Average; good	Over; good	Over; good	Over; good	Under; good	Over; good	Geo. Ford, Wrest Park Gardens, Ampthill
	Under	Average; good	Average; good	Under	.....	.....	Average; bad	Under	Under	T. Hedley, Putteridge Bury Gardens, Luton
	Under	Average; good	Average; good	Under	Under	Average; good	Average; Red Currants scarce	Under	Under	J. Turner, Cranfield Court Gardens, Newport Pagnell
	Average	Good	Average	Bad	Good	Good	Average	Under	Good	R. Calvert, Froxfield Gardens, Woburn
	Under; good	Over; good	Over; good	Under; good	Over	Over; good	Under; good	Under; bad	Over	H. W. Nutt, Flitwick, Ampthill
	Under	Under	Average	.....	.....	Average	Under	Under	.....	J. R. Clarke, Oakley, Bedford
BUCKINGHAMSHIRE	Under	Average	Average	.....	.....	Under; bad	Under	Under	Over; good	T. Bloxham, Brickhill Manor, Bletchley
	Under; bad	Over; very good	Average; good	Over; very good	Average; good	Average; good	Currants under, quality indifferent; Gooseberries and Raspberries over	Average	Over; good	T. T. Miles, Wycombe Abbey Gardens, High Wycombe
	Under	Average	Under	Good	Good	Average	Under	Bad	Good	W. Waters, Bulstrode Park Gardens, Gerrard's Cross
	Under; bad	Average; good	Under; bad	Average	.....	Average	Under; bad	Under; bad	Over; good	J. Jaques, Waddesdon Gardens, Aylesbury
	Under	.....	Under	.....	.....	.....	Under	Under	Average	J. W. Shrimpton, Aston Clinton, Tring
	Under; bad	Over; very good	Over; very good	Over; very good	Over; very good	Over; very good	Gooseberries average; Red Currants, under, bad; Black, average; Raspberries average	Under; bad	Over: very good	Jas. Thomas, Shardeloes Gardens, Amersham
	Under; bad	Over; good	Average; good	Average; good	Average; good	Average; good	Under	Under; bad	Over; good	J. Herrin, Dropmore, Maidenhead
	Under; bad	Over	.....	Under	Average; good	Average	Under	Under	Under	J. Smith, Mentmore, Leighton Buzzard
CHESHIRE	Under; bad	Under; bad	Under; bad	Under; bad	.....	.....	Under; bad	Under	.....	R. Mackellar, Abney Hall, Cheadle
	Under	Over; very good	Under	Good	Good	Good	Gooseberries and Currants average; Raspberries a failure	Under	.....	J. Terry, Tatton Park Gardens, Knutsford
	Under	Average	Under	Average	Over	Over	Under	Under	Under	Wm. Whitaker, Crewe Hall, Crewe
	Under; bad	Over; very good	Under; bad	Average	.....	Over; bad	Average	Under; bad	.....	N. F. Barnes, Eaton Gardens, Chester
	Under	Over; very good	Under; bad	Average; good	Average; good	Over; very good	Over; very good	Under; bad	Average	Charles Flack, Cholmondeley Castle Gardens, Malpas
DERBYSHIRE	Under; bad	Under; bad	Under; good	Under; bad	.....	Average; good	Average; good	Under; good	Under; good	T. Keetley, Darley Abbey, Derby
	Under	Under	Average	Under	.....	.....	Average	Average	.....	Wm Kilphinstone, Shipley Hall Gardens, Derby
	.....	.....	.....	Under; good	.....	.....	Average; good	Under; good	.....	William Chester, Chatsworth, Chesterfield
	.....	Under; bad	.....	Under; bad	.....	.....	Under; bad	Under; bad	.....	T. Ashton, Glossop Hall Gardens, High Peak
	.....	Average	Under	.....	.....	.....	Under	Under	Under	E. Wilson, Hardwick Hall, Chesterfield
	Under	Average; good on walls	Average	Average; good	Over; good	Average	Under	Under	.....	J. Bottrell, Sudbury Hall Gardens, Derby
HERTFORDSHIRE	Average	Over; good	Over; very good	Under	Over; good	Over; very good	Average	Average	Over; very good	C. E. Martin, The Hoo Gardens, Welwyn
	Under	Over; good	Over	Average	Over; good	Over; good	Over; good	Under to nil	Over	J. Kipling, Knebworth Gardens, Stevenage
	.....	Over; good	Under	Under; bad	.....	Average	Average	Under; bad	Under	T. Hill, Tring Park, Tring
	Average; bad	Over; very good	Average; good	Under; bad	Average; bad	Average; good	Average; bad	Average; good	Over; very good	J. Turk, Ponfield Gardens, Little Berkhamsted
	Under; bad	Over; good	Average; good	Average; good	Over; very good	Over; very good	Average; bad	Under; bad	Over; good	J. Myers, The Grove Gardens, Watford
	Under; good	Over; good	Average; good	Average; good	Under; bad	Average; good	Under, except Gooseberries, which are over	Under; small	Over; very good, except Walnuts	T. Nutting, Childwickbury Gardens, St. Albans

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CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties										
HERTFORDSHIRE	Under	Average	Average	Under	Average; good	Under	Over; good	Under; bad	Over; very good	C. Deane, Cassiobury Park Gardens, Watford
LEICESTERSHIRE	Average; good	Over; good	Under; good	Average; good	Average; good	Over; good	Average; good	Under; small	.....	A. Hamshere, Beaumanor Park, Loughborough
	Under	Under	Under	Under	.....	Average	Average; good	Average	.....	W. Whait, Wyndham Lodge, Melton Mowbray
	Under; good	Over; very good	Under; very good	Over; bad	Over; very good	Over; very good	Under; bad	Under; good	Over; good	W. H. Divers, Belvoir Castle Gardens, Grantham
	Under; bad	Average; good	Under; bad	Under; bad	Over; good	Over; good	Under; bad	Under; bad	.....	D. Roberts, Prestwold Gardens, Loughborough
	Under; good	Average; good	Average; bad	Under; bad	Average; good	Over; very good	Average; good	Under; bad	.....	T. Metcalfe, Rolleston, Bilesdon
	Under	Under	Average	Average	.....	Average	Average	Under	Average	G. Mansell, Higham Grange, Hinckley
NORTHAMPTONSHIRE...	Under	Average	Average	Under	Under	Under	Under; good	Under	Under	P. McGreadie, Wakefield Lodge Gardens, Stony Stratford
	Under	Average	Average	Under; bad	.....	.....	Under; bad	Average; good	Average	W. S. Miller, Whittlebury Gardens, Towcester
	Under; bad	Under; good	Under; bad	Under; bad	Average; good	Over; good	Average; good	Average; bad	Over; good	H. Turner, Fineshade Abbey Gardens, Stamford
	Under	Over	Average	Under	Over	Over	Under	Under; bad	Under	J. Trigger, Milton Park Gardens, Peterborough
	Average; good	Over; bad	Average	.....	Average; good	Average; good	Average; bad	Under; bad	.....	James Harlock, Lilford Hall Gardens, Oundle
NOTTINGHAMSHIRE.....	Under	Average	Under	Under	.....	Good	Good	.....	.....	A. Henderson, Thoresby Gardens, Ollerton
	Under	Over; very good	Under	Average	.....	.....	Under; bad	Under; bad	Under	John Horton, Welbeck Gardens, Worksop, Notts
	Under; bad	Under; good	Under; good	Under; bad	Average; good	Average; very good	Average; good	Under; good	Under; bad	Amos Parr, Holme Pierrepont Hall, Nottingham
	Under	Under	Under	Average; good	Average	Average	Average	Under	.....	S. A. Woods, Osberton Gardens, Worksop
	Under	Average	Under	Average	Average	Over	Average	Average	.....	John Edmonds, Bestwood Gardens, Arnold
OXFORDSHIRE	Under; bad	Over; very good	Over; good	Average; good	Over; very good	Average; good	Over; good	Under; good	Over; good; Walnuts under	G. Stanton, Park Place, Henley-on-Thames
	Under; bad	Average	Average	Under	.....	Average; good	Under	Under	Average	B. Hops, Middleton Park Gardens, Bicester
	Under	Under	Under	Under	Average; good	.....	Average	.....	.....	W. M. Geddes, Shirburn Castle Gardens, Tetsworth
	Under	Over	Over	Average	Over	.....	Red Currants under; Black over; Gooseberries over; Raspberries average	Under	Average; Walnuts none	A. Long, Wyfold Court Gardens, near Reading
	Under; good	Average; good	Average; good	Average	.....	Over; good	Gooseberries and Black Currants over; good; Red Currants and Raspberries under; bad	Under; bad	Filberts average	A. G. Nichols, Nuneham Park Gardens, Abingdon
	Under	Over	Over	Average	Over	Average	Average	Under	Average	T. Doherty, Wroxton Abbey Gardens, Banbury
RUTLANDSHIRE	Under; good	Under; bad	Under; good	Under (except Morellos); bad	Under; bad	Under; bad	Average; good	Under; good	Under	Geo. Drabble, Ketton Hall Gardens, Stamford
	Under	Average; good	Under	Average	Average	Over; good	Average	Under; bad	Under	H. Mason, Bisbrook Hall Gardens, Uppingham
	Under	Under	Average on walls	.....	.....	.....	Average	Average	Under	W. T. Kaines, Cold Overton Gardens, Oakham
	Under	Very good	Good	Under	Good	Good	Good	Under	Under	W. Doidge, Barley Thorpe Hall Gardens, Oakham
SHROPSHIRE	Under; good	Average; good	Under; good	Under; good	Average; good	Over; good	Under; bad	Over; very good	Over	J. Louden, The Quinta Gardens, Chirk
	Under	Over	Average	Average	Over	Over	Average	Under; bad	Over	A. S. Kemp, Broadway, Shifnal
	Under; good	Average; good	Under; bad	Under; good	.....	Over; very good	Under; good	Under; bad	Over; very good	Chas. Smith, Shavington Gardens, Market Drayton
	Under	Average; very good	Under	Under	Average; very good	.....	Over; good	Under; very good	Over	Wm. Weeks, Cheswardine House, Market Drayton
	Bad	Very good	Under	Good	Bad	Good	Average	Bad	Good	J. Matthews, Burford House Gardens, Tenbury
STAFFORDSHIRE	Under	Under	Under; bad	Average	.....	Good	Under	Under; bad	Under; bad	E. Gilman, Ingestre Gardens, Stafford
	Under	.....	Good	Good	Good	Under average	Very good	Good	Good	T. H. Rabone, Alton Towers Gardens
	Under; bad	Under; bad	Under; bad	Average	.....	Under; bad	Average	Average	Under; bad	Peter Blair, Trentham Gardens, Stoke-on-Trent
	Under; good	Under; good	Under; good	Under; good	Under; bad	.....	Under; good	Under; good	Average	James Renshaw, Beaudesert Gardens, Rugeley
	Very much under; good	Under; very good	Average; very good	Morellos average; good	Average; good	Over; very good	Over; very good	Under; bad	.....	Arthur Coombes, Himley Hall Gardens, Dudley
	Under	Under; good	Under	Under; bad	Average; bad	Average; good	Under	Under; bad	Under	H. G. Wilks, Sandon Hall Gardens, Stone
WARWICKSHIRE	Under	Average	Average	Under	.....	Over	Average	Under; bad	Under	W. H. Ward, Aston Hall Gardens, Sutton Coldfield
	Under	Over	Under	Under	Over	Over	Average	Under; bad	Under	J. Rodger, Charlecote Park Gardens, Warwick
	Under; bad	Average; good	Average; good	Under	Average; good	Over; good	Under	Under; bad	Over	W. Miller, Combe Abbey, Coventry
	Under; good	Over; very good	Average; bad	Average; good	Average; good	Average; good	Over; bad	Under; very good	.....	H. Dunkin, Castle Gardens, Warwick
	.....	Over	Under	Over	Over	Over	Over	.....	.....	T. Beddard, Stoneleigh Abbey Gardens, Kenilworth
	Under	Over	Over	Average	Over	Over	Over	Under	Average	J. Masterson, Weston House Gardens, Shipston-on-Stour
	Under	Average	Over; very good	Average	Average; good	Average	Average; good	Under	Average	Hy. Auberton, Arbury Priory Gardens, Nuneaton
5, Southern Counties.										
BERKSHIRE	Under; good	Over; very good	Average; good	Over; good	Average; good	Over; very good	Over; very good	Average; good	Over; very good	O. Thomas, Royal Gardens, Windsor
	Under	Over	Under	Under	Under	Over	Over; good	Average	Over	Robt. Fenn, Sulhamstead, Reading
	Under	Over	Average	Average; very good	Average	.....	Under; very good	Under; good	Over	J. Strachan, Rosehill House Gardens, Henley-on-Thames
	Average; good	Over; good	Average; good	Under	Average good	Over; average good	Under average	Under; average small	Average	J. Howard, Benham Park Gardens, Newbury
	Under; bad	Under	Over; good	Average	Average	Average	Under; bad	Under	Average	T. Turton, The Gardens, Maiden Erlegh, Reading
	Under; bad	Average; very good	Under; bad	.....	.....	Average; very good	Under; bad	Under; bad	Under; bad	Wm. Fyfe, Lockinge Gardens, Wantage

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
5 Southern Counties.										
BERKSHIRE	Under; bad	Average; good	Under; bad	Under; bad	Average; good	Average; good	Under; bad	Under; bad	Under	W. Pope, Highclere Castle Gardens, Newbury
	Average; good	Average	Average	Under	Under	Under	Over; very good	Average	Over	F. J. Thorne, Sunningdale Park Gardens, Sunningdale
DORSETSHIRE	Under	Over; good	Average; very good	Average; very good	Over	Over; very good	Under	Under; very good	Under	J. Beck, Crichel House Gardens, Wimborne
	Under; good	Over; very good	Over; good	Average; good	Over; good	Over; good	Under; good	Under; good	Over	W. G. Pragnell, Castle Gardens, Sherborne
	Under; good	Over; very good	Over; very good	Over; good	.....	Over; good	Average	Under; bad	Average	T. Denny, Down House Gardens, Blandford
	Under; good	Over; good	Over; good	Average; good	Average; good	Average; good	Under; bad	Under; bad	Over; good	P. Davidson, Iwerne Minster House Gardens, Blandford
HAMPSHIRE	Under; bad	Over; good	Over; good	Average; good	Average	Average	Average	Under; bad	Average	T. Grant, St. Giles, Cranborne
	Under	Over; good	Under	Average; good	Under	.....	Average	Under	Over	E. Molyneux, Swanmore Park Gardens, Bishop's Waltham
	Under; bad	Over; good	Over; good	Average	Average	Average; good	Currants, none; Gooseberries, &c., good	Under	Over	A. Maxim, Heckfield Place Gardens, Winchfield
	Under	Over; good	Over; good	Average	Average	Over; very good	Under	Under	Over; good	J. Bowerman, Hackwood Park Gardens, Basingstoke
	Under; bad	Over	Over; good	Under; bad	Average; good	Average; good	Over; good	Under; bad	Over; good	W. Smythe, Basing Park Gardens, Alton
	Average	Average	Over	Under	Under	Under	Average; very good	Average; good	Under	H. Ireland, Wentworth Lodge Gardens, Bournemouth
	Under	Over; very good	Average; good	Over; very good	Under	Over; very good	Under; bad	Under; good	Over	J. W. McHattie, Strathfieldsaye Gardens, Mortimer
	Under; bad	Over; very good	Average; good	Under; fair	Average; good	Over; very good	Average; good	Under; fair	.....	H. Downer, Northcourt Gardens, Shorwell, I. of W.
	Under	Over	Average	Average; good	Average	Under	Average; good	Under; bad	.....	R. Scott. Steephill Castle Gardens. Ventnor, I. of W.
	Under; very good	Over; good	Average; good	Average; bad	Average; good	Under; good	Over; good	Under; bad	.....	F. Orchard, Undermount Gardens, Bonchurch. I. of W.
KENT	Under	Over; very good	Under	Average; good	Average; good	Average	Under	Under	Over; very good	Wm. Craik, Hothfield, Ashford
	Under	Over	Over	Under; bad	Average	Under	Average	Under; bad	Over	V. Court, The Greys, Lynsted, Sittingbourne
	Under	Over	Average	Average	Over	Average	Average	Average	Over	H. Markham, Mereworth Castle Gardens, Maidstone
	Under	Average	Average	Average	Average	Under	Average	Average	Over	J. Woodward, Barham Court Gardens, Maidstone
	Under	Over; good	Under	Average; good	Average	Average; good	Average; good	Under; bad	Over; very good	H. Elliott, Wilbernesse Park Gardens, Sevenoaks
	Under; bad	Over; good	Average; good	Average	Over; good	Average	Over; good	Under; bad	.....	J. Merryfield, Waldershare Park Gardens, Dover
	Under	Over	Average	Average	Average	.....	Under	Bad	Average	J. McKenzie, Linton Gardens, Maidstone
	Under; bad	Over; very good	Over; very good	Over; good	.....	.....	.....	.....	.....	Wakeley Brothers, Rainham
	Bad	Over	Average	Under	Under	Under	Over; good	Average	Over	George Bunyard, Old Nurseries, Maidstone
	Under; bad	Over; good	Average; good	Over; bad	Average; good	.....	Average; good	Under; bad	Over; very good	F. Smith, Loddington, Maidstone
	Under	Over	Average	Under	.....	.....	Average	.....	Over	W. H. S., Monchelsea, Kent
	Under; bad	Over; good	Average; good	Average; good	.....	.....	Over; very good	.....	Over; very good	Champion Bros., Baron's Place, Mereworth
	Under; bad	Average; good	Average; good	Under; good	Under; bad	Average; good	Average, Raspberries excepted; good	Under; bad	Filberts average; Walnuts under; good	H. Abbey, Avery Hill, Eltham
	Under; good	Average; very good	Average; good	Average; good	Average; very good	Under; bad	Average; bad	Over average; flavourless	Over; good	J. Stubbs, Knole, Sevenoaks
	.....	Average; good	Under	Under; bad	Over; good	Over; very good	Average	Under; bad	Filberts under	H. Hutt, Lullingstone Castle Gardens, Eynsford
	Average; good	Under; good	Average; good	Over; very good	Average; good	.....	Over; very good	Over; very good	Average	J. B. B., Broadstairs
	Under	Over; good	Over; very good	Average; good	Average	Under; bad	Over; very good	Under; bad	Average	A. Wilson, Eridge Castle Gardens, Tunbridge Wells
	Average; good	Over; good	Average; good	Average	Average; good	Average	Over; good	Average	Over	W. Jarman, Preston Hall Gardens, Aylesford
	Average; very good	Over; good	Over; very good	Average; good	Average; very good	Over; good	Average; good	Under; small	.....	F. Moore, Blendon Gardens, Bexley
MIDDLESEX	Average; good	Under; good	Under; bad	Average; good	Average; good	Average; good	Over; very good	Average; bad	.....	A. J. Ballhatchet, Fulham Palace Gardens
	Under; good	Average; very good	Under; good	Average; good	Average; good	Under; good	Over; very good	Under; bad	Average; good	J. W. Odell, The Grove, Stanmore
	Average; good	Over; very good	Under; bad	Average (Morellos over); very good	Average; very good	Average; good	Under, except Gooseberries	Under	Over	H. Wythes, Syon House Gardens, Brentford
	Average; good	Over; good	Average; good	Average	Under	Average	Average	Under; bad	Average	W. Bates, Cross Deep Gardens, Twickenham
	Average	Under	Over	Very good	Good	Average	Good	Bad	Good	W. Watson, Harefield Place, Uxbridge
	Under; good	Average; good	Over; good	Under; bad, except Morellos	Over; good	Under; good	Black Currants, average	Average; very good	Over; very good	H. Ringham, Wrotham Park Gardens, Barnet
	Under; good	Average; good	Under	Under	Average; good	Under	Average	Under	Over	H. Reynolds, Gunnersbury Park Gardens, Acton
	Under	Average	Average	Average	.....	Under	Over	Under; bad	Under	W. Farr, Spring Grove House Gardens, Isleworth
	Under; bad	Over; very good	Over; very good	Under	Average; good	Over; good	Over	Average; good	.....	R. H. Cronk, Cranford House Gardens, Hounslow
SURREY	Under; good	Over; good	Under	Over; good	Under	Average	Over; good	Under; poor	Average; good	Alex. Dean, Kingston-on-Thames
	Under; bad	Average; very good	Under; bad	Average; good	Average; good	Average; good	Average; good	Under; bad	Average; good	Parrott, Bros., Normandy, Guildford
	Average; good	Over; very good	Over; very good	.....	.....	.....	Average; very good	.....	.....	J. Walker, Ham Common
	Under; bad	Over; good	Over; good	Average; good	Average	.....	Over; good	Average; good	.....	J. Friend, Rook's Nest Gardens, Godstone
	Average; good	Over; good	Over; good	Average; good	Under; bad	Average; good	Under; bad	Total failure	.....	E. Burrell, Claremont, Esher
	Under; bad	Over; very good	Under; good	Over; good	Over; good	Average; good	Over; very good	Much under; small	Over	A. Evans, Lythe Hill Gardens, Haslemere
	Under; bad	Over; very good	Average; very good	Average; good	Average; good	Average; good	Over; good	Under	Over; good	G. W. Cummins, The Grange Gardens, Carshalton
	Under	Good	Over	Good	Over	Good	Over	Under	Over	W. C. Leach, Albury Park Gardens, Guildford
	Average	Over	Average	.....	Over	Average	Gooseberries and Raspberries average; Currants under	Under; bad	Over	G. B. Baskett, Easbing Park Gardens, Godalming
	Average; good	Over; very good	Under; good	Under; good	Average; very good	.....	Over; very good	Under; bad	.....	J. F. McLeod, Dover House Gardens, Roehampton

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
5, Southern Counties.										
SURREY	Under	Over	Over	Under	Under	Average	Average; good	Under; good	.....	T. Oman, Ottershaw Park Gardens, Chertsey
	Under; bad	Over; very good	Over; very good	Under; bad	.....	Average; good	Over; very good	Under; bad	Over; good	C. Papworth, Riddings Court Gardens, Caterham
	Under	Average	Average	Average	Average	.....	Average	Under	Over	C. J. Salter, Woodhatch Lodge Gardens, Reigate
SUSSEX	Under	Over	Under	Average	Average	Average	Over	Under	Over	F. Geeson, Cowdray Park Gardens, Midhurst
	Under	Over; good	Under	Average	Average	.....	Average	Under	Over; good	A. Reid, Junr., Possingworth Gardens, Cross-in-Hand, Hawkhurst
	Under; bad	Over; very good	Average; good	Average; good	Over; fair	Over; very good	Except Red Currants very good	Under	Average	H. C. Prinsep, Buxted Park Gardens, Uckfield
	Under; bad	Over; good	Over; good	Under; bad	Average; good	.....	Average; small	Average; good	Over; very good	A. Offer, Handcross Park Gardens, Crawley
	Under	Average; good	Under; good	Under	Average; good	Average; good	Average, excepting Red Currants	Under	Average; Walnuts none	E. Burbury, Castle Gardens, Arundel
WILTSHIRE	Under	Under	Under	Average	Over; very good	Over; very good	Average	Under	Average	H. W. Ward, Longford Castle Gardens, Salisbury
	Under; bad	Over	Over	Average	Average	Average	Under; bad	Under; bad	Over	T. King, The Castle Gardens, Devizes
	Under; bad	Over; good	Average; good	Average; good	Average; good	Under; bad	Under; bad	Under; bad	Average; good	J. Trollope, Longleat Gardens, Warminster
	Under; bad	Over; good	Over; very good	Average; bad	Over; good	Over; good	Under; bad	Under; bad	Over; very good	W. A. Cook, Compton Bassett, Calne
	Under; bad	Over; very good	Average; good	Over; good	Over; very good	Over; very good	Over; very good	Average; good	Average; good	T. Challis, Wilton House, Salisbury
	Under	Good	Good	Under	Over; very good	Average; good	Over; good	Under	Over; very good	Savernake Gardens, near Marlborough
	Under	Good; over	Average; good	Under	Average; good	Average; very good	Over	Under; bad	Average; good	T. Nelson, Bowood Gardens, Calne
7, England, N.W.										
LANCASHIRE	Under	Over	Under	Average	Over	.....	Over	Under	Under	J. Hathaway, Lathom House, Ormskirk
	Under; good	Over; very good	Under; bad	Average; good	Over; bad	.....	Average; bad	Average; bad	.....	W. P. Roberts, Cuerdon Hall Gardens, Preston
	Under	Over	Under	Average	.....	.....	Under	Under	Average	W. B. Upjohn, Worsley Hall, Worsley
	Under; poor	Average; good	Under	Average; good	.....	.....	Over; very good	Average; good	.....	J. Adshead, Trafford Park, Patricroft, Manchester
	Under	Under	.....	Morellos over; others under	.....	.....	Under	Under	.....	B. Barham, Croxteth Hall Gardens, Liverpool
	Under; very good	Over; very good	Under; good	Over; good	Over; good	.....	Over; very good	Under; fair	.....	L. Hargreaves, Ashton Hall Gardens, Lancaster
8, England, S.W.										
CORNWALL	Under	Average	Average	Under	Good	Average	Under	Under; bad	Average	W. H. Bennett, Menabilly, Par
	Under	Over	Average	Morellos over	Average	.....	Over; red Currants failure	Average	.....	A. Mitchell, Tehidy Park, Camborne
	Under	Average; good	Average	Under	Average; good	.....	Under	Under; poor	Average; good	G. Hall, Port Eliot Gardens, St. Germans
	Average; good	Average; good	Under; good	Average; bad	Average; good	Over; good	Average; good	Average; good	Over; very good	C. Page, Boconnoc Gardens, Lostwithiel
DEVON	Under; good	Over; good	Over	Under	Average; good	Average; good	Average	Under; bad	Over	J. Murton, Pencalenick, Truro
	Under	Average	Under	Average	Average	.....	Average; good	Under	.....	Geo. Baker, Membland, Plymouth
	Under	Average; good	Average; under	Under	Average; good	Average; good	Average	Under	Under	J. Enstone, 38, Temple Road, Exeter
	Under; good	Average; good	Over; good	Under	Under	.....	Over; very good	Average	.....	W. Stewart, Arlington Court Gardens, Barnstaple
	Under; good	Over, very good on walls; under, good on standards	Over, very good; under, and bad on standards	Under on walls, good; standards average, good	Under; bad	Under; bad	Over; very good	Under; bad	Average	R. J. Nicholas, The Gardens, Castle Hill, South Molton, N. Devon
	Under; good	Over; good	Average; good	Average; very good	Over; very good	.....	Average; good	Under; bad	Average; good	A. Eames, Heanton Satchville, Beaford
GLOUCESTERSHIRE	Under	Over; very good	Over	Average	Average; good	Average; very good	Average	Under; very bad	Over	J. Sowray, Highnam Court Gardens, Gloucester
	Under	Average	Under; bad	Average	Average; good	Over; good	Under	Under; bad	Under	W. Keen, Bowden Hall Gardens, Gloucester
	Average	Under	Average	Under	Over; very good	Over; very good	Average	Under	Average	T. Arnold, Cirencester House Gardens, Cirencester
	Average; good	Average; good	Average; good	Average; good	Over; very good	Over; very good	Average; good	Under; bad	Over; good	A. Scott, Sherborne House Gardens, Northleach
	Under; bad	Over; good	Under	Average	Average	Average	Under	Average; good	.....	W. Nash, Badminton Gardens, Chippenham
	Under	Average; good	Under; good	Under; good	Average; good	Average; good	Under; good	Under; bad	Under	J. Cleare, Toddington, Winchcomb, R.S.O.
	Under	Over; good	Under	Under	Average; good	Average	Over; good	Under	Average	T. Shingles, Tortworth Gardens, Falfield
	Under	Over	Over; very good	Average	Under	Under	Average; very good	Under; bad	Average	W. Greenaway, Doddington Gardens, Chipping Sodbury
HEREFORDSHIRE	Under; good	Average; good	Under; good	Average; bad	Over; good	Over; good	Average; good	Under; bad	Average; good	J. Watkins, Pomona Farm Nurseries, Withington
	Under; bad	Over; good	Under; bad	Average; good	Average; good	Over; good	Under; very good	Under; good	Under	T. Spencer, Goodrich Court Gardens, Ross
	Under; bad	Under; bad	Over; good	Average; good	Over; good	Over; good	Over; good	Under; bad	Over; very good	F. Harris, Eastnor Gardens, Ledbury
	Average; good	Average; good	Average; good	Dessert varieties under; Morellos and Kentish over; good	Average; good	Over average; good	Average; good	Under; bad	Average	A. Ward, Stoke Edith Gardens, Hereford
	Under	Under	Average	Average; good	Under	Under	Over; good	Average; good	Over	G. Milne, Titley Court Gardens, Titley
MONMOUTHSHIRE	Average	Over; good	Average; good	Average; bad	.....	Over; good	Average; good	Under; bad	Over	T. Coomber, The Hendre Gardens, Monmouth
	Under; bad	Average crop	Under	Under; bad	Under	Average; good	Average; Gooseberries over	Under	Average	J. Lockyer, Park Gardens, Pontypool
SOMERSETSHIRE	Under	Under	Under	Average	Under	Average	Average; good	Under	Under	W. Hallett, Cossington House Farm, Bridgwater
	Under	Over; good	Over; very good	Average; good	Average; good	Under	Average	Under; good	.....	H. Noble, Ashton Court Gardens, Bristol
	Average	Over	Over	Under	Over	Average	Average; good	Average	Average	A. S. Young, Marston Gardens, Frome
WORCESTERSHIRE	Under	Over; very good	Average; good	Over; very good	Over; very good	Over; very good	Over; good	Average	Under	A. Young, Abberley Hall Gardens, Stourport

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
8, England, S.W.										
WORCESTERSHIRE	Under; good	Over; good	Average; good	Under; bad	Over; very good	Over; very good	Under; good	Average; good	Over; good	J. Austen, Witley Gardens, Stourport
	Under; good	Average; very good	Average; good	Average; good	Under; bad	Average; good	Over; very good; Red Currants excepted	Under; good	Under; good	Fredk. Hughes, Overbury Court Gardens, Tewkesbury
	Under; good	Over; very good	Over; good	Average; good	Over; very good	Average; good	Average; good	Under; bad	Average; good	W. Crump, Madresfield Court, Malvern
	Under; good	Over; very good	Over; good	Average; very good	Under; bad	Average; good	Over; very good	Under; very bad	Average good	C. Myatt, Harvington, Evesham
	Under; good	Average; good	Average	Over; good	Average	Over; good	Average	Under	Average; good	J. Justice, The Nash Gardens, Kempsey
WALES.										
ANGLESEY..	Average; very good	Average; good	Under; bad	Average; very good	.....	.....	Over; very good	Under; bad	.....	Kenneth Wright, Plasnewydd Gardens, Llanfair
BRECONSHIRE.....	Under	Average	Under	.....	Under	Average	Under; bad	Under; bad	.....	D. Clark, Clyso Court Gardens, Hay
	Under; bad	Under; good	Under; bad	Under; good	Average; good	Average; good	Under; bad	Under; bad	.....	A. Ballard, Glanusk Park, Crickhowell
CARDIGANSHIRE	Under; bad	Average; good	Under; bad	Average	Average; good	Average	Average; good	Under	Under	R. C. Williams, Crosswood Park Gardens, Aberystwith
CARMARTHENSHIRE ...	Bad	Average	Average	Average	Good	.....	Average	Under; bad	Very bad	Lewis Bowen, Edwinsford Gardens, Llandilo
CARNARVONSHIRE	Under	Under	Average	Under	Under	Under	Under	Bad	.....	A. Calder, Vaynol Park Gardens, Bangor
DENBIGHSHIRE	Average; bad	Under; good	Average; bad	Average; good	Under; good	Over average; good	Average; bad	Average; bad	Under	P. Middleton, Wynnstay Gardens, Ruabon
	Under	Average	Under	Average	Over; very good	Over; very good	Gooseberries over; very good	Average	Over	W. Weir, Acton Park Gardens, Wrexham
	Earlies over, and good; late under	Over; very good; pyramids and espaliers under	Under	Under	... ..	Over; good	Under	Under	Under	H. Forder, Ruthin Castle Gardens, Ruthin
FLINTSHIRE	Under	Good	Average	Good	Average	Very good	Under	Under	Bad	J. Forsyth, Hawarden Castle Gardens
GLAMORGANSHIRE	Under	Average	Average	Average	Average	.....	Average	Under; bad	Under	A. Pettigrew, Cardiff Castle Gardens
	Under; good	Over; good	Over; good	Over; good	Average; good	Average; good	Mostly over; good. Red Currants under	Over; good	Under	R. Milner, Penrice Castle Gardens, Swansea
	Under; bad	Average	Over; very good	Average	Over; very good	.....	Average	Under	Average	J. Muir, Margam Park Gardens, Talbach
	Under; bad	Average	Average	Average	Average; good	.....	Average; good	Average; bad	Average	C. Hibbert, Craig-y-nos Castle, Swansea
MERIONETHSHIRE	Under	Under	Under	Average	.....	.....	Average	Under	Under	J. Bennett, Estate Bailiff, Rhûg, Corwen
MONTGOMERYSHIRE ...	Under; good	Average; good	Under; very good	Under; good	.....	.....	Raspberries, Gooseberries, and Red Currants average; good. Black Currants under; good	Under; bad	.....	T. Humphreys, Gregynog Gardens, Newtown
PEMBROKESHIRE	Under	Over	Under	Average	Under	.....	Under	Under	Average	G. Griffin, Slebech Park Gardens, Haverfordwest
	Under; bad	Over; good	Average; good	Average; good	Average; good	.....	Over; good	Average; good	Average; good	W. B. Fisher, Stackpole Court Gardens, Pembroke
IRELAND— **9, Ireland, N.**										
ANTRIM	Average; very good	Average; very good	Average; good	Average; very good	.....	.....	Currants under; Gooseberries over; good	Average; good	.....	G. Porteous, Garron Tower Gardens, Larne
	Under	Over; good	Under	Good	.....	.....	Under	Under	.....	A. Robertson, Antrim Castle Gardens
CAVAN.....	Under; bad	Under; bad	Under; bad	Average; very good	.....	.....	Over; good	Average; good	.....	E. Reilly, Gardener, Castle Saunderson, Belturbet
DOWN	Under	Average	Under; bad	Under	.....	Average	Average	Under	.....	J. Taylor, Mountstewart, Newtownards
DUBLIN	Under; bad	Average; good	Average; good	Under; bad	Average; good	Average; good	Over; good	Under; good	Under; bad	J. Patterson, Malahide Gardens, Malahide
GALWAY	Under; bad	Under; bad	Over; good	Over; very good	.....	.....	Over; very good	Under; good	.....	J. Cobban, Garbally, Ballinasloe
KERRY	Under	Good	Good	Average	.....	.....	Over; good	Under; bad	Average	Geo. M. Breese, The Gardens, Killarney
LONGFORD	Under	Under	Under	Under; bad	Under	Under	Average	Average	Average	J. Rafferty, Castle Forbes, Longford
MEATH	Under; bad	Under	Under	Average; good	Under; very good	Over; good	Average; very good	Under; bad	Under; bad	J. Hounslow, Headfort Gardens, Kells
WESTMEATH	Under	Under	Under	Over; very good	.....	Good	Average; very good	Under	.....	H. Clarke, Pakenham Hall Gardens
	Under; bad	Under; bad	Under; bad	Under	.....	.....	Average; good	Under	Under; bad	J. Igo, Garden Vale, Athlone
WICKLOW.....	Under	Average; very good	Under	Average; good	Under	Over	Good	Under	.....	L. Childs, Killruddery Gardens, Bray
10, Ireland, S.										
CORK.....	Average	Average	Over	Morellos average; other varieties under average	Under	.....	Over	Average	Under	R. Wilson, Mitchelstown Castle Gardens
KILDARE.....	Under; good	Under; bad	Under	Average; good	Over	Over	Under; bad	Under; bad	.....	J. Wyke, Bishop's Court Gardens, Straffan
KILKENNY.....	Under; bad	Average; good	Under	Average	.....	Over; very good	Under; good	Average	Average; very good	H. Carlton, Kilkenny Castle Gardens
QUEEN'S COUNTY	Under	Under; very bad	Under; very bad	Average	.....	.....	Very good	Under	Very good	H. J. Harvey, Granston, Abbeyleix
WATERFORD	Average	Average	Average	Over; good	Over; good	Under	Over; very good	Under; bad	.....	T. Singleton, Curraghmore Gardens, Portlaw
WEXFORD	Under; good	Over; good	Under; good	Average; good	Over	Over; good	Average	Over; very good	.....	J. Turner, Courtown Gardens, Gorey
CHANNEL ISLANDS.										
GUERNSEY.....	Under; bad	Average; good	Average; bad	Under; bad	Average; bad	Under; bad	Average; bad	Under; bad	.....	C. Smith & Son, Caledonia Nursery, Guernsey
ISLE OF MAN	Under; bad	Under; bad	Under	Average	.....	.....	Average	Under	.....	J. Murphy, Croukbourne, Douglas, Isle of Man

CROPS AT SEVERN STOKE.

It is not my intention to enter into detail respecting this remarkable garden, the property of the Rev. Canon Coventry; some subjects, however, are worthy of special notice. The range of vineries is about 150 feet long, divided into two compartments. At the time of my visit, July 6, the late house had not passed the stoning period, while those in the early compartment were ripening up, and, indeed, some of the bunches had already done duty at exhibitions. The early house is about 100 feet long, and consisted of such varieties as Madresfield Court, Black Alicante, Gros Colmar, Black Hamburgh, Muscat of Alexandria, and Sweetwater. The Vines were carrying heavy crops; notwithstanding which, the bunches were large, and the berries plump and well developed, and those that were ripe were well finished. The best bunches of Black Hamburgh would average 3 lb.; one bunch I noticed would no doubt turn the scale at 5 lb.; the Gros Colmar would run 4 and 5 lb. each, and the Muscat of Alexandria about 4 lb. each. Some of the finest bunches of Black Hamburgh were on Vines forty years old; one cane was taken to the top of the house, and then two branches were trained horizontally in opposite directions, and from these branches the finest fruit was obtained. The Muscats were in splendid form, those Vines carrying the largest bunches being twenty-five years old. Mr. Frowd, the head gardener, evidently understands the nature of the Vine, and the treatment required for the production of fine Grapes.

Turning into the Fig-house, I found the second crop, a prodigious one, was fast ripening. The principal variety grown is Brown Turkey. In the five low span-roofed houses devoted to Cucumber-growing, the plants were in luxuriant health, being grown on the so-called express system. A good bed is made at first; the plants maintained in a healthy condition, are made enormously productive; the houses are kept close, and no air being afforded, growth is very rapid. Mr. Froud keeps his plants at all times exposed to sunlight, with a temperature ranging from 90° to 120°, and an atmosphere saturated with moisture. The Cucumber plants are looked over daily, each shoot stopped when it has made two or three joints, and the fruits cut before they come to maturity. After a big cutting, the young fruit may almost be seen to grow, so rapid is development; and further, the produce is considerably increased, as well as the quality greatly improved by this practice. With the high temperature maintained, and the great amount of humidity in the houses, the plants are free from insect pests of all kinds, and of disease. When the plants show signs of exhaustion they are well cut-back, the beds top-dressed with decayed manure, and afforded liquid manure in large quantities, and some small amount of air is given for a day or two while they make fresh growth, and in a short time the plants are again bearing as heavily as before. Tomatos may be profitable to grow under glass; but to use a common phrase, they cannot touch Cucumbers when they are grown according to the methods practised at this place.

Mushrooms are grown quite as well as the Cucumbers, Grapes, or Figs. These are not cultivated in well-arranged Mushroom-houses, where there is every convenience in the way of heating appliances, but in underground caves or quarries. In one part of the garden there is a high sloping bank, into which Mr. Froud has burrowed and formed subterranean caves; there he has made his Mushroom-beds. The roof is held up by thin boards, supported with props, and the entrance is by a narrow door. Several of these caves have been formed; when I called there recently, another had been commenced at the side of those already in existence, which was intended to connect them altogether, when they all might be traversed from one entrance. The beds are made on the ground; the temperature of the caves is warm in winter, and cool in summer, just right for the Mushrooms during the period they are cultivated; there is, therefore, no artificial heat required, neither damping nor any of the routine duties required in a Mushroom-house. The beds produce enormous crops of Mushrooms, and they continue in bearing four or five months, and when they become exhausted, as will then occur, they are watered with tepid water, in which a little salt and guano is mixed, and this sets them going again. A slight sprinkling of salt is also mixed with the manure at the time of forming the beds, which is also of much benefit to the Mushrooms.

Besides the above, I noticed fine crops of Cherries on pyramidal trees, 8 or 9 feet high, covered with nets to protect them from the birds; Raspberries and Gooseberries were also in fine condition; as was a batch of Chrysanthemums, containing sorts new and old; the plants strong, and giving promise of fine flowers in the season. *Quintin Read.*

The Week's Work.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

CARNATION SOUVENIR DE LA MALMAISON.—If the directions given on p. 754 of the last volume have been carried out, the layers will now be sufficiently forward for severing from the parent plants and potting in their flowering-pots, which may range from pots of 5 inches to 7 inches in inside diameter, according to the strength of the plants. I have discarded the practice of placing them first in 60's, as it is, in my opinion, useless. When the sparingly-rooted layers are placed in 5 and 7-inch pots, the drainage must be in good quantity, and carefully placed in the pots; the soil used should be the best of its kind, and the after-watering carefully performed. I have found that for this potting, a soil consisting of two parts fibry loam, broken with the hand, one of peat, similarly treated, and the remaining fourth to consist of equal parts of charcoal, sand, mortar rubbish, and soot, is very suitable. The potting soil should incline to dampness when used, and no water should be afforded at the root for a few days after potting, the damping of the foliage with the syringe sufficing; water, when resorted to, should be sufficient to moisten the whole mass of soil, and no more will then be required for a considerable time. A suitable place for the plants at this stage is one with a north-east or a north aspect, the pots being stood in a bed of coal-ashes, and the frame kept rather close till growth recommences, when more and more air must be admitted by degrees, and at the sixth week after potting full exposure may take place in fine weather. The plants will benefit by frequent light syringing in fine bright weather.

PRIMULAS.—Those of the double-flowered section, which may be growing in 60's, should be repotted into 5½-inch pots, making use of a light rich soil, plenty of sharp sand, and a small quantity of charcoal. Afford the plants plenty of air, frequently damp the sides and bottom of the frame or pit, and shade the plants from bright sunshine during the warmest part of the day.

EPACRIS, which have made satisfactory progress, may be placed in a sunny position out of doors, to ripen the newly-made shoots; and to prevent the entry of worms, stand the pots on boards or on inverted pots, if the situation is such as will not permit of coal-ashes and soot being laid down. Continue to pinch the shoots of Bouvardia, Plumbago capensis, and Euphorbia jacquinæflora, standing the plants wide apart. Salvia, Eupatorium, Lantanas, &c., must be similarly treated to the above. The moist season is causing a gross growth, which must be checked by a somewhat severe pinching of the stronger shoots.

MIGNONETTE-HOUSE.—Sow six good seeds in a thumb-pot, or more if the seed be not good. Use a rich soil, and stand the pots in cold frames. For general usefulness, Miles's hybrid Spiral is hard to beat; whilst if large heads of bloom are desired, Matchet, Bird's Mammoth, or Queen Victoria, are excellent. The flowers will succeed those from plants in the open air.

CELOSIA, GLOBE AMARANTH, AND BALSAM required for late flowering should be encouraged to grow by the frequent application of well diluted farmyard manure-water or clear soot-water.

MISCELLANEOUS.—Rooted cuttings of Lasiandra (Pleroma) macrantha, and Libonia floribunda, may be potted into 5-inch pots, using a rich loam two parts, one part old Mushroom-bed manure, and one of sharp sand, place in a frame, and afford a treatment similar to that advised for Primulas. Seedling Calceolarias and Campanulas may be transferred to thumb-pots, using a peaty soil, which has been passed through a ¼-inch sieve; stand them in a frame having a northern aspect, shade from sunshine during the afternoon, and if the position be a damp one, so much the better.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

FIG TREES ON WALLS.—The shoots for which there is space in which to lay them in without crowding, should now be fastened to the wall, the side-shoots being removed, the leading shoots left unstopped, and the shoots at their base being left to furnish the tree. If mice are troublesome, as is sometimes the case, traps must be used, and nets should be placed over the trees to keep blackbirds and thrushes from the fruits.

PEARS.—Old trained trees, and standards in orchards and gardens, if heavily cropped, may receive a good root-watering with liquid-manure of some kind, diluting it more or less according to its strength, and the nature of the land. Land that is well-drained, naturally or artificially, or which has a gravelly subsoil, is much benefited by such applications. In this district old trees of Louise Bonne of Jersey and Williams' Bon Chrétien bear very heavy crops this season, and manure-water will have a good effect on the crops of these varieties, if afforded forthwith. Early varieties growing on walls, or as bushes and espaliers, should be protected by nets from the depredation of the birds.

STRAWBERRY PLANTATIONS.—Where runners have not been secured for forming new plantations, they may still be taken from the mother-plants, and dibbled-in on a shady border in rows of 1 foot apart and 9 inches in the row. These will make good plants for forming beds in the spring, which, if not allowed to fruit, will produce fine crops the following year. Continue to plant layers in new beds, and when these have all been removed, trim off, and clear away the runners remaining, together with all litter and weeds, burning it all, to make sure of getting rid of slugs and insects. In trimming, the good leaves should not be cut off, as doing this weakens the plants.

WASPS.—The wet weather has kept wasps in check, and many of the queens succumbed in May; nests, however, are getting abundant, and should be destroyed without delay. The simplest method of dealing with the nest is to put half a pint of petroleum into a bottle; put the neck well down into the entrance to the nest, first taking care to stop other holes, and pour the liquid as well as may be into the nest, when every wasp and maggot will be killed. Where the nests are so situated that it would be unsafe to use petroleum for fear of injuring the roots of trees, &c., gas-tar may be used instead, and the entrance plugged with a sod; and where the nest is higher than the entrance, to make doubly sure, after stopping up the entrance, make a hole with a crowbar directly over the nest, and pour tar into it, stopping up the hole with a piece of turf or a bunch of tow dipped in gas-tar.

THE FRUIT-ROOM.—Take the earliest opportunity of cleaning and putting this place in readiness for the earliest Apples and Pears, limewashing the walls and ceiling, and washing the shelves with soap and water. With the introduction during recent years of so many fine-looking Apples and Pears, the gardener should make an effort to make the fruit-room as interesting as possible to those who may visit it. The shelves may be covered with sheets of stout brown paper, which besides giving a neat appearance prevents currents of air from passing up among the fruits.

GRAFTED TREES.—Remove the spray from the stems and branches of the stocks if the grafts are increasing in size, securing the latter to sticks stuck in the soil, or made fast to the stem, &c. If American-blight be observed when the grafting-clay is removed, make use of petroleum emulsion or Gishurst's Compound Soap.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

COLEWORTS.—When the plants are large enough, plant them wherever vacant ground can be found, manuring it, if it be poor. It is a vegetable that will be useful in the late autumn and early winter months.

CELERY.—Manure-water may be applied to the forwardest plants twice a week, and trenches thrown

out for later plantings as fast as land becomes vacant. The majority of gardeners will have finished the planting of Celery; still, a few rows of some late-sown variety, if planted as late as the first week in August, will produce useful heads in the spring, if put into trenches made shallow in order to hasten growth. Some few of this sowing should be planted on a north border, to furnish flavouring produce late in the spring. Earlier plantings will now be forward enough to receive the first earthing-up, which should be of no great depth, gradual moulding being better than doing it at once or twice. Before commencing, the land should, if dry, have a heavy application of clear water, followed with one of liquid manure. Having done this, remove the small leaves that soon decay on being moulded over, as also all visible suckers. Place the mould lightly against the plants, a thin portion of the side of the trench being cut down with the spade to provide the mould for this purpose. If the soil be heavy or lumpy, it will be better first to use the soil from the top of the intervening ridge, care being taken to keep the soil out of the heart of the plants.

TOMATOS.—The points of the leading shoots may now be pinched out if a good set has been obtained; the flowers that set after this date rarely producing ripe fruit. All side-growth should be stopped, and overcrowded and luxuriant foliage reduced in size or cut off, and the supports and ties made secure.

LEEKS.—Continue to earth up those in trenches, affording liquid manure when moisture is needed. Make other plantings in deep holes made with a bar or dibber, just leaving the tips of the leaves above the surface and merely make the roots firm at the bottom, leaving the holes open till the plants have attained a fair size, when they may be filled in with the hoe. We lifted some very fine Leeks grown in this way last spring.

BRUSSEL SPROUTS.—Where early sprouts are desired next year, seed may be sown on a south border, and the seedlings when large enough dibbled out at 4 inches apart on firm ground, to be planted out in the spring. Those remaining in the seed-bed will be useful for filling up blank spaces. The second sowing of cabbage-seed may now be made, and care taken that slugs do not prey upon the seedlings.

HINTS ON CURRENT MATTERS. — The refuse leaves and the remains of crops, if it is not convenient to dig them in directly, should be wheeled to a convenient spot and covered with soil to prevent the escape of ammonia. Effort should also be made to hoe all vacant plots of land, and between the various crops, clearing off all weeds.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

VENTILATION, SHADING, ETC.—Owing to the sudden changes of bright sunshine and cloud experienced during the past few weeks, those who have the management of Orchids will have found it a very troublesome time, great vigilance having been necessary to keep the temperature of the warm-houses near the normal. Owing to external air being warm generally over the country, little difficulty was found in maintaining a suitable temperature for the cool divisions. On warm, damp evenings, such as we are now getting, it is my practice to open the upper and lower ventilators of the Odontoglossum-house to their full extent, and when the outer air is not less than 61° the doors are also opened; the inside thermometer then registering 63°, and the hygrometer 62°, thus showing 1° below saturation-point. At about 10 P.M. the doors are shut, and the top-lights lowered in accordance with the probabilities of the weather, but for the next few hours the lower ventilators are not closed. Under such treatment, insect pests do not cause much trouble—indeed, much less than when the plants are kept in close moist quarters; moreover, the plants seem to derive benefit from the evening air. There are a few species, such as Odontoglossum grande, O. Schlieperianum, O. Insleayi, and its varieties leopardinum and splendens, now making growth, which should be put at the warmest part of the Odontoglossum-house, and which, if not already repotted or surfaced, should have their needs at once attended to. The charming Miltonia vexillaria is now beginning to grow, and will require repotting. My practice is to annually repot this species, because, owing to the quantity of water needed by the plant whilst growing, the compost becomes exhausted; and the plant losing naturally a number of its older roots every year, these may be cut off, and the specimen supplied with fresh compost. Before the repotting is done, it is advisable that each plant should be closely examined for the small yellow thrips which harbour low down in the young growths, and the most effectual method of destroying these insects is to dip the plants into a safe kind of insecticide, and afterwards into clean tepid soft-water. M. vexillaria being a shallow-rooting plant, requires a shallow layer of compost, its numerous fibrous roots preferring to ramble just over or under the surface, and the pots or pans should be very well drained. The rather large pots or pans made use of should be filled with clean crocks to about three-quarters of their depth; and to render these firm, put a layer of sphagnum-moss over all, and above that the compost, which may consist of sphagnum-moss chiefly, with a small quantity of fibrous peat, and crocks broken quite small. Elevate the plant well above the rim of the pot, as by so doing more rooting surface-space is afforded. At first, and till the new growths begin to root freely, water should be afforded sparingly, a fine-rose watering-can being used for the purpose. As the roots lengthen, and according to the condition of the plants, so should the supply of water be increased. They soon become re-established, and the cool-house will suit them for the present; but when the nights become chilly, they should be removed to the intermediate-house. The distinct varieties, Miltonia v. rubella and M. v. superba, are now in full bloom, and although smaller than the type, they are charming. The flowers M. v. rubella are rose-pink, the lip having a white space in front of the yellow disc, while those of the variety M. v. superba are identical as regards size, and owe their distinctiveness to the rich maroon blotch bordered with pure white of the lip. Both varieties should be kept in the Odontoglossum-house till growth recommences.

STANHOPEAS. — In our Cattleya-house the earliest flowering Stanhopeas are now pushing their spikes, and where a large number of varieties is cultivated, there will be blooms on some of them for several months to come. A few of the most beautiful are S. Wardi, S. insignis, S. Mastersii, S. tigrina, S. florida, S. eburnea, and the new S. Lowii and S. Amesiana, both of which resemble S. eburnea. Stanhopeas should be abundantly supplied with water at this season till the flowers open, and as the latter are fugacious, great care must be taken to avoid wetting them. For the present, keep the plants well shaded in the cooler part of the house; and when growth is complete, and the flowering season over, a cooler temperature and drier atmosphere, as well as more light, will be the proper treatment to afford them. Stanhopeas succeed in shallow teak baskets suspended not far from the roof, and ordinary drainage is not required, because, if crocks be used, the flower-spikes are broken or deformed by contact with them. The proper time for supplying fresh materials is when the plants are starting into growth, and the compost should consist chiefly of sphagnum moss and fibrous peat, the last in the smaller proportion.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

MELONS.—The plants that will furnish ripe fruits late in the season should be encouraged to set their fruits as early as possible after this date, and make rapid progress afterwards. In order to secure a good set, the flowers and foliage should be kept dry for a few days, the air of the pit or house being maintained in a moist state by sprinkling the floors, &c. Red-spider is apt to give trouble at this season, also thrips, and means should be taken to keep them in check. When the fruits are swelling, afford the plants liquid-manure in a much diluted form, and when the fruits begin to ripen, damp the plants frequently, but withhold water from the roots as much as may be consistent with a growing condition. The temperature of the house or pit should be kept at about 70° by night, 80° by day, affording sufficient air to keep the foliage robust and firm, and some small amount may be left on at night. When the fruits begin to have a perfume, and the rind to crack away from the stalk, cut and place them in the fruit-room or other cool place for future use. Melons keep a week or longer at this season.

PEACH AND NECTARINE-HOUSE.—Early-forced trees will now be casting their leaves, and any re-planting or formation of new borders that may be required should be taken in hand forthwith. Young trees that are growing too strongly may now be carefully lifted and re-planted. In making borders, use a strong rich pasture-loam, that has been cut and stacked for not much less than one year. It should be chopped up thoroughly, mixing it in the following proportion with other substances, viz., 1 cart-load of lime-rubbish, 1 cwt. of ½-inch bones, 1 cwt. of bone-meal, to eight cartloads of loam; farmyard-manure not being used, as it shrinks much in bulk, causing the borders to settle very soon after making, and often damaging the trees, besides inducing sappy, gross shoots. Late-forced Peaches and Nectarines should have their borders well watered, and the foliage syringed daily, aphis being destroyed by frequent applications of quassia-water. Air should be abundantly given to secure well-ripened wood. Advantage should be taken of spare days in the autumn to lay in a stock of various kinds of loam suitable for fruit trees, Vines, &c.

FIG TREES.—Those planted in borders may need, if fruiting heavily and not growing strongly, manure-water at the roots. The foliage should be syringed twice daily, especially the underside of it, where red-spider mostly harbours. When the drainage of a Fig-border is in good order, there is little fear of harm being done by copious waterings at this season; still, discretion is necessary, as no tree suffers more quickly from bad drainage than the Fig.

ORCHARD-HOUSE.—Pear, Plum, and Peach trees in pots, as the crops are gathered from them should receive an abundant watering at the root, and be freed from aphis and other insects; and as the wood gets ripened, they should be turned out into some place out-of-doors that is sheltered on the north side of it.

TOMATOS.—Plant out in beds, or pot into 10-inch pots those intended for winter fruiting. Prelude and Trophy are good varieties for winter fruiting. Another batch of cuttings may be put in, so as to make sure of a continuous supply of fruits up to the new year. Attend well to the wants of those plants that are bearing heavy crops of fruit, applying some kind of artificial manure once a week, and laying-in the leading shoots without stopping them, but removing the laterals, or stopping them at the first leaf above a truss of flowers, a method that some growers adopt with good results. The fruits may be taken as soon as coloured, if required to be kept for any length of time.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

THE FLOWER-BEDS.—The beds will now require almost daily attention, to free them from weeds and preserve a proper outline. Calceolarias, especially the weaker-growing varieties, should be kept in proper position by means of small twigs stuck amongst them. Tall-growing varieties, like C. amplexicaulis, will require thin sticks, to which the stems must be tied, or they may be pegged down to the soil. The rainy weather has made the growth of Calceolarias strong and lanky, hence the need of supports. The trailing species of bedding plants should be carefully pegged down to the soil, and where carpet-bedding is practised, there will be numerous little details to carry out in maintaining good order. All such plants as Pyrethrum, Alternanthera, Coleus, Mesembryanthemum, will require pinching sufficiently severe to ensure that the lines of the designs may be clearly seen. Owing to the wet weather we have had, Pyrethrum Golden Feather, though scarcely so good in colour as might be wished, has hardly shown any flowers. Mesembryanthemum and Alternanthera are now in need of warm sunshine seeing that the plants are established, to bring out the brilliancy of their tints. Dahlias should be securely staked and tied, and if fine blooms are required, the flower-buds should be thinned, the best-formed ones being retained. The plants must not lack water, and occasionally manure-water may be afforded.

AURICULAS AND POLYANTHUSES.—Seedlings of these raised from sowings made last autumn or in early spring, should be transplanted from the seed-beds, choosing for them a spot not exposed to the midday sun, planting them in rows 4 to 5 inches apart, and 3 inches in the rows. Afford water when transplanted, and afterwards in dry times.

HERBACEOUS BORDERS.—Make notes of any species which by reason of great usefulness as cut-blooms or other good properties it is desirable to increase the stock of; and what improvements are desirable in the arrangement of the plants at transplanting time. Continue to secure all tall-growing subjects to stakes.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

WEDNESDAY, Aug 8—East Anglian Club.

SHOWS.

MONDAY, Aug. 6 — Beddington, Carshalton, and Wallington, Mansfield, Northampton (two days), Wells, and Saffron Walden Horticultural Societies.

TUESDAY, Aug. 7 — Leicester Horticultural Show and Gala

THURSDAY, Aug. 9 — Welshpool (two days), and Taunton Horticultural Societies.

SALES.

THURSDAY, Aug. 9 — Unreserved Sale of Exhibition and Decorative Plants, Orchids, &c., by order of Mrs. Lawes Crawshay, at Bradbourne Hall, Sevenoaks, by Protheroe & Morris.

FRIDAY, Aug. 10 — Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°.9.

Grapes Going off.

This is the heading to a notice at p. 767 of the last volume of the *Gardeners' Chronicle*, and is in answer to some querist about the failure of the blossoms to set. As one travels through the country, it is not uncommon to hear the remark amongst Grape growers that certain varieties do not set well; and, as a matter of course, if Grape-vines are left to themselves, some varieties will set badly, not altogether because the borders are not in good condition, or even that the temperature of the house or the atmospheric conditions are wrong, but because of certain characteristics in the variety. When the Royal Vineyard, a good late-keeping white Grape, was sent out, we had a plant of it; but we found, as others also found, that it was one that did not set well. Complaint was made about this through the *Gardeners' Chronicle*, and the raiser replied that it was owing to a small globule of water upon the stigmatic part of the flower, which prevented the pollen from touching it. We examined the blossoms, and found that this was so, and on drawing a bunch through the hand, the water was removed. We have had no trouble with this fine Grape since, as in the process of removing the moisture from the flower, the pollen is dusted on to the stigma, and fertilisation takes place. Drawing the bunches lightly through the hand does no harm to the incipient berries. Mrs. Pince's Black Muscat and Lady Downes' Seedling require different treatment when they are in flower to get the berries of an even size all over the bunches. Mrs. Pince is the more fickle of the two, perhaps; but the berries will be of even size if a rabbit's-tail is tied to a long stick, and gently drawn down the bunches of Black Hamburgh or Alicante, and afterwards brought down the Mrs. Pince in the same way. The pollen of the one is more potent than that of the other. We do the same with Lady Downes. This is carried out daily when the Vines are in flower; at the same time the night temperature of the house is 70°, with a proportionate rise by day, and at the time the Vines are in blossom, the moisture in the atmosphere should be considerably less. At one time Vine-growers were not satisfied with the moisture that might be derived from sprinkling the borders, paths, and walls of the house two or three times in a day; but besides this, a constant steam was kept up from water-troughs fixed to the hotwater-pipes. We now think that over-moisture is a condition which, in the aggregate, does more harm than good. Many good growers have discontinued the practice of evaporation from the hotwater-pipes, and, perhaps, rightly. Besides "bad setting," Grape-growers know something of "rust." How is it caused? and how may it be prevented? are two questions of some importance; and if we can answer the first, it is possible that this will go towards solving the second. The rusty appearance upon the skin of Muscat Grapes is caused by sulphuring the pipes, and heating them well to kill red-spider; the sulphur will do no harm if it is not applied until the berries have reached the stoning period. Gardeners will have observed that after the Grapes have grown to a certain size, they do not grow appreciably larger for about six weeks. The seeds are growing inside the berry, and when this is taking place, sulphur will not injure the skin of the berry. We have settled this point by experiment. We have produced the rust by sulphuring the pipes soon after the berries were thinned. We have gone through the same process later, and the berries have not been injured in the least. The Black Hamburgh Grape is sometimes injured by a different kind of rust, which causes the skin of the berries to contract, and the berries themselves to crack. We have frequently heard gardeners say that contact with the hair of the head when thinning out the berries is the cause, but we should not think any gardener would be so careless as to allow his hair to come in contact with the berries at that time. Good cultivators are used to do all their Grape-thinning before breakfast in the morning, when the houses are at their coolest point, and rust was never seen on the berries; but sometimes, the thinning has to be done in the day, and during sunshine it gets very hot, and to make things pleasant, all the ventilators and even the doors are thrown open. If, at the same time, a keen east wind is blowing, it has a disastrous effect upon the tender skin of the berries, which have not been formed more than ten or twelve days. Great care should be taken in ventilating the vineries, especially early in the season, when the east winds are blowing, and up to the time the stoning commences; after that time the skin of the berries is not so liable to injury.

Too much moisture in the atmosphere also causes air roots to form, and produces the warty appearance on the under sides of the leaves which is so undesirable in a house of good Grapes. It must impede the functions of the leaves, transpiration cannot go on freely, nor the equally important functions of assimilation and respiration; and when a gardener says this, that, or the other does not matter, he has evidently not become acquainted with the elementary principles of his work. We have no hesitation in saying that Vine leaves, when they are covered on the under surface with a conglomeration of green warts, are not in a condition to produce first-class Grapes, particularly when, as is often the case, the warts are the residence of Vine mites. The adventitious roots alluded to above are not produced when the Vine-plant is in a healthy condition. The roots of a Vine are naturally produced underground, and if they are in a condition to supply the Vine with a sufficiency of plant-food from the soil, the emission of roots from the base of the young growths would not take place. The borders may be too cold, as they often are when early forcing is carried on, and the over-moist atmosphere aids the production of these roots, which were caused in the first place by the want of reciprocity between the action of the roots and the leaves.

We have frequently had both leaves and berries sent to us covered with mildew, when the parasite has been left too long for a cure to be effected without entirely spoiling the crop of fruit. Sulphur upon the hot-water pipes will destroy mildew, but here it is again that good cultivation comes in as a deterrent, and prevents its appearance. Although the Vine is liable to be attacked by mildew, the parasite does not take so kindly to it as it does to the Rose. Some gardeners are constantly forcing Roses in their vineries under the Vines, and expect mildew to attack them as regularly as the Rose blooms appear, but knowing the conditions under which it attacks Vines, we have no fear of it. The writer's vineries have been planted for twelve years, and in all that period he has not seen a trace of mildew on leaf or berry, and every year have the pot Roses been attacked with mildew underneath them. A great authority on the Vine says: "The spores of mildew may exist in myriads on every inch of the Vine's surface and do it no harm, unless the climate of the vinery is made to suit their development, when they spring into life as if by magic, and arrest the growth of all they attack." This is exactly our experience. Keep up a regular temperature and suitable atmosphere, and the Vines will be safe.

LILIUM MONADELPHUM.—The illustration (fig. 19) shows one of the commonest, but at the same time one of the most striking, of hardy Lilies. The following extract from Mr. Elwes' splendid *Monograph of the Genus Lilium*, sub tab. 21, gives all the details that are necessary for our present purpose:—"The Caucasian Lily is one of those which must be considered indispensable to every garden, great or small. Its hardy constitution, sweet scent, and early-flowering habit, are all points which tell greatly in its favour. It appears to be exceedingly abundant in many parts of the Caucasus. Mr. Freshfield, in his charming book of travels, speaks of it as growing in the valleys amongst a rank growth of herbaceous plants, at an elevation of 4000 to 6000 feet. In England it certainly likes a strong soil, and when well-established, grows to a height of 3 to 5 feet. It is one of the earliest in flower, and ripens seed freely in most seasons. The scent, though unpleasant to some persons, and too strong to make it desirable as a pot plant, is to me agreeable, though less so than that of L. auratum and other Lilies. The seed, if sown at once, germinates very quickly, but, as was first pointed out by Professor Duchartre, does not show its cotyledon above ground. The seedlings grow very slowly, and, as I am informed by Mr. Ellacombe, sometimes do not flower till the tenth year after sowing. This is a trial of patience too much for most amateurs, though the bulb growers of Holland, more accustomed to

such operations, have lately raised large quantities from seed. Though introduced by Messrs. Loddiges early in this century, it has not become common until the last few years, when it has been imported from its native country in large quantities. Being a very variable species, it has been described and figured under several different names by various authors; and though the varieties are fairly distinct, yet they run into each other so closely, that I think best to follow the high authority of Mr. Baker in considering them as varieties only. The plant was first described by the Russian botanist, Marschall Von Bieberstein, having been found in the Caucasus when those mountains were first explored by Russian naturalists. By Ledebour it was considered to be the same as L. pyrenaicum, and though that opinion may seem ridiculous when a fine and well-grown plant is examined, yet one of the varieties, which Mr. Baker has distinguished as var. Ledebouri, is but little different from the Pyrenean plant. The monadelphous character of the stamens does not appear to me to be a constant or reliable character. It varies very much in different plants, some having the filaments united for at least one-third of their length, and others only at the base or (as is more common in the variety called Szovitsianum) not at all."



Fig. 19.—Lilium monadelphum: flowers creamy-yellow.

Royal Horticultural Society.—The new bye-law which was adopted at a special general meeting of fellows held on July 24, 1894, runs as follows:—Bye-law 11a. Any Fellow wishing to commute his annual subscription may do so by making one payment of forty guineas in lieu of a £4 4*s.* annual subscription; of twenty-five guineas in lieu of a £2 2*s.* annual subscription; or of fifteen guineas in lieu of a £1 1*s.* annual subscription; such commutation entitling the Fellow for life to all the privileges of the corresponding annual subscription. To this the following rider was added:—That it be an instruction to the Treasurer of the Society that all monies paid as commutations of annual subscriptions be invested, and the interest only of such monies be dealt with as part of the annual revenue of the Society.

"Kew Bulletin."—The June issue of the Bulletin of Miscellaneous Information from the Royal Gardens, Kew, contains, as usual, several important papers devoted to the following subjects: "Treatment of Diseased Sugar-canes in the West Indies," "The Citron in Commerce," "New Orchids, Decade 9," "Cold Storage of Fruit," "Sisal Hemp at the Bahamas, and Gambia Pagne, or Native Cloths." Last, but not least, are the "Miscellaneous Notes," which are interesting to general as well as to scientific or technical readers.

Torquay District Gardeners' Association.—The members of the above held their second annual summer outing on Monday, July 30, being favoured with delightful summer weather, the party numbering over 100 persons. After proceeding to Plymouth by special train, a steamer commenced the 20-mile trip up the River Tamar to Calstock, where luncheon was served. Pentillie Castle, the residence of Mr. W. Coryton, J.P., was visited on the return journey, and, accompanied by Mr. C. W. Cove, the head gardener, the party spent an hour in inspecting the fine gardens. The Ghent and Indian Azaleas, recently in full bloom, Lapagerias, Camellias, and other comparatively tender plants, were here in immense size in the open, one grand specimen of Ghent Azalea measuring 27 yards in circumference. Rhododendrons, Magnolias, and Kalmias are thriving luxuriantly, whilst the peeps of wood and river to be obtained from the terrace were very delightful. H.M.S. Defiance, torpedo training school, was the next halting-place, and here an impromptu lecture was given, and experiments were performed, for the benefit of the party. Torquay was reached soon after 10 p.m., a most enjoyable day having been spent.

Severe Storm.—A thunderstorm of unprecedented severity and duration, writes Mr. Jenkins, of Hampton, burst over this portion of West Middlesex about noon on Sunday last, and continued raging with unabated fury for nearly two hours. Scores of greenhouses, to say nothing of pits and frames, were, for the time being, flooded, the water pouring through the paths of the former like a torrent. Stokeholes were speedily flooded, and fires put out, in numerous instances causing considerable anxiety for the safety of boilers. So far, happily no instance of bursting has been noted. Plants out-of-doors, such as Chrysanthemums on the standing ground, had the soil washed from under them, and were toppled over; other plants were standing in 1 foot or more of water. Such a storm has not been witnessed by the oldest inhabitant.

Beddington, Carshalton, and Wallington Horticultural Society.—In connection with the annual show of the above Society on August 6, the Surrey County Council (Technical Education Committee) have made arrangements for holding an exhibition of produce from their Continuation Schools Allotments. Three feet of table-space will be allotted to each school, and the exhibitors will fill up a form stating the conditions under which the produce has been grown, nature of soil, subsoil, &c. Entries are to hand from Aldershot, Caterham, Upper Caterham, Chart, Farnham, Weybridge, Hersham, Banstead, Fetcham, and Leatherhead.

Plants under Coloured Glass.—M. Villon has just brought to a conclusion an interesting series of experiments on the culture of plants under coloured glass. M. Villon potted his plants in cases in which panes of glass could be easily replaced by others of a different shade. The following panes of glass were used:—

(1). Glass made orange coloured by a coating of bichromate of potash, allowing only the yellow and red to pass.

(2). Violet glass coloured with manganese which absorbs the yellow and blue rays of the spectrum.

(3). Blue glass coloured with cobalt, allowing only the red and ultra violet rays to pass.

(4). Blue glass coloured with copper, allowing only the ultra violet rays to pass and absorbing the extreme red rays.

(5). Glass covered with thin layer of silver, allowing only the blue rays to pass.

(6). Uranium glass, absorbing the light to a great extent.

(7). Gilded glass.

(8). Red glass coloured with protoxide of copper, absorbing all colours of the spectrum between red and blue.

(9). Green glass coloured with protoxide of iron, absorbing the red rays.

M. Villon, taking the growth of plants under white glass to be 100, obtained the following results:—

(1).	Culture under	bichromated orange glass	150
(2).	,, ,,	manganese violet glass	150
(3).	,, ,,	cobalt blue glass	140
(4).	,, ,,	copper blue glass	120
(5).	,, ,,	silvered glass	60
(6).	,, ,,	uranium glass	40
(7).	,, ,,	gilded glass	40
(8).	,, ,,	red (protoxide of copper)	15
(9).	,, ,,	green (protoxide of iron)	10

These experiments seem to show that the light that favours vegetation most is the orange light of the chromic glass and the violet light of the manganic, and as the radiations that these glasses allow to pass are the red and violet, these rays are the ones that seem to be most favourable to the development of plants. But the growth under no glass at all, wherever possible, is decidedly best of all.

Tadcaster Middle-class Girls' School Horticultural Show.—On Friday, July 20, the first attempt was made by the children of the above school to hold a flower show in the schoolroom, under the superintendence of Miss Earl, the head mistress, when prizes were awarded for the best exhibits. The following is a list of classes:—(*a*). Gardens. (*b*). Decorated fireplaces. Class 1, wild flowers in bunch; 2, wild flowers in basket; 3, garden flowers in bunch; 4, flowers in vases; 5, buttonholes; 6, table decorations; 7, grasses in bunch; 8, plants in pots; 9, fresh specimens of flowers on sheet (named). The show was a great success, and highly creditable, the children displaying much good taste in their arrangements. It is a step in the right direction, and it deserves all the support and patronage it can get.

Early Experiments in Heating.—In one of Sir Hans Sloane's letters to Ray, 1684, mention is made of the mode of heating adopted by Mr. Watts, the curator of the Chelsea Botanic Garden. As the passage is not generally known, it is here transcribed: "Mr. Watts having a new contrivance (at least in this countey), viz.: he makes under the Floor of his Greenhouse, a great Fire Place, with Grate, Ash-hole, &c., and conveys the Warmth through the whole House by Tunnels; so that he hopes by the Help of Weather Glasses within to bring, or keep the Air at what degree of Warmth he pleases, letting in upon occasion the outward air by the Windows. He thinks to make by this Means an artificial Spring, Summer, Winter, &c." In 1685 Evelyn visited the garden, and thus speaks of this system of heating in his diary: What was very ingenious was the subterraneous heat conveyed by a stove under the conservatory, all vaulted with brick, so as he has the doores and windowes open in the hardest frosts, excluding only the snow."

A Tell-tale Cattleya.—M. Lucien Linden obligingly forwards us a flower of a Cattleya in which there are two lips and three stamens; one external median, the others internal and lateral (a1, *a*2, *a*3). From the arrangement of the parts, it would seem as though the true lip was wanting, the two lip-like structures being probably the representatives of the two outer lateral stamens (a2, a3).

Annual Excursion.—The *employés* of Messrs. Wm. Fell & Co., The Royal Nurseries, Hexham, were treated to their annual holiday and excursion. A large company left by special train to Edinburgh on Saturday last, July 28. Queens weather prevailed, and everyone enjoyed the outing. The assistants in the seed warehouses and the staff in general offices elected to go to Windermere. The firm treated them in the same way.

Government Entomologist, U.S.A.—Mr. N. O. Howard, of New York, a graduate of Cornell, has (we cite from *Garden and Forest*) been appointed Entomologist of the Department of Agriculture to fill the position made vacant by the retirement of Dr. C. V. Riley. Since 1886, Mr. Howard has been the first assistant to the entomologist of the department, and is the author of numerous memoirs published by the department, and joint-editor of *Insect Life*, the periodical issued by the Division of Entomology. The position of first-assistant, created by Mr. Howard's promotion, has been filled by the appointment of Mr. C. L. Marlatt of Kansas.

Horticulture in the United States.—We have received a pamphlet on the Progress of Horticulture in the United States. The information given is reprinted from articles originally furnished by Mr. Alfred Outram to the *Gardening World*, and forms a most satisfactory record of progress and enterprise. California, Florida, and Colorado are named as being among the principal fruit-growing districts; New York as having an influential horticultural society; and it is further said that there and elsewhere are many establishments devoted to the raising and exporting of various kinds of vegetable produce in prodigious quantities to supply an ever-increasing demand. For details of these industries we must refer our readers to the pamphlet itself.

Experimental Tea-culture in Russia.—In a report on the Tea trade of Hankow, it is stated that an experiment in the cultivation of Tea in Russia, which has been before tried without success, has recently been repeated, Tea plants having been sent from China to be planted on the slopes of the Caucasus. It is a private enterprise, but the ground has been granted by the government. About 2,000 plants have been sent at great expense, and in obtaining them there was a certain amount of difficulty, the people in some districts destroying the plants on their way down to Hankow. Though the plants are said to have arrived in Russia in excellent condition, the experiment is not considered likely to prove more successful than the former one.

"Le Livre des Orchidées."—It is only a very short time since we had occasion to note the appearance and completion of three standard books on Orchids, and now comes a fourth from the pen of our accomplished friend, Count Oswald de Kerchove, the well-known President of the Royal Agricultural and Botanical Society of Ghent. The book is richly illustrated, excellently written, and indispensable to those who wish to know something about the plants they admire. The publisher is M. Ad. Hoste, Rue des Champs, 47, Ghent. We shall shortly give a longer notice of this important volume.

Orchid Notes and Gleanings.

Orchids at Hazelbourne, Dorking.

Most beginners in Orchid culture acquire proficiency rapidly in some branch or other of this interesting pursuit. The most noticeable of such successes

are generally those in which accident, or the possession of a specially suitable house for a particular class of Orchid, has shown what things can be grown well in the convenience at the disposal of the cultivator who has been clever enough to pursue the culture of the class thus indicated instead of wasting his time on others which might have proved failures. In the pretty gardens of Welbore S. Ellis, Esq., the culture of Odontoglossum crispum is carried out in the most satisfactory manner, the several specially-constructed houses there being filled with plants in the finest possible condition, and which have in their season produced a fine show of flowers of the very best type, some of the spotted forms being very distinct and handsome. The whole of the plants in the houses were imported during the last few years, and yet in consequence of the admirable manner in which they are grown, they bear no evidence of that fact, but are plump, having the look of old-established plants. Some few are still in bloom, and show the good qualities of the strain. Mr. Masterton, the gardener at Hazelbourne, has obtained good results, shown on these, and, indeed, from all the Orchids he has under his charge at Hazelbourne.

In the warm Orchid-house adjoining the conservatory, and where a good supply of Orchids in bloom is always kept, are some well-bloomed specimens of Cattleya Warscewiczii, C. Mendelii, a very fine C. Rex, C. Gaskelliana, Oncidium Kramerianum, Cœlogyne Massangeana, Phalænopsis Esmeralda, Tricopilia crispa, Oncidium leucochilum, Cycnoches viride, Mormodes pardinum unicolor, &c.

In another house the specimens of Dendrobium Falconeri are thriving unusually well; in the new range the Dendrobiums generally are in fine condition; in one of the intermediate-houses the many plants of Oncidium ornithorrhynchum and O. incurvum are sending forth an extraordinary number of flowers, and in the other houses most things are good, even the Bolleas and Pescatoreas, of which there are a few, being in a very healthy condition.

NOTICES OF BOOKS.

LANDSCAPE GARDENING IN JAPAN. By Josiah Conder, &c.; with numerous illustrations.

SUPPLEMENT TO LANDSCAPE GARDENING IN JAPAN. By Josiah Conder; plates by K. Owaga. (London: Sampson, Low, Marston & Co.)

A SENTENCE or two from the preface describes the aim and scope of these works. They contain "an exposition of the rules and theories of the Art of Landscape Gardening in Japan, as followed from ancient to modern times, so far as they can be gathered from a thorough study of native authorities, added to personal observation of the best remaining examples. . . . . The writer's task is partly accomplished if he succeeds in showing that beneath the quaint and unfamiliar aspect of these Eastern compositions there lie universally-accepted art truths. . . . . Robbed of its local garb and mannerisms, the Japanese method reveals æsthetic principles applicable to the gardens of any country, teaching, as it does, how to convert into a poem or picture a composition which, with all its variety of detail, otherwise lacks unity and intent."

Our readers are in a position to appreciate much of what Mr. Conder tells them, as we have from time to time given illustrations of Japanese gardens. Indeed, many of the views given in the Supplement to this volume have appeared also in our columns, often accompanied by descriptions from the pens of those who have been so fortunate as to see the originals. A great deal of what seems to us quaint bizarre, and out-of-place in a garden conveys no such ideas to the Japanese mind. The carefully-laid stones, the artificial lanterns, the clipped trees, the shams, as we should call them, which disturb the sense of quiet and ease which we so covet in a garden, and which so sadly destroy the idea of space and breadth that we seek to obtain, all these have distinct significance and religious meaning to the native mind. Remove them, and you would destroy all the sentiment and association which makes gardens precious to them. Human Nature is pretty much alike, whether on the shores of the China sea or the borders of the British Channel, and which of us fond of his garden, has not some, as it were, sacred spot in it. It may be, very likely is, foreign to the canons of Art, or it may be something which excites the irony of the "superior person," who, having partial knowledge dogmatises, where others with fuller knowledge and deeper sympathy treat with respect, if not with full acquiescence. Remembering this, Mr. Conder's statement as to the meaning and significance of what we in our ignorance might deem monstrous excrescences, enable us to look on Japanese gardening in a truer light. But though there is much that seems to us artificial and distasteful in Japanese gardens, there is much in them that is natural, suggestive, and beautiful, to a very high degree. The Japanese have a love for and appreciation of Nature, that many of us might well envy. The plates in the supplement show how, in the management of water, the grouping of shrubs and trees, the undulations of the surface, the Japanese landscape gardeners have nothing to learn from us; whilst we, on the other hand, might sometimes greatly profit by a careful study of their procedures. Remove some of the artificialities which to us have no significance, and the Japanese garden, as shown in the supplement, provides an excellent model, not, indeed, for exact reproduction, but for adaptation to our conditions. It seems to us that in the designing of small gardens especially, the Japanese are, as a rule, superior to ourselves. Innumerable villa gardens round our towns which are now either monotonous iterations, or simply ugly spaces, would, in Japanese hands, be transformed, so that each would be individualised, and have a beauty of its own, and this would be done not by any foolish attempt at transcript of any particular natural scene, but by following out, so far as circumstances permit, the same principles of disposition and grouping as are manifest in Nature.

Mr. Conder, in a well-written and interesting introduction, shows us the principles upon which the Japanese landscape gardener acts. The limitations of our space forbid us from making extracts, but we may commend Mr. Conder's statements to the thoughtful consideration of our designers. The Japanese owe their first lessons to the Chinese, whose methods were introduced so long ago as the six century. Modifications occurred in succeeding centuries which are traced in detail, and examples of the various styles are carefully described by Mr. Conder down to the present period. The chapter on garden stones is very curious, and helps us materially to understand the great care paid to their form and arrangement by the Japanese. The stone-lanterns are, it appears, exclusively of Japanese origin. To our idea, though often individually well designed, they are used in excess, but here again we must take into consideration the sentiment of the people. They might, with propriety be introduced into public gardens where evening entertainments are given. Numerous drawings of these lanterns, and of pagodas, and other garden buildings, are given in the volume before us.

The sections on the construction of garden-fences, gates, bridges, summer-houses, we may also commend to the notice of our garden designers, who will find in them much to profit by. The treatment of water-scenes, again, is one which deserves the most attentive consideration at our hands. The boundaries are partially concealed, so that its extent may be undefined and suggestive. There must be some reason apparent for the existence of the water, some suggestion as to where the water comes from, and where it is going.

Mr. Conder devotes considerable space to the trees and shrubs of Japan, but as these are now mostly well-known here, there is the less necessity for us to refer to them further than to say that the Japanese themselves rely chiefly, if not exclusively, on native vegetation for their landscape effects, and that they are careful to place the trees in appropriate positions. A tree, for instance, which naturally grows on a mountain side is always placed on an eminence, and not on a flat surface near water—a fact which shows what careful observers these Japanese gardeners are.

The chapter on garden composition is admirable, the methods followed by the landscape-gardener being shown to be those adopted by the landscape-painters of the West in obtaining materials and in designing their compositions. Making the necessary allowances for the differences of circumstances, the plan followed by these gardener-architects of the East might be followed much more frequently than it is by their brethren of the West.

"Seeking inspiration from those natural sources which for countless generations have formed the theme of the poet and the motive of the painter, and around which time has cast a halo of romance, surely it is no idle boast to claim that he can adapt his beautiful art to the highest or lowliest station in life, or frame it in sympathy with whatever sentiment may stir the human soul."

With this sentence the work closes, and fitly enough it leaves on the mind the remembrance of what is the whole aim and purport of the book. Among the many works on modern landscape gardening, there is not one more suggestive and helpful than this. Let its teachings be but guided by the principles of adaptation and necessary modification, and the result can hardly fail to be excellent.

A HANDBOOK TO THE STUDY OF NATURAL HISTORY, FOR THE USE OF BEGINNERS. With an introduction by Sir Mountstuart E. Grant Duff, G.C.S.I., F.R.S. Edited by the Lady Isabel Margesson. (George Philip & Son, London.)

THIS book is the work of many hands, the chapters on zoology, birds, shells, the study of flowers, the study of mosses, fungi, seaweeds, &c., being each by a different author. The volume is intended as much for parents and teachers as for pupils, since it tells how knowledge should be imparted, and does not itself profess to teach in detail.

The main object which the writers have in view is a laudable one. They would encourage a love of natural history in everyone, and have lessons given in field, moor, and on the sea-shore, rather than from text-books only. An ounce of observation is worth a pound of "cramming," both in present interest and future value. Throughout the pages it is insisted that life is not to be destroyed, nor even captivity to be inflicted on any sentient creature for one instant longer than is necessary for due study of it. In "How to Observe without Destroying," Miss Carrington tells us that "water creatures may be retained without a trace of cruelty for a short time," and adds that they may be fed with small larvæ. Are we to suppose that the lives of these latter are of less value, and form an exception to the general rule?

Mrs. Brightwen, in the appendix, speaks of the destruction of the coco-de-mer or double Cocoa-nut trees. She may like to hear that steps were taken some years since to check this wholesale devastation of a valuable species.

On the whole, this handbook of natural history is not uninteresting, and should prove of considerable value for the purposes for which it is intended. We cannot all be Linnæuses, Darwins, or Hookers; but we can all remember the old tale of "eyes and no eyes," and cultivate an interest in, and appreciation of, the natural objects which are to be found in even the (so-called) dullest neighbourhood.

THE PROMISE OF THE SEED HARVEST.

THE condition of the seed crops in the counties of Essex, Cambridgeshire, and Lincolnshire is just now causing a great deal of uneasiness to seed-growers and farmers. Hot drying weather is greatly needed and ardently wished for, but instead thereof there comes drenching heavy rains, high winds, and severe thunderstorms.

Peas.—In many parts the corn crops are much beaten down, and in the Pea-growing districts weeds have grown freely in spite of all efforts to keep them under, and there is great danger of many of the earlier-formed pods rotting completely. Earlier in the season the Pea crops were most promising, but the conditions some time since changed for the worst; and, as above stated, the growth of weeds has choked the main crop and late varieties, and considerable concern is being shown on the part of growers. All the varieties, early and late, have made a free growth, and this adds to the danger to be feared from rot. There can be no doubt but that early frosts chilled and impaired the constitution of the plants, and prevented fructification; and during the cold rains and cold winds of June, the blossoms fell off, leaving no embryo pods behind, or if they did, curled and abortive seed-vessels followed.

Broad Beans.—The crops of these suffered from the same conditions as those which affected the Peas, though in Kent and Essex the promise is, on the whole, good. In the Midlands the weather was very hot and dry at the time of flowering, and the blossoms did not set well, and there is scarcely a Bean-pod on some of the stems. Happily, there has been a singular absence of the "smother-fly." There will be a better crop than last year, but under the most favourable circumstances it will not be so good as it at one time promised to be; a showery time invariably brings a vigorous growth, but a scarcity of Beans.

Runner and Dwarf Beans.—In Lincolnshire, the crops of these look remarkably well, but the growth was late, and the recent moist weather caused growth of bine rather than the formation of pods; and as these will be produced late, they will be fleshy, and take a good deal of time in ripening. This is true of the dwarf-growing as well as of the runner types, and only the choicest sorts of these are planted in Lincolnshire.

Mangold Wurzel.—Owing to the scanty harvest of last year, and a corresponding diminution of stocks, largerbreadths of Mangolds than usual were put out in Lincolnshire, and so far they look clean and bright, with the promise of a heavy yield; but fine weather—airy and bright—is badly needed to ripen the crops.

Turnips and Swedes.—Stocks of these had become low owing to the scarcity of last season, and unusually large breadths of plants were put out for seeds, both by farmers and growers, on contract. The drought of the autumn killed many plants, and the mild winter caused what remained to blossom earlier than usual; but the cold chilling weather of May and June affected the bloom, and the absence of sun-heat led to an attack of blight, and the effect can be seen in many abortive seed-pods, and instead of 30 bushels per acre, there will be 20 bushels and probably less; samples already coming in are what are termed foxey. White Turnips promise to be a better crop than Swedes; they are affected with blight, but not so much in the South as in the Midlands.

Cabbages, Broccoli, &c.—All the crops of Brassicas are full of insect-life, and grow badly; it is expected the yield of Cabbage seed will be small. Broccolis bloom later, but the crop cannot be a heavy one; and the promise of the seed-yield of Savoys, Kales, and Brussels Sprouts is by no means reassuring.

Mustard.—Large breadths of Mustard are to be seen in Lincolnshire, both brown and white at present; the ripening seed-pods look plump and bright, but fine weather is needed. Carrots are promising well; some breadths of selected Altrincham and St. Valery Intermediate being grown by Messrs. W. W. Johnson & Son promise exceedingly well, being in full bloom. Carrot seeds are sown in July and August, the roots are pitted, and all selected ones planted in the spring to produce seed.

Rape.—Rape promises well; the seeds are sown in late summer and autumn; seeds saved from a maiden crop are preferred, though some feed off before the plants are allowed to seed.

Potatos.—The Potato crop has made a vigorous growth, and in the Potato-growing district of Kirton, near Boston, where Myatt's Ashleaf is largely grown for market, the crop is being dug while the haulm is quite green—the result of a second growth, the first having been cut down by frost. In breadths of main crop varieties there are symptoms of disease, and the Bordeaux Mixture is being applied. The early types of Potatos, which are mostly grown in Lincolnshire, are turning out light, owing to the spring frosts.

Parsley.—The principal variety grown in Lincolnshire is the Ever Green Moss Curled, and that at the present time is most promising.

Cress. — Cress is grown for seed mainly in Cambridgeshire, though some breadths are to be seen in Lincolnshire, both curled and plain, and both are looking well.

Radish.—The crops of this salad-plant are also quite promising.

Onion.—The culture of the Onion for seed is almost entirely confined to Bedfordshire, and very few breadths appear to be grown this season for this purpose.

Parsnip. — This popular vegetable is being sparingly grown for seed this season, owing to the difficulty of procuring stock to plant for the purpose. The popular Parsnip in this district is Sutton's Magnum Bonum, which may be appropriately described as an improved Student. *Pisum.*

MR. ALEXANDER KIRK.

We are enabled, through the courtesy of the Editor of the *Scotsman*, to give a portrait of Mr. Alexander Kirk, gardener to Mr. John Thomson



MR. ALEXANDER KIRK,
WINNER OF THE NEILL PRIZE IN HORTICULTURE.
(See also *Gardeners' Chronicle* July 21, p. 74.)

Paton, Norwood, Alloa, who was lately awarded by the Council of the Royal Caledonian Horticultural Society the Neill prize in horticulture, given every second year to "a distinguished Scottish botanist or cultivator." Mr. Kirk, who is a native of Newton-Stewart, served his apprenticeship as a gardener at Cumloden, in the time of the late Earl of Galloway. Afterwards, he had in turn charge of the gardens at Bargaly, the residence of the late Mr. M'Kie, M.P. for the Stewartry, and of those at Ernespie, Castle-Douglas. Fifteen or sixteen years ago he became gardener to Mr. Thomson Paton, and both at home and over the Border he has maintained, with his exhibits at many first-class shows, the high traditions of Scottish horticulture. Something like 400 first awards have fallen to his lot for exhibits of fruit, flowers, and plants—some of these having been secured at International shows at Edinburgh and the Crystal Palace in strong competitions. Norwood Gardens in the hands of Mr. Kirk, have long maintained a wide reputation, not only for the neat and effective manner in which they are kept, but for the cultural excellence of the plants grown in them; and though the vineries, as things go nowadays, are not extensive, the splendid quality of the Grapes grown in them shows what can be done by a skilled cultivator. In private Mr. Kirk is held in much esteem by his neighbours in Alloa, and by horticulturists all over Scotland.

POTATO DISEASE.

The Board of Agriculture think it desirable to give further publicity to the methods which the various experiments recently reported upon in the Papers [C. 6647 and C. 7138], laid before Parliament in 1892 and 1893, indicate as likely to be useful in checking the spread of Potato disease.

Description of the Fungus (Phytophthora infestans).—The fungus which causes this Potato disease belongs to the family designated Peronosporeæ, and is recognised specifically as Phytophthora infestans. It attacks the Potato plants by means of conidia, or microscopic spores, conveyed either by the wind, by insects, dogs, rabbits, hares, foxes, and by human beings, or by means of spores from the mycelia, or vegetative centres, generated within the growing plants, and coming from infected tubers. In very dry summers, like that of 1893, there is, as a rule, but little disease. On the other hand, it has been observed that the fungus has made rapid progress in a night temperature of from 47° to 50° Fahr. and a day temperature ranging between 57° and 59° Fahr. Generally speaking, it may be said that the Potato-disease is generated, and causes more or less serious injury, in warm, showery weather, especially after electrical disturbances, and makes its appearance between June 25 and the beginning of August.

The first indications of the disease to casual observers are brown spots on the upper surfaces of the leaves. These are caused by the action of the spores of the fungus which have penetrated the under-surfaces of the leaves and set up an unhealthy action throughout the leaf-structure. On these under-surfaces, congeries, or groups, of white silky threads have been formed, from which spores are rapidly generated and distributed by the wind, or other agencies, to infect other Potato-plants. It is therefore most important to prevent, if possible, the spores from germinating. If this cannot be done, steps should be taken to arrest their progress, to prevent them from forming vegetative-centres from which countless quantities of spores may be generated, as well as the root-like hyphæ which, by permeating the leaf tissues and stalks, cause premature decay, and finally descend to the tubers, making them unsound.

Means of Prevention and Remedies.

A review of numerous experiments carried out during the last few years in Great Britain and Ireland, and in many foreign countries, makes it clear that the treatment of the plants with compositions of sulphate of copper and lime has been employed preventively with satisfactory results in most cases, in seasons of disease; but the treatment has not an unbroken record of success, and in a few instances the application of these compositions to Potato plants has even appeared to have an injurious effect upon the yield.

On the whole, however, there is ample evidence to prove that Potato plants dressed with sulphate of copper compositions offer much more resistance to the attacks of the Potato disease fungus than plants not so treated. It has also been demonstrated that when Potato plants have been attacked by this fungus, the treatment with sulphate of copper compositions has proved remedial in a considerable degree, and has in many instances arrested the progress of the disease.

M. Girard—the greatest authority upon this subject—observes that it is most imprudent to wait until disease has appeared before the sulphate of copper compositions are applied, because the fungus spreads with such rapidity in favourable circumstances, that the cultivators have not time to organise and carry out defensive measures. Treatment should be adopted as a means of prevention, even if there may not be actual disease. In short, treatment is insurance against disease; but it must be remembered that the results, both preventive and remedial, depend in a very great degree upon the time and manner of application, as well as the nature, preparation, and distribution of the compositions.

Compositions.

The most commonly adopted composition consists of 20 lb. of sulphate of copper, 10 lb. of lime, and 100 gallons of water.

This has been found strong enough for all purposes, and does not injure the foliage if it is properly and evenly distributed, and not applied to very young plants.

A weaker composition is sometimes used, made of 15 lb. of sulphate of copper, 7½ lb. of lime, and 100 gallons of water.

This is preferred by some experimenters, especially for Potato-plants whose leaves are young and tender. In experiments in Ireland last year, it was found that this composition was not so effective for treating Champion Potatos, whose leafage is coarse, as that made with 2 per cent. of sulphate of copper.

Another composition is advocated by M. Girard, consisting of 20 lb. of sulphate of copper, 20 lb. of lime, 20 lb. of molasses, and 100 gallons of water.

The superior advantages of this composition have not been seen in this country, but in wet seasons the molasses would probably make the sulphate of copper adhere better to the leaves.

Preparation of the Compositions.

The sulphate of copper should be pure. Ordinary commercial sulphate of copper contains a large percentage of sulphate of iron, which diminishes the action of the sulphate of copper, and makes the composition of a dirty-green colour.

The lime must be of the best quality, well burnt and unslaked.

The sulphate of copper, roughly pounded, should be dissolved in cold water in a wooden or copper vessel. A good plan is to put it in a coarse canvas or sacking bag, and let this hang over the side of the vessel in the water.

The lime must be slaked with cold water in a separate vessel, and the mixture, when cold, poured into the vessel containing the sulphate of copper, and passed through a fine sieve to keep back grit and other particles. The whole should then be well stirred. A bright blue liquid is the result if properly made.

The tubs, pails, and other vessels in which sulphate of copper compositions, which are poisonous, have been put must not be used for feeding animals.

Distribution.

On small areas, distribution may be effected by knapsack machines holding about 3 gallons. There are several kinds of these obtainable at moderate prices. A man can spray from one-third to half an acre per day with a machine of this kind.

Upon large acreages of Potatos a horse-machine would be required. With this from 8 to 12 acres can be sprayed per day.

The quantity of dressing applied usually varies between 110 and 150 gallons per acre.

Care must be observed to ensure regular distribution by means of fine spray-nozzles attached to the machines, which can be easily adjusted in different directions to cover evenly the upper and under surfaces of the leaves. Though opinion is sharply divided as to the necessity of spraying the under-surfaces of the leaves, it is certain that the disease is first generated there, and it would seem to be even more important to apply preventive measures to the under-surface of the foliage than to the upper-surface.

Distribution will be materially assisted by strainers fitted into the machines, and by keeping the compositions constantly stirred.

If the dressing has been regularly and properly distributed, the leaves above and below should when dry be covered with bright blue spots.

It may be necessary to spray the plants again if heavy rains should fall and wash off the dressing.

If the disease still spreads after the treatment, it will be desirable to repeat the spraying.

Cost of Treatment.

It has been stated that the cost of treatment usually varies from 8*s.* 6*d.* to 11*s.* per acre for each application of the 2 per cent. of sulphate of copper composition. The composition with the molasses costs from 10*s.* 6*d.* to 13*s.* per acre.

4, Whitehall Place, London, S.W., July, 1894.

CALOCHORTUS PLUMMERÆ.

The illustration at fig. 21, shows one of the lovely forms of Calochortus exhibited by Messrs. Wallace & Co., Colchester, at the last meeting of the Royal Horticultural Society under the name of C. Plummeræ. We may revert to its botanical history on another occasion; in the meantime, we may commend it to the notice of growers of these plants as one of the most robust and beautiful of its class. The colour is of a delicate shade of lilac.



Fig. 21.—CALOCHORTUS PLUMMERÆ [HORT. WALLACE]: LILAC.

KEW NOTES.

Isoplexis canariensis, formerly called Digitalis, or the Canary Island Foxglove, is a greenhouse shrub of some interest. There is a plant of it in flower in the Temperate-house at Kew, where it is planted in a peat-bed along with Acacias and other Australian plants. It is a shrub 3 feet high, with stout branches clothed near the top with lanceolate leaves, suggestive of the leaves of the Canary Island Echiums. The flowers are borne on erect spikes 1 foot long; they are tubular, 1 inch long, and coloured orange-yellow, and they differ from the flowers of Digitalis in having an upper and lower lobe of equal length. There is one other species, viz., I. sceptrum, a native of Madeira, but I do not know that this is in cultivation.

Trichocladus grandiflorus.

A specimen of this is now in flower in the Temperate-house. It was raised from seed sent to Kew from the Transvaal by Mr. E. Galpin in 1890, who described it as a handsome tree, 15 to 20 feet high, with white flowers produced in September, the fruit ripening in May. It grows at an altitude of 4000 feet in the wooded ravines of Moodies, near Barberton. The Kew plant is 10 feet high, freely branched, with ovate-lanceolate alternate leaves, 3 to 6 inches long, brown when young, green when mature. The flowers are borne in short terminal clusters on the branchlets, are composed of a short brown tubular calyx, and six wavy strap-shaped petals an inch long. They are similar in general characters to those of Hamamelis arborea, to which genus Trichocladus is closely allied. A figure has been prepared from the Kew plant for the *Botanical Magazine*. This species is a likely little tree for subtropical latitudes.

Mutisia ilicifolia.

Under tab. 6009 of the *Botanical Magazine*, this species is described as a very variable plant, the stem being winged and spinous-toothed or wingless, the leaves glabrous or tomentose, variously lobed, and the number and breadth of the ray-florets varying. The variety represented in the *Botanical Magazine* differs markedly from one figured in *Paxton's Magazine of Botany*, and also from a third one figured in the *Garden* some years ago. Still another form is now in flower in a cool greenhouse at Kew. It has stems at least 15 feet long, striated, the leaves not at all decurrent, spinous only near the apex, the peduncle 3 inches long, and the flower-head 3 inches across, with nine ray-florets each 1½ inch long, ⅜ inch broad, and coloured pale rose; the stigmas are dark brown. This is said to be the M. truncata of some authors. It has been in its present quarters about six years, and although it has always grown as rampantly as a Sweet Pea, it has never flowered before this year. It is a native of Chili. A plant of the gorgeous M. decurrens is now flowering freely against the wall of the Museum, facing the Palm-house.

Hæmanthus candidus.

This is a new species, first described by Mr. Bull in his *Catalogue of New Plants for* 1894, and now flowering at Kew for the first time from bulbs imported direct from Natal. It is a handsome plant, of robust growth, with large heads of pure white flowers, the golden-yellow of the anthers being an additional charm. It belongs to Baker's subgenus Diacles, in which the bulbs have thick bifarious tunics, the leaves thick and fleshy, and the spathe-valves and perianth segments permanently ascending. The Kew plant has leaves 5 inches wide, rounded at the apex, glabrous above, covered beneath and on the margin with short white hairs; peduncle erect, stout, 10 inches long, clothed with white hairs, and surmounted by a dense head over 4 inches wide of white flowers, surrounded by reddish membraneous spathe-valves an inch long; the flower-pedicles are half-an-inch long, the tube a quarter of an inch, the linear segments five-eighths of an inch, and the stamens an inch long. It is as striking as H. coccineus, and likely to prove as useful.

Crinum Schimperi.

The plant noted by me a fortnight ago (p. 63) under the name of C. abyssinicum proves to be C. Schimperi, Vatke, figured in *Gartenflora* in 1889, p. 561, t. 1309, from plants cultivated in the Berlin Botanical Garden, whence bulbs were obtained for Kew in 1889, which are now flowering for the first time at Kew. Both species are natives of Abyssinia, and C. Schimperi has proved sufficiently hardy to be grown in an unheated frame, where it has made fine leaves and pushed up stout scapes bearing white flowers as large as those of C. capense. The bulbs supposed to be C. abyssinicum were received from Herr Max Leichtlin, Baden-Baden, and on the correctness of this name being questioned I wrote to him for the history of his bulbs. His letter is of sufficient interest to be printed, as it records the history of the introduction of C. Schimperi, and also tells an interesting story of Schimper himself:—

"Crinum abyssinicum = C. Schimperi.

"Schimper was a native of Heidelberg, and went to Abyssinia as a naturalist. He was kept a captive by King Theodore, and was liberated by the English when they stormed Magdala. His wife was related to the Negus Johannes, and Schimper became somehow a sort of councillor to the Negus. He had not ceased to be a 'loyal subject,' as they say in England, of the Grand Duke of Baden, and, having a family, he asked the Grand Duke to do something for his son. The Grand Duke paid for his education, and during several years he studied at the Polytechnic School at Karlsruhe. He gave me one morning Acidanthera bicolor, hitherto never known in Europe. Old Schimper, to show his gratitude to the Grand Duke, collected a large quantity of roots in Abyssinia, and sent them on to Karlsruhe. It was a large cask, full of rotten material on arrival at Karlsruhe, but the Grand Duke's Court gardener, M. Meyer, a very intelligent man, tried to save whatever he could. Kniphofia comosa, K. Leichtlini, and Crinum abyssinicum, were among the saved. As both Meyers, father and son, are dead, I cannot ascertain if a label of Schimper with the respective indication was found in this sending, or whether Professor Seubert, the then Director of the garden, had given it a provisional name! In fact, I got the plant as Hypoxis abyssinica from there, but it was obvious that it could not be a Hypoxis. This is all I know about the plant sent you as C. abyssinicum." *W. W., Kew.*

BURFORD, DORKING.

Sir Trevor Lawrence's pretty gardens never, perhaps, looked better than at the present time, the recent rains having caused an unusual luxuriance of growth and profusion of flowers on the many beautiful plants here cultivated in the open ground. Most remarkable are the great masses of Crinum Powelli and C. Moorei, which are furnished with scores of stately heads of large pink-and-white flowers. Then we come to a large bed of Crozy's flowering Cannas, with superb colours in yellow, red, crimson selfs, and in spotted varieties of the same colours. Lemoine's Gladioli, too, are extremely beautiful; and the large beds of Montbretias, left undisturbed all the winter, masses of bloom. Roses and other favourite flowers are in profusion; and among the most cherished plants in the alpine garden are some pretty little species of Dianthus, brought home by Sir Trevor from the Tyrol; and a pretty dwarf and bushy rose-coloured Epilobium, collected at the base of the glacier on the Stelvio Pass. But in this small estate, nestling beneath Box Hill, is a feature which would please many, as much as the showy and interesting flower-garden, viz., the long winding walks in the dense wood, stretching to the foot of the hill, and which, for solitude and natural sylvan scenery untampered with, is on a level with any spot of similar extent in this country.

In the greenhouses, the tuberous Begonias are making a great show; the orange-red coloured Streptosolen Jamesoni is covering a wall with its richly-coloured blooms; Nemesia strumosa is brighter and better than in the beds outdoors; the fine blue Exacum macranthum, and the delightfully fragrant E. affine are covered with flowers, and with them a flower of a similar class with lavender-blue flowers with white and purple eye. Eustoma exaltata is proving itself well worthy of cultivation; the pretty violet Saintpaulia ionantha and the pink Cienkowskia Kirkii are also among the most striking of the many pretty and uncommon things here to be found.

It is too commonly supposed that these are allowed to over-ride all other subjects at Burford. Such is not the case, for in the gardens, under the care of Mr. W. Bain, the gardener, all good new things find a place, and get quite as much care bestowed on them as the Orchids at the hands of Mr. W. H. White, the custodian of the latter.

The Orchids.

Taking a comprehensive view of the collection of Orchids at Burford, several salient features present themselves. The first is the extraordinary number of species included in it, and the consequently large number of plants to be met with there, which are not seen in other gardens. The second is the remarkably good condition of this great and varied collection of plants, and the number of things there found, which are usually deemed mere botanical curiosities, but which, when well-grown, and in a manner suitable to displaying their charms, are here redeemed from that reproach, if reproach it be. Beyond these peculiarities the visitor will not fail to note some things which are what is commonly called "growing like weeds," but which are to be found nowhere else in tolerable condition for any length of time. Among these a fine example is the great quantity of Habenaria militaris in the Phalænopsis-house, which have been propagated at Burford from a small stock, and which are now about to produce a grand display of carmine-vermilion flowers above their beautifully painted foliage, scarcely a plant among them failing to bloom. Doing equally well are the plants of that still more difficult subject, H. carnea, and H. Susannæ, and another fine species are also thoroughly at home, and about to flower. In the same house are some fine specimens of Cattleya crocata, Rchb. f., with several spikes of pure white flowers, with orange throat, the spikes bearing three flowers. Also a beautiful example of C. crocata rosea, with pink and orange flowers. Probably a better descriptive name for this fine plant would be C. eldorado crocata, but in the larger growth of the plant, the larger flowers and the greater number in an inflorescence, there was reasonable excuse for separating it. Compared with ordinary C. eldorado and its white variety, Wallisii, this strain is immeasurably superior. Other beautiful plants in bloom were the fine blue Aganisia cœrulea, the pretty A. ionoptera, Luisia Amesiana and L. volucris, two of the most extraordinary of the singular genus, illustrated in the *Gardeners' Chronicle*, July 8, 1893.

Another instance of unchecked success is to be found in the Masdevallia-house, which we have never yet visited without finding it more or less gay with flowers borne on vigorous plants. Besides the showy species in flower, are always a number of singular plants. Among the most curious at the present time is Masdevallia muscosa, with its slender mossy flower-stem, and sensitive lip, which closes like a trap on being touched. Other neat-habited and beautiful species in bloom were M. × Gelengiana, M. astuta, M. peristeria, M. Roezlii, M. calura, M. Reichenbachiana, M. Rolfeana, M. platyglossa, M. campyloglossa, M. demissa, M. tridactylites, M. Wagneri, Pleurothallis macroblepharis, P. picta, and P. rhombipetalum, a curious species with Restrepia-like flowers.

In the large warm-house, a very large and valuable collection of Cirrhopetalums and Bulbophyllums are suspended overhead, the curious B. barbigerum, with feather-like motile lip, being one of the most singular; B. exaltatum is also a curious species, with spotted and fringed flowers. In this house, Eucharis grandiflora thrives and flowers well, planted beside the walk; and at one end, the collection of Cypripediums of the C. bellatulum section is in remarkable health. Also in flower were Dendrobium Bensoniæ, D. × rhodostoma, Cycnoches chlorochilon, C. Egertonianum, Thunia alba, and other species.

In the next intermediate-house, a fine pure white Cattleya Gaskelliana alba, good C. Dowiana, the rare Miltonia Schroderiana, Trichopilia Galeottiana, Lælia Digbyana, L. × Amanda, Trichocentrons, Stanhopeas, and other species are in flower or bud; and in this house the beautiful scarlet Epiphronitis × Veitchii and Sophro-Cattleya × Batemaniana are thriving and being propagated as quickly as their slow growth will permit.

The next large house contains a fine collection of Sobralias; and with them a rare

Elleanthus, which is much like a Sobralia in growth. The giant Sobralia Cattleyæ which none succeeds in flowering, is turned into the open garden to see what can be effected by that treatment. In flower are Sobralia xantholeuca, S. macrantha, S. Warscewiczii, and a species allied to it, but with carmine-crimson flowers; and other species are well advanced in bud. In one corner, Epidendrum × O'Brienianum is sending forth its beautiful heads of reddish-crimson flowers, and the singular Cœlogyne sulphurea and Oncidium varicosum are blooming strongly.

In the large Cattleya-house, the show of the varieties of C. labiata being almost over, there remain in bloom but some C. Mendeli and C. Gaskelliana; with them are a very fine variety of the pretty C. Rex, a good specimen of the wholly yellow Lælia xanthina agraphis; some Vandas, among which one very fine example of V. tricolor planilabris bears a seed-vessel full-grown, obtained by crossing with V. (Arachnanthe) Cathcarti, which should produce something extraordinary. Cœlogyne Sanderiana and other Cœlogynes have here been flowering profusely. In this house the large plants are placed on revolving iron stands, for which the idea was taken from those in the late Mr. Hardy's collection, and which have been improved on by Sir Trevor Lawrence, who succeeded in getting Messrs. Stone & Turner of Dorking to make them at a reasonable rate. Their use would save the life of many a large specimen, which would otherwise perish, in whole or in part, from being grown under the shade of other plants, without its position being changed, as it can be daily with ease by using the revolving stand.

The Aërides, &c., in the East-Indian House are in capital condition, and the Calanthes in them putting on very stout growths. Many species of Aërides, Angræcum, and Saccolabium are sending out flowers, and in bloom are Aërides suavissimum, Angræcum Scottianum, many Oncidium Krameri, &c.

In the stove-house the gigantic Grammatophyllum speciosum assumes larger proportions every year, but as yet has not flowered. In the various small houses the work of raising plants by strange crosses which promise some remarkable novelties is being actively carried out. One of the finest now in flower is the Burford Cypripedium × Lawrebel, and in the same house the rare Pachystoma Thompsonii is in bloom.

In the cool-houses are many Odontoglossum, Oncidium macranthum, the rich orange-lipped O. Loxense, Disa grandiflora, some large white Maxillaria venusta, M. grandiflora, the pretty M. Hubschii, M. Amesiana, Nanodes Medusæ, Epidendrum prismatocarpum, and other species, Lycastes, &c., in bloom.

In the little lobby, where the species of Lissochilus and Eulophias are grown, the pretty rose-lipped Polystachya Lawrenceana, a new species from Eastern Africa, has many flowers; and other Polystachyas are sending up spikes, and in every part of these gardens new objects of interest are continually appearing. *J. O'B.*

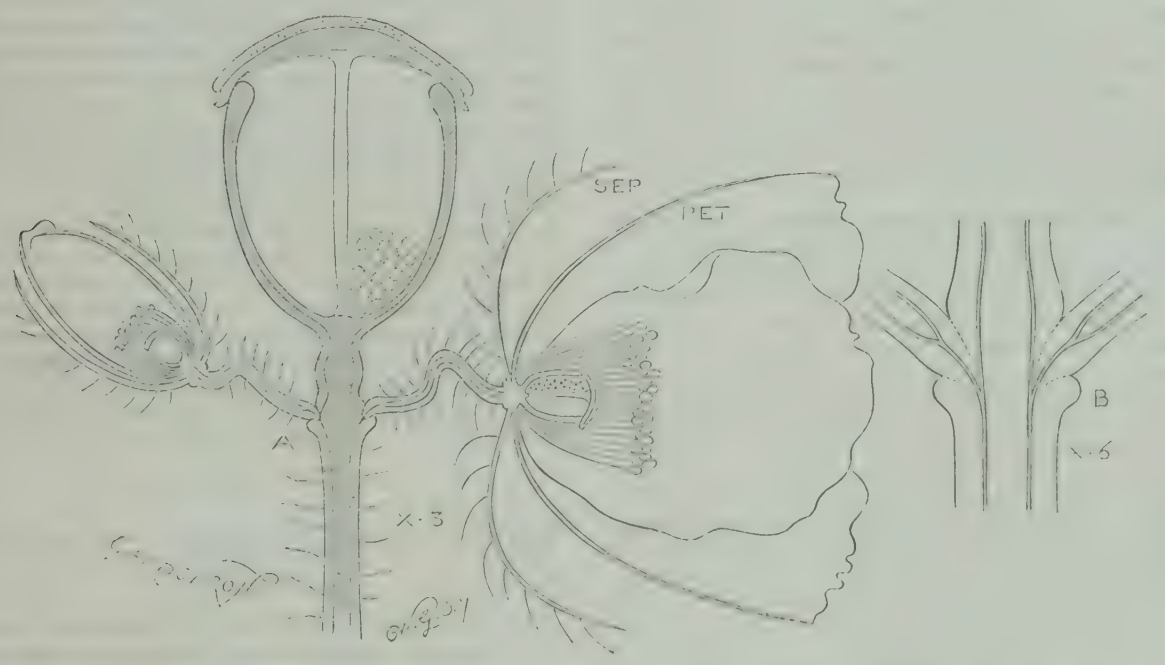


Fig. 22.—section through a flower of a monstrous poppy, showing axillary prolification.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

July 24.—Present: Dr. M. T. Masters, in the chair; Dr. Morris, Mr. Blandford, and Rev. G. Henslow, Hon. Sec.

Photographs.—Dr. Masters, on behalf of Mr. Nicholson, exhibited photos of the "Lily pond" at Trelissick, Truro, on the property of C. D. Gilbert, Esq., showing great quantities of Richardia æthiopica bordering a pond, together with Nuphar. Large clumps of Gunnera manicata and a fringe of tall-growing Primula japonica occur on the higher ground. Another view illustrated fine masses of Benthamia fragifera in flower.

Carnation Sports.—He also showed several varieties of colours in Carnations (flaked, self, &c.), the flowers having been all gathered from one and the same seedling plant.

Poppy, Monstrous.—He also showed a drawing by Mr. G. W. Smith, of a field Poppy (fig. 22), in which two normal flowers-buds had issued from the axils of opposite petals (axillary prolification).

Vine Diseased.—He also showed a fragment of a bunch on which the whole of the flowers were aggregated into minute woolly balls. The petals remain closed, but without having any stamens or pistil within them. The hairs (ribbon-like and twisted, resembling cotton-hair) grow mainly from the margins of the petals. It is known to be caused by a Phytoptus; but as the insect or fungus is not always present, Mr. Henslow observed that it may be the result of atrophy of the essential organs, accompanied by an excess of hair as a compensatory process, according to a theory of M. Mer.

Gentiana acaulis, Diseased.—Dr. Morris exhibited a specimen, and observed that if it be sprayed with Condy's fluid at an early period, the fungus may be kept in check; but large masses must be burnt if they be badly attacked, as the disease is due to Puccinia Gentianæ, and if the plant be not destroyed, the resting spores will get into the soil and reproduce the disease in the following year.

Products of the Banana.—Dr. Morris also exhibited a collection of various products obtained from the Banana, exhibited by the "Stanley Syndicate," at the Universal Exhibition at Antwerp, 1894. Mr. Stanley had called attention to the great value of this fruit in his *In Darkest Africa*, and the investigation was carried out by Mr. Hartogh, engineer at Amsterdam, to discover for what uses the Banana was available. Its chief value lies in the great quantity of starch (80 per cent. of the dried pulp), hence it proved to be a very good source of spirit, as "the quality of the alcohol may be considered good." It was also found to be especially available for the manufacture of glucose, while the meal mixed with one-third ordinary Wheat-flour makes a very nourishing material for bread, cakes, &c. Among other uses, gruel, puddings, marmalade, syrup, &c., may be mentioned; while the dried peel, and flour of the peel, would be useful for fattening pigs. Lastly, the fibre can be used for paper and string. Persons desiring to have more ample information, or who would like to take part in the proceedings of the Stanley Syndicate, can address themselves to the latter, Avenue Copes, 24, The Hague.

HOME CORRESPONDENCE.

PUCCINIA RIBIS, D.C.—The Rev. Dr. Keith of Forres has met with this fungus in the north of Scotland. It occurred upon the foliage of Currant bushes in the garden of the Manse, at Dallas, where its presence had been noticed for several years, although its true affinities were unrecognised until Dr. Keith examined it in the earlier part of July of the present year. The species is interesting as being one to which an Æcidium (*Æ. grossulariæ*) has by some writers been affiliated on the ground of host-plant affinity. This association is now known to be incorrect, in the same way as the association of Æcidium leucospermum and Puccinia fusca on Anemone nemorosa. This is also purely imaginative, as has recently been demonstrated by Mr. Soppitt. P. ribis is a micro-puccinia, having no uredospores, and is easily recognised by its dark brown sori being seated on distinct yellow spots on the leaves of the affected plants. It was first described by De Candolle in his *Flore Française*, vol. ii., p. 221. It never occurs on the Gooseberry foliage, nor is it connected with the Æcidium on black Currant, which the Rev. Canon Du Port first detected on the Norfolk Broads a few years ago, and which is an heterœcious species. *Charles B. Plowright, M.D., King's Lynn, July 25.*

LILIUM HORSMANNI.—I think a few remarks as to the history of naming this Lily are necessary, after Mr. Wilson's letter in your issue of July 14. It first flowered here in 1878, when the late Mr. Fred Horsman was associated with the New Plant and Bulb Co. (a very few bulbs having been imported direct from Japan), and was named after him. It is described in their Catalogue for 1879, and also named and described in Dr. Wallace's *Notes on Lilies*, p. 161, 2nd edition, published 1879. I do not know at what date Mr. Wilson received his Lilium Thunbergianum cruentum, but a plant of that name was certificated by the Royal Horticultural Society in 1882. If this be the same plant as the L. Horsmanni, shown by me on July 10 last, surely priority of name belongs to the late Mr. Horsman. It has always been a very scarce Lily with us, and until quite recently we have had no stock, only an occasional straggler appearing amongst our importations. *Robt. W. Wallace.*

PEAS FOR MARKET.—A West Middlesex market gardener informed me a few days ago, that good Peas were selling in the London markets at one shilling per bushel, and it was difficult to effect a sale at that low price. Considering that about sixpence per bushel is paid for picking, saying nothing about culture and cartage, the profit from the transaction is a microscopical one. It is the early crop which pays, as when the glut comes the market is overstocked. My informant had this season been growing Improved Sangster's No. 1 for an early crop, sown soon after Christmas; a good hardy Pea, but to use the words of the grower, not so good a stock as could be bought twenty years ago. For the future it will be discarded, and Eclipse, an early round blue variety, substituted for it. The latter is not quite so hardy as Sangster's, but when sown early in February it turns in as quickly, and is better in several respects. I do not know who introduced Eclipse, but it is undoubtedly an excellent early variety both for market and garden purposes. For a late crop, my informant grows Dr. Maclean, Prince of Wales, and Yorkshire, but the former is preferred. It is necessary to sow these in March, otherwise, if later sown, the haulm is attacked by mildew, and the crop lost. Dr. Maclean is thus the favourite variety

for a late crop. It is a melancholy fact, that while the grower can scarcely recoup himself the expense in growing Peas, the consumer in the suburbs of London has to pay a high price for them, and then not always fresh. This is the fault of our present system of distribution, but how it is to be altered is a question hard to be answered. The suburban greengrocer has to fetch his goods from London in most instances, and then be at the expense of sending them to his customers. *R. D.*

THE SPLITTING OF MELONS.—It is with the smooth and the more tender-skinned varieties of Melons that the evil of splitting is most prevalent, although sometimes netted sorts are badly split. It is unfortunately the most promising fruits just on the point of changing colour that split. What the cause is, is enshrouded in doubt. Some gardeners seem to put the whole blame on insufficient ventilation at that time, and by attending well to this important item Melons may be altogether prevented from splitting. But that this is the sole reason I am doubtful about. Other gardeners have told me dryness at the roots is a preventive; others cut the fruits when approaching ripeness, and ripen in a dry warm room. That a Melon should be ripened in a dry and warm and well-ventilated structure to induce good flavour we all know, but to cut fruit several days before they are ready for consumption, or ripen them on the plants in dust-dry soil, can never ensure the flavour being good. The worst case of splitting that has come to my notice was a house in which the plants were planted in a bed of loam 3 inches thick, tightly rammed; the plants were well cropped, and the fruits of good size; the house was well ventilated, and a small amount of air left on all night, with comfortable warmth in the pipes. These fruits split badly. For my own part I am more inclined to the belief that from some cause or other the skins get tight from a slight check, and will not expand. It may be that by chance the soil about the roots has got too dry about the time the seeds form, or the hot-water pipes have been kept too warm when the sun was shining, so as to cause a parching air in the house. Or it may be the fruits were chilled, and the skins thereby rendered inelastic. Something, indeed, more than insufficiency of ventilation; moreover, I am very sure that dryness at the roots does not prevent splitting, nor half severing the stem behind the fruit. To obtain the best results with Melons the plants should be kept duly supplied with moisture at the roots all the time, gradually reducing moisture in the bed when the fruits are about to ripen, when also the air of the house should be kept drier. *H. Markham, Mereworth Castle.*

RIPE PEACHES OUT-OF-DOORS FROM JUNE TO OCTOBER.—In the southern, western, and eastern counties of England, Wales, and Ireland, and in the southern counties of Scotland, with good cultivation and suitable walls, a regular succession of ripe Peaches of excellent quality is easily to be secured from trees growing in the open air from the beginning of the last week in June to October. [If you could always get the wood matured. Ed.] This is to be accomplished by selecting healthy trees of Alexander, Waterloo, Amsden, and Hale's Early, and planting one tree of each of the three first-mentioned varieties on walls having south, west, and east aspects, giving south and west aspects to Hale's Early. One tree in each position. The varieties indicated and thus planted, will yield a good succession of ripe Peaches in ordinary summers from the end of June to the middle of August. From this date trees of Early Grosse Mignonne, Dymond, Crawford's Early, Crimson Gallande, Bellegarde, Grosse Mignonne, Royal George, Prince of Wales, Violet Hâtive, Barrington, and Sea Eagle, will continue the supply as far into the autumn as good Peaches can be obtained out-of-doors in ordinarily good summer and autumn weather. Salway is a still later variety than Sea Eagle, and in some seasons—as was the case last year—it ripens its fruit satisfactorily enough; the fruit, when well ripened, being large and suffused with a rich golden colour. This year we commenced picking ripe fruits of Alexander from a tree on a south wall on June 23, being a few days earlier than Waterloo on the same wall, trees of Alexander from a tree on a west wall continuing the out-door supply, and we are now, July 23, gathering good-sized highly-coloured fine-flavoured fruit of Amsden from a tree on a south wall. The above supplies were and are being obtained concurrently with supplies yielded by trees under glass of some of the varieties named above. To be rewarded with success it is important that, to begin with, good healthy young trees be obtained, these should be planted in properly-prepared holes, i.e., made of a good size, given ample drainage, and good sound loamy soil to grow in, and they should be kept well supplied with moisture at the roots during the growing season and the foliage kept clean. In addition to these cultural injunctions the fruit should be thinned out to about nine inches from one another every way on the trees when a good set is obtained. *H. W. Ward.*

VERBASCUM AND SHIRLEY POPPIES.—Excellent effect is obtained in the recesses in the front of a shrubbery, on banks and other places, by growing together Verbascum thapsus and Shirley Poppies. The former, planted somewhat thinly in the autumn or early spring, the seeds of the latter sown in all space between them during the months of February and March. Verbascum Chaixii would show as good effect, though it is not so tall and stately a species as our native Shepherd's Club; but for fine effect, Verbascum olympicum would prove more showy in such associations. Needless to say, the distinct white woolly leaves, bold spikes, with yellow flowers of the Mulleins, not only give contrast in the matter of colour—they also break the monotonous evenness of beds of these Poppies, and prove excellent supports for them when full grown and heavy-headed. These Verbascums are biennials, and need to be sown a year before they are fit for the above-named purposes. *William Earley.*

VINE-LEAVES CLUBBING.—It may interest your readers to hear of the use of sulphate of iron in the cure of clubbing of Vine-foliage being corroborated. Last year one of my Vines had it to a great extent, along with the characteristic spots on the bark. I shortened it down in the autumn, washed the stem with a solution of the sulphate, 1 oz. to the pint of water, and this year it shows no trace of the disease. *B. Piffard.* [Browning, "Brunure," due to a slime fungus, Myxomycete. Ed.]

TRANSPLANTED DWARF KIDNEY BEANS FOR EARLY CROPPING.—Such a decided advantage is obtained from plants of Dwarf Kidney or French Beans, sown in boxes betimes, and subsequently transplanted out-of-doors, over seeds sown in the open ground, that the wonder is the practice is not universal; any way, it is worth making a note of. Seeds so sown about April 10, and when well up and the plants are strong, duly hardened and transplanted on to sheltered borders, give excellent crops a fortnight or three weeks before ordinary outdoor sowings. Taking this particular season as an illustration: I sowed the seeds in the bed of my Tomato-house, beside the Tomato plants, at the above date, transplanted them thence direct to the open ground on May 4. Protected them (happily with shrub branches) on the night of May 21, and as a result, had a good gathering on July 15. Whereas, such as were earliest sown in the open ground are only now flowering, July 23. Properly treated, being planted out more thinly than when sown in rows, these Dwarf Beans succeed best when so transplanted. *William Earley.*

DO LEAVES ABSORB MOISTURE?—Noting in the "Answers to Correspondents," in your issue of the 21st ult., the foregoing interesting physiological matter, I have been induced to test it in a simple way—by immersing a large Cabbage, which, having been cut for use four or five days previously, had assumed a wilted and a yellowish colour in the exterior leaves (all but its base and stem), in a bucket of water, for about twelve hours, when it resumed a vitality and crispness almost equal to that at the time of its severance from the roots, thus conclusively proving that such structural leaves as the Brassica family do absorb moisture through their stomata. I have not as yet tested Holly leaves in a similar manner, but apprehend it would prove a much more difficult problem to solve, at least, so far as time and observation would be involved. *W. G., Birmingham.* [The point is, do leaves in the natural state absorb water? We all know that they do so under circumstances such as our correspondent mentions. Ed.]

YOUNG STANDARD FRUIT TREES.—Although at this season work is very pressing in the fruit-garden, if time will admit of its being done, it repays the labour of the gardener to regulate the growths on the above, which, if hard pruned in the winter, make large quantities of young wood sometimes, many of which are useless in building up a crown, and must be removed next winter. If these shoots are now spurred back to within a few buds at the base, those remaining intact to form the leading shoots, will grow strong and mature thoroughly. A young tree with four stout shoots left at the winter's pruning should have two new ones left on each, making eight from which to select next winter. Again, it will occur that a shoot or shoots will take the lead, and weaken the others; and each strong shoot must be stopped by having the tips cut off, thus allowing the weaker shoots to make faster progress. The fastenings of young trees should be examined about this date, loosening them if likely to cut into the rind. Artificial watering will not be needed by these young trees this season, nor will mulching, except on the lighest class of soils. *H. Markham, Mereworth Castle.*

THE POTATO DISEASE AND LIGHTNING.—I have watched very closely the Potato crops hereabouts for the first appearance of the disease. On Saturday morning, July 28, there was no trace whatever of the disease to be found, and on inquiry I could find that no disease had been detected hereabout; but on Sunday morning, between three and four, a very heavy thunderstorm broke over the district, and, later in the day, on passing my Potatos I detected unmistakeable signs of the disease, this being the first appearance (July 29). On Monday morning I again visited my Potato-field, and found that the disease had spread with alarming rapidity, there being a stretch right across the piece, as though a wave of great heat had passed across, the leaf and haulm being covered with black spots, and the whole already beginning to smell very disagreeably. In going over the crop, I found nearly all the plants to be affected more or less. It is, however, very interesting to note that the disease is most discernible amongst Beauty of Hebrons and Early Puritans, a few stray roots of Magnum Bonum standing quite erect and green, and not in the least affected. Immediately on noticing this quick change in the prospects of the crop, I visited, and made enquiries of other growers, with the same results. They had only just discovered the disease in their crops. In one instance, Magnum Bonums are badly affected, and one grower had already commenced to lift his Puritans, &c, having discovered that the disease had just commenced. Probably, some of your numerous readers can give us some further information. For my own part, I am quite convinced that the Potato disease is caused by lightning. *E. C., Somerset.* [The condition of the weather at such times favours the growth of the fungus. Ed.]

THE FLOWER-BEDS IN HYDE PARK.

I.—What charming well-selected varieties of bedding-plants are employed in filling the beds that are situated between Stanhope Gate and Grosvenor Gate, in Hyde Park! Each year the method of planting undergoes a change. It is a critical public whose tastes and fancies Mr. Brown, the superintendent, has to study to please, and well he does it.

Having viewed the beds quite recently, I am of opinion that for the time of year, the condition of the plants was everything that could be desired in that direction. A bed of oblong form, near Stanhope Gate, filled with the large flowering variety of the white Marguerite, and edged with a pale blue, white-eyed Lobelia Earl of Beaconsfield, is a bold-looking one, and is good as a colour arrangement. Another bed of like shape, having a ground-work of Alternanthera major, with dot plants of Dracæna lineata in the centre, D. rubra, Palms, Farfugium grande, Centaurea candidissima, Lobelia Blue King, Begonia Emperor, and Chlorophytum elatum variegatum; the whole being edged with a broad band of Antennaria tomentosa, has a very pretty effect. Another oblong bed is planted there, an outer edging of Alternanthera paronychoides aurea, then a line of Lobelia Earl of Beaconsfield, set 1 foot apart, followed by a band of Iresine Wallacei, and the central space inside of these bands carpeted with Lysimachia Nummularia folio-aurea, and in which plants of seedling tuberous-rooted Begonias and Grevillea robusta are thinly planted, the effect of the whole being pleasing. A circular bed, hard by Grosvenor Gate, is planted with plants about 2 feet high, of Araucaria excelsa, Begonias, Chlorophytum elatum variegatum, on a ground-work of Herniaria glabra, edged with Alternanthera major

aurea, forming a striking contrast to the neighbouring beds. Some of the beds are filled with Pansies, and others with standards of Heliotrope, Roi de Noirs, Fuchsias, Nicotiana affinis, the plants being set on a carpet of Duchess of Fife Pansy, &c., and edged with suitable plants. Only one bed of the "carpet pattern" was observed, and that was an excellent example of the kind, the design well conceived, and admirably planted. *H. W. W.*

II.—Two beds of Ivy-leaved Pelargoniums, carpeted with Viola Mrs. Turner, are doing remarkably well. The usual beds of Roses have been doing well, but have been cleared out to make room for Erythrina Crista-galli, which promise to make a good show. A bed of pink Begonias having some dwarf standards of Heliotrope Swanley Giant springing out of them looks like being a feature later on. Two beds of Sweet Peas have done remarkably well this summer, and are now coming on with a second batch of blooms, the dull wet weather seeming to have suited them. Near them is a large circular bed filled with Plumbago capensis, having some plants of Ivy-leaved Pelargonium Abel Carrière between them carpeted with Cineraria maritima, a new, distinct, and pretty feature. On either side are two beds planted with pink Pelargoniums, tuberous-rooted Begonias, Centaurea candidissima, blue Lobelia, and Amaranthus cordata. Two beds comprised of Acacia lophantha, and the Golden Privet, with Begonias semperflorens rosea and alba make a very pleasing combination.

An attractive pair of beds is planted with crimson Pelargoniums and Phalangium variegatum, carpeted with the pale lavender-coloured Viola Bessie Clark; Begonia Charles Baltet, in a groundwork of Harrison's Musk edged with blue Lobelia, is also a very good combination, as is that one consisting of Fuchsia Empress of Germany carpeted with Viola lilacina and dots of Lilium longiflorum. A bed of French Cannas and Nicotiana affinis is on a fair way to make a good show. We now come to what is a very pretty bed, planted thus: The old Pelargonium denticulatum, with its dark green foliage, contrasts well with the variegated Phalangium, having a ground-work of a cardinal-coloured Mimulus. Fuchsia Mrs. Marshall, having a ground-work of the Mauve Viola William Neil, is a very telling bed Next is a very pretty bed of pink Pelargonium Titiens, with Begonia semperflorens, Princess Beatrice, having a carpet of Viola Holyrood.

A bed of Fuchsia Scarcity, carpeted with Viola Ardwell Gem, a pale yellow, makes a happy combination; Lady Stanhope Begonia, with a ground-work of the lavender-coloured Viola, Mrs. Turner, looked well.

Two circular beds near Grosvenor Gate, the one with Begonia semperflorens rubra, the other with B. s. After Glow, both of them having a ground-work of Harrison's Musk, edged with the old Erica carnea, make two very pretty beds. Taking a turn back and viewing the beds on our left under the boundary fence, we have a very pretty run of beds. The centre one having a dark Canna Adrian Robini and Fuchsia Earl of Beaconsfield, with a groundwork of the Crimson Mimulus, make a pretty combination. It is flanked on either side with beds of Heliotrope President Garfield, which are raised at each end by the surface being mounded up, therefore somewhat breaking up the stiff line so often seen. On each side of these we have two more beds treated in a somewhat similar way by having their surface mounded up in the centre. They are planted with various sorts of Bamboos, having some standard Fuchsias between them, with Begonias and Petunias planted under them, with a groundwork of Alternanthera paronychioides major. It may hardly be said that these buds are quite an attraction. Another bed with Begonia heracleifolia and Fuchsia Mrs. Randall, looks very well.

On either side of the entrance-gate at Mount Street are two circular beds of Begonia Emperor, with a carpet of Mesembryanthemum cordifolium variegatum, which will soon present an attractive appearance. *J. B.*

JAPANESE GARDENS.

"Oh, to be back in Nikko, plucking the heavy-odoured blossoms of the wild scarlet Azalea, almost as big as Arum flowers, on the high bank over the path which leads to Dai Nichi Do, or tufts of pure white Azalea, from trees 40 feet high, in the woods between the Lake of Chiusengi and the great mountain Nantaisan. Dai Nichi Do! The gardens of Dai Nichi Do and the Mangwanji monastery are the nearest approach to a child's fairyland I ever saw.

"They are so-called Chinese gardens—Japan used to borrow as freely from China and Corea as she borrows from the West now—and they bear exactly the same relation to the stately pleasure-gardens of the Howquas at Canton, or the peerless mandarin gardens at Shanghai, as the enchanted places of Hans Andersen do to the earthly paradises of William Morris.

"These Chinese gardens, toy-gardens, all have a strong family likeness—a little artificial lake of pellucid brightness, a little artificial waterfall fit for a naiad's fountain, both fed by a little sandy-bottomed brook or conduit of clear spring-water, bubbling like champagne; a cluster of little islands (one of them perhaps shaped like a tortoise), affording opportunities for impossibly quaint little stone bridges), circle-backed, horse-shoe backed, or flat slabs of portentous size, and every member of the cluster with its little stone pagoda, its quaint daimio-lantern, its toy-shrine, or the fantastic bits of rock for which the Japanese pay such extravagant prices.

"On little artificial promontories will stand Maples—plain Maples, copper Maples, variegated Maples, all with the fine splintery leaf of Japanese Maples, trained into whimsical shapes, though not so whimsical as the Fir trees (Matsuji), which rival the Box-edge peacocks and other armorial bearings in old English baronial gardens, such as Haddon Hall. In the garden of "The Golden Pavilion" (Kinkakuji) at Kyoto I saw a Fir tree tortured into the similitude of a junk in full sail. Where the stream runs into the lake there will be a bed of stately purple Irises, and built out into it on piles, or spaning a narrow arm as a covered bridge, a Wistaria-arbour with blossoms 3 or 4 feet long.

"The wild Wistaria itself grows profusely at Nikko, but its blossom is much smaller. A terrible obstacle to get through is a Wistaria thicket, with its tough lianas and intricate web of branches, as we learned to our cost in striking a bee line from the red lacquer bridge to the top of Toyama. Wild Wistaria, wild Azalea, wild Camellia, wild Iris, wild Lilium auratum, wild Cherry, wild Plum, wild luridly-scarlet Japonica, make the woods and gorges of Japan a blaze in spring; especially the burning scarlet of the Camellias and Azaleas. On a slight eminence commanding this fairy scene will stand the pasteboard monastery for which it was created. I say pasteboard, because Japanese monasteries are, for the most part, made of light wood-work and paper. And behind will be the temple, great or small, and on different points of vantage a pavilion, a kind of temple and belvedere combined; and a cha-no-ma, a sort of summer-house for the solemn tea ceremony, which has a semi-religious significance in Dai Nippon." *From "The Japs at Home," by Douglas Sladen, pp. 274, 275.*

BEARWOOD, WOKINGHAM, THE SEAT OF JOHN WALTER, ESQ.

Mr. Walter, with his usual kindness, gave permission for visitors to look through his pleasure-grounds during the month of June, when the magnificent masses of Rhododendrons and Kalmias were at their best. It is at places like Bearwood that the visitor realises something of the splendid decorative service the hardy Rhododendron renders in ornamental grounds, especially when seen as they are in such large masses; and it is possible to realise the profound truth of the statement that "Rhododendrons are now more emphatically than ever the pride of European gardens," It may be added that they never fail to "elicit the highest admiration of all who have any appreciation of the symmetrical in form or the beautiful in colour." And then the grand bushes of the Mountain Laurel (Kalmia latifolia) were also in the height of their beauty, and being of unusually large size they were most attractive from their masses of bloom. The visitor detected differences in the foliage and in the flowers; the leaves vary in form and size, the flowers in depth of tint, and particularly so in the buds, as some of them approach scarlet in their brilliancy. Unhappily, they did not escape the scathing influence of the May frost, which was severely felt at Bearwood; and near the ground-line, many of the tips of the young growths were sadly injured. Kalmias do so well at Bearwood because the position is high and dry, and like the Rhododendron they do well in the natural soil of the place. It is sometimes said that the best situation for the Kalmia is one fully exposed to the sun, but at Bearwood many of the finest examples are in partial and even considerable shade, and yet they flower plentifully. Whoever devised and planted the kept grounds of Bearwood in the first instance, no doubt knew something of the requirements of American plants, and particularly of the Rhododendron, Kalmia and American Azalea. They were planted with forethought, and therein lies one main cause of their highly successful appearance. The American Azaleas were over, and they had afforded a great floral spectacle during the past weeks. Many of the fine hybrid Rhododendrons which have been so judiciously planted on the verges of the immense clumps of R. ponticum and its varieties, had yet to expand some of their trusses, though some were in full bloom, and they supplied charming and most attractive patches of colour, and were very effective.

The specimen Coniferæ are so fine—tall, spreading, and in the most robust health, that one contemplates these giant exotics with something like awe. It seems difficult to realise that these gigantic ornamental Conifers could do better in their native habitats. The American Oaks, with their ample leafage, which in different varieties affords so much diversity of character, are superb; stupendous Beech, the giants of the arboreal fraternity, stand up tall and strong against the everlasting sky, and probably stood there when the domain of Bearwood formed a part of Windsor Great Forest.

Mr. Tegg deserves the highest credit for the admirable manner in which the grounds are kept. The visitor can walk along miles of pathway and not see a single weed; and the sward is so well kept, that scarcely a leaf could be seen lying upon its surface. The absence of weeds in the paths is due to the fact that if one puts in appearance, it is at once pulled up; salt or other weed-killers are never employed.

In addition to the kept grounds, huge bushes of Rhododendrons a-glow with colour in the season are seen in some wild places, but they also are kept with scrupulous care. One charm attaching to Bearwood is, that the kept grounds fall away almost imperceptibly into semi-wildness; and this again to Pine plantation and woodland, until the whole mingles with rich pasture and waving cornfields.

The Fruit and Plant-houses and the kitchen garden reflect the order, neatness, and excellent condition found elsewhere. Perhaps never before did Peach and Nectarine on walls at Bearwood show finer crops or better growth than were seen this season. Pears, Plums, and Cherries were equally good. Standard and bush trees in the open, and bush fruits were carrying excellent crops generally. The Strawberry plantations suffered severely from the May frost at the cost of a considerable loss of crop. Before such visitations the most painstaking and intelligent gardener is powerless.

It is worth a journey of miles to see the trees of Royal George Peach and Elruge Nectarine, each of which fills a spacious house. The condition of the trees is perfect, the crops of fruit large, and the individuals very fine.

Mention should also be made of the drive from Bearwood through the village of Arborfield to the elevated ridges from which one looks down upon the open valley stretching away almost to Aldershot and Farnham, and through leafy lanes until the descent is made through the lengthened avenue of Sequoia gigantea which opens on to the grounds of Wellington College. The probability entertained by Mr. Douglas, the discoverer and describer of this gigantic Conifer, that it would prove hardy enough for our climate, is

amply proved on the sandy soil which abounds in this portion of Berkshire. Every specimen seems perfect, symmetrical, and healthy. In years to come arboriculturists will visit this avenue, and they will rightly appreciate the public spirit of Mr. John Walter, who planted these long lines of stately plants—"living columns built by the hand of Nature," destined in the years to come to work "silently it may be through centuries of time, and dwarfing by their prodigious bulk and altitude the grandest pillar ever raised by man." *R. D.*

Obituary.

William Hugh Gower.—We greatly regret to hear of the death, on July 30, of this gentleman, in his fifty-ninth year. Mr. Gower has been long known and respected in the horticultural trade, and of late years in the horticultural press also. We await further particulars of his career.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending July 28.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	120	0	+ 276	— 51	7 —	133	32·0	59	35
1	1 +	111	0	+ 28	+ 8	5 —	122	21·5	31	35
2	1 +	126	0	+ 93	— 51	2 —	120	14 8	36	34
3	0aver.	132	0	+ 111	— 100	2 +	112	14·6	28	37
4	0aver.	130	0	+ 135	— 79	7 +	114	14·1	24	34
5	0aver.	138	0	+ 133	— 119	4 +	111	15·9	39	38
6	2 +	123	0	+ 80	— 69	6 —	132	30·0	43	33
7	1 +	129	0	+ 191	— 121	2 +	128	19·8	28	34
8	1 —	120	0	+ 140	— 81	14 +	128	22·2	22	38
9	1 +	118	0	+ 65	— 33	2 —	142	24·2	52	31
10	1 —	113	0	+ 125	— 67	3 +	135	24·6	36	33
*	0aver.	135	0	+ 236	— 18	16 +	129	19 9	24	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending July 28, is furnished from the Meteorological Office:—

"The *weather* was generally fair and warm over Scotland and the extreme northern parts of England and Ireland, but continued rainy and unsettled elsewhere until the closing part of the week, when it gradually improved. Thunder and lightning were experienced from time to time in nearly all districts.

"The *temperature* was above the mean in 'Scotland and England, N. and N.E.,' and in 'Ireland, N.,' but either just equalled, or was a trifle below the normal elsewhere. The highest of the maxima were recorded on the 28th, when they ranged from 79° in 'Scotland, N. and the Midland Counties,' to 71° in 'Ireland, S. and the Channel Islands.' The lowest of the minima were recorded on rather irregular dates, and ranged from 41° in 'Scotland, W. and Ireland, N.,' to 51° in 'England, N.E.,' and to 53° in the 'Channel Islands.'

"The *rainfall* was considerably less than the mean in 'Scotland.' and rather less in 'England, N.E. and Ireland, N.;' in all other districts there was an excess, that in the extreme south and south-west being very large. The fall experienced at some of the south-western stations on the 24th was exceedingly heavy; at Stoke Bishop, near Bristol, 3·22 inches fell between noon and midnight.

"The *bright sunshine* was more prevalent than during the preceding week, and exceeded the mean in 'Scotland, N. and W.' and over Ireland. In most other districts, however, there was again a considerable deficit. The percentage of the possible duration ranged from 59 in 'Scotland, N.,' and 52 in 'Ireland, N.,' to 24 in the 'Midland Counties and the Channel Islands,' and to 22 in 'England, S.W.'"

MARKETS.

COVENT GARDEN, August 2.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Calceolarias, per doz.	3 0	6 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Ericas, various, p. dz.	9 0	24 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	8 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	3 0	6 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Pelargoniums, dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Lobelias, per dozen	3 0	4 0
— small, per doz.	1 0	2 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0	6 0
Musk, per dozen	2 0	4 0
Nasturtiums, p. doz.	1 6	4 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	6 0	10 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Cherries, half-sieve	2 6	3 0
Currants, black, half sieve	2 6	3 0
,, red	1 9	2 0
Figs, per dozen	2 0	3 0
Grapes, 1st quality, black English, per lb.	1 6	2 0
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	2 0	3 0
,, Muscat, 2nd quality, per lb.	0 9	1 0
,, Guernsey, per lb.	0 9	1 0
Melons, each	1 6	2 6
Peaches, large, p. doz.	6 0	9 0
,, small, per doz.	2 0	4 0
Pine-apples, St. Michael, each	5 0	7 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	2 0	3 0
Asters, French, p. bun.	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	1 0	3 0
— doz. bun.	2 0	4 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	2 0	4 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	3 0	6 0
Lilium Harrisii, doz.	2 0	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9	1 6
Maidenhair Fern, per 12 bunches	3 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette, 12 bun.	3 0	6 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
— 12 sprays	0 4	0 8
Pinks, doz. bun.	1 6	4 0
Pyrethrums, 12 bun.	2 0	6 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	5 0
— red, per dozen	0 6	1 0
— Moss, French, doz. bun.	12 0	18 0
— outdoor, doz. bun.	3 0	9 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 2	0 4

Orchid-bloom in variety.

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, Broad, p. sieve	2 0	2 6
,, French, lb.	0 4	0 6
Cauliflowers, p. doz.	1 0	
Cucumbers, per doz.	2 0	3 0
Marrows, per doz.	2 0	
Mushrooms, per lb.	0 4	0 8
Peas, per bushel	2 0	3 0
Tomatos, per lb.	0 4	0 6

Potatos.

Potato market firm. Prices vary from 3*s.* to 6*s.* per cwt. Old Potatos finished.

SEEDS.

London: *August* 1.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market was again scantily attended, with but little business passing. For new French and English Trifolium there is more enquiry at the low prices now prevailing. Samples of this season's home-grown Rape and Rye are now showing at moderate prices. In Mustard there is no alteration. Birdseeds show no quotable variation. Other articles at this quiet season offer no subject for comment.

FRUITS AND VEGETABLES.

Borough and Spitalfields: *July* 31.—Quotations:—Cabbages, 1*s.* 8*d.* to 2*s.* per tally; Carrots, 1*s.* 6*d.* to 2*s.* 8*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Parsley, 1*s.* 8*d.* to 2*s.* per dozen bunches; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.

Stratford: *July* 31.—The supply to this market during the past week has been good, and, with a large attendance of buyers, a brisk trade has been done at the undermentioned quotations:—Cabbages, 1*s.* to 3*s.* per tally; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen; Cherries, 3*s.* to 5*s.* per half-sieve; black Currants, 3*s.* to 4*s.* do.; red Currants, 2*s.* 6*d.* to 3*s.* 6*d.* do.; Plums, 2*s.* to 3*s.* do.; Green Peas, 3*s.* to 4*s.* 6*d* per bag; Broad Beans, 2*s.* 6*d.* to 5*s.* do; Carrots, 1*s.* 9*d.* to 2*s.* 3*d.* per dozen bunches; Turnips, 1*s.* to 2*s.* do.; do., 40*s.* to 60*s.* per ton; Carrots, household, 45*s.* to 50*s.* do.; Mangels, 22*s.* to 25*s.* do.; Onions, Egyptian, 80*s.* to 110*s.*; Apples, English, 4*s.* per bushel; Pears, English, 2*s.* 6*d.* to 5*s.* do.

Farringdon: *August* 1.—Quotations:—Marrows, 5*s.* to 6*s.* per tally; Peas, 2*s.* to 2*s.* 6*d.* per bushel; do., 3*s.* 6*d.* to 5*s.* per sack; Cabbages, best, 4*s.* to 5*s.*; seconds, 2*s.* to 3*s.* per tally; Broad Beans, 2*s.* to 3*s.* per bag; Carrots, 1*s.* 6*d.* to 2*s.* do.; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Spring Onions (Lisbon), 2*s.* to 2*s.* 6*d.* do; Apples, Lord Suffield, 3*s.* to 3*s.* 3*d.* per half-sieve; Plums, Rivers' Early, 4*s.*, to 4*s.* 6*d.* do.; Currants, Black, 3*s.* to 3*s.* 6*d.* do.; Red, do., 2*s.* to 3*s.* do.; Gooseberries, 2*s.* to 3*s.* do.

POTATOS.

Borough and Spitalfields: *July* 31.—Quotations ranged from 85*s.* to 100*s.* per ton.

Stratford: *July* 31.—Quotations:—Early Rose, 60*s.* to 70*s.*; Myatts, 60*s.* to 80*s.*; Snowdrops, 80*s* to 90*s.*; White Hebrons, 70*s.* to 80*s.*; Sutton's Early Regents, 70*s.* to 80*s.*; per ton.

Farringdon: *August* 2.—Quotations:—Essex Regents (Sutton's), 70*s.* to 75*s.*; do., Kidneys, £4 to £4 10*s.*; Hebrons, 70*s.* to 75*s.*; Snowdrops, 70*s.* to 80*s.* per ton.

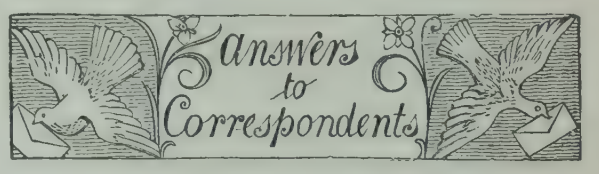
London Averages: *August* 1.—English Kidneys, 80*s.* to 100*s.*; Hebrons, 70*s.* to 90*s.*; Snowdrops, 80*s.* to 100*s.*; Rounds, 60*s.* to 80*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 120*s.*; do., new, 75*s.* to 98*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 138*s.*; inferior, 60*s.* to 100*s.*; new, 70*s.* to 90*s.*; Mixture, 90*s.* to 127*s.* 6*d.*; and Straw, 43*s.* to 63*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending July 28, and for the corresponding period last year:—1894: Wheat, 24*s.* 8*d.*; Barley, 22*s.* 5*d.*; Oats, 20*s.* 5*d.* 1893: Wheat, 26*s.* 5*d.*; Barley, 23*s.* 1*d.*; Oats, 21*s.* 7*d.*



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

Botanical Questions: *L. r. d. B.* Statice profusa is stated to be a hybrid between S. puberula and S. Halfordi, the latter being a form of S. macrophylla. Malouetia asiatica of Siebold and Zuccarini is a synonym of Trachelospermum jasminoides, Benth. et Hook. Other synonyms are Nerium divaricatum of Thunberg; Parechites Thunbergii, Gray; Acmena ovata is unknown to us.

Chrysanthemum: *Cello.* A fungus, about which we will tell you more another time; meanwhile, burn the affected plants.

Dipladenia Seedling: *F. H.* A pretty variety of D. amabile, worth perpetuating.

Disqualification of a Tray of Vegetables: *W. J.* The judges in our opinion were right in their decision under the circumstances.

Grape Appley Towers: *W. Gray.* It has a medium-sized bunch, tapering, and slightly shouldered. It is an excellent variety, setting freely, and possessing a good constitution. It is a tough, thick-skinned Grape, with a rich, strong flavour.

Insects: *G. A.* Aphis Loniceræ and A. xylostei (Honeysuckle), Aphis aceris (Sycamore), and Chermes fagi (Beech).

Names of Plants: *D. & M.* No leaves and flowers; shrivelled beyond recognition.—*E. M.* Lathyrus cyaneus.—*W. J. D.* Argemone mexicana, common weed, belonging to the Poppy family.—*H. M. E.* 1, Stachys betonica; 2, Hypericum hirsutum; 3, Campanula Trachelium.—*G. W.* 1, Zenobia speciosa; 2, Spiræa media; 3, Clematis viticella; 4, Linaria vulgaris; 5, Photinia serrulata; 6, Dictamnus Fraxinella.—*C. J. G.* sends more than we undertake to name. 1, Erigeron canadense, naturalised; 2. Galinsoga parviflora, naturalised near Kew; 3, Crepis biennis; 4, Carduus acanthoides; 5, Carduus arvensis; 6, Chenopodium album; 7, Polygonum lapathifolium; 8, Cerastium vulgatum.—*S. P. D.* 1, Begonia Marshalli, one of the first of the Rex class; 2, Campanula isophylla; 3, Lilium bulbiferum; 4, Hoya carnosa; 5, Francoa sonchifolia; 6, Veronica spicata.—*A. B., Hants.* 1. Geranium ibericum; 2, Geranium silvaticum; 3, Thalictrum flexuosum.—*C. H.* 1, Spiræa ariæfolia; 2, S. Lindleyana; 3, S. callosa; 4, Rubus odoratus; 5, Hippophae rhamnoides; 6, Cornus sanguinea fol. var.—*J. Gibbs.* The leaf is that of Bryophyllum calycinum. If you peg one down on to the surface of the soil in your greenhouse, and keep it moist, by covering it with a bell-glass, you will shortly see little buds sprouting from the margins.—*E. O. W.* Lythrum Salicaria. —*A. A.* Bromus secalinus. A weed introduced with imported seed.—*L. M. B.* Sends one shilling for the Gardeners' Orphan Fund, for which we thank him. *L. M. B.* is evidently a man of well-regulated mind. He thinks of the orphans, and he sends his specimens properly packed and labelled so as to give as little trouble and facilitate our labours as much as possible. 1, Fern Pteris argyrea; 2, Campanula persicifolia, double white variety; 3, Cheiranthus ochroleucus; 4, not recognised; 5, Achillea Ptarmica double fl.—*A. S., Sydenham.* Calceolaria pinnata.—*T. D.* 1. is probably Anemia collina, we cannot be sure by only seeing the barren frond. If it sends up a fertile portion like Osmunda, it is, as we have stated, Anemia; 2, Nothochlæna trichomanoides; 3, Cheilanthes viscosa. Five or six flowers is the most we have seen on one inflorescence of Cattleya Rex. The others you mention are very fine examples.—*T. L. B.* Epidendrum Candollei.—*P. C. H.* 1, Jasminum revolutum; 2, Spiræa callosa; 3, Campanula Portenschlagiana; 4, Veronica spicata (variegated form); 5, Escallonia macrantha; 6 Cotoneaster Simonsi; 7, Campanula sp.—*E. G. Chapple.* Hypericum calycinum.—*W. H. D.* Sobolewskia clavata.

New Tomato: *W. C.* The fruits are handsome in shape and colour, and of nice flavour; but whether they are better than others we have no means of judging.

Rosa laxa (?): *J. W. Wilson.* Please send shoot with good ripe fruit. Specimens sent insufficient.

Royal Horticultural Society's Examinations in Horticulture: *W. H. A.* You should write to the Secretary of the Society, 117, Victoria Street, Westminster, who will furnish you with the date of the next examination (1895). You will then be better able to judge what are the books you are likely to need the most. We admire your determination to stick to the business. Write again.

Solanum losing their Blooms: *J. F.* As your plants are in a cool-house, we should premise that they stand a good distance from the glass, and that the temperature has hitherto been too low for them to do well; or you may have afforded them too much water, causing a loss of roots, or at any rate, of vigour. In a warm sunny summer, like that of last year, berried Solanums succeed out-of-doors, but in the present one the plants should have a little artificial warmth and as much sunlight as can be afforded them; in fact, treating them like Tomatos or Capsicums, and not forgetting a proper amount of ventilation.

Strawberries: *G. M.* No. 3, Dr. Hogg; 1 and 2 unrecognisable.

St. Stephen's Green, Dublin.—Messrs. Pulham & Son, 50, Finsbury Square, write that the rock-work waterfall, rocks to island and lake, &c., were all executed by them for the present Lord Ardilaun.

Sulphate of Iron: *C. B.* This is another name for green vitriol, copperas, &c., and is a compound of sulphuric acid and protoxide of iron; consisting of 26·10 of protoxide, 29·90 of acid, and 44·00 of water in 100 parts. Commercial sulphate of iron is made in a cheaper way. You may buy the finished product at an oilman's at a cheap rate.

Tomatos Diseased: *W. C. & S.* The leaves are infested with a fungus, a Peronospora allied to and similar to the Potato fungus, against which you might use with good effect a mild form of the Bordeaux Mixture, a formula for making which was given in a recent issue of the *Gardeners' Chronicle.* Cut off and burn at once affected foliage, and keep the house warmer and dryer, using also sulphur on the hot-water pipes.

Tomato Fly: *W. C. & S.*—The white fly, Aleyrodes vaporarium, it is almost impossible to get rid of. Some of the fumigation or vaporising materials now sold might destroy it.

White (Auvergne) Frontignan Grape: *C. W. H.* The cracking may be avoided by not shutting up the vinery when the fruit is full grown with too much humidity in the air, and by not affording large quantities of water at the root whilst the crop hangs on the Vine. Some varieties, like Madresfield Court Muscat, will not keep long on the Vines after being ripe from this cause, and must be consumed, or cut and put into bottles.

Winter Dressing for Vines Infested with Mealy-Bug: *An Ignoramus.* The surest remedy for this evil is to root out the Vines, and paint walls and every part of the house twice over with petroleum, and afterwards with white lead paint, to clear out the old borders and make new ones, planting them with young clean Vines. But when it is not desirable to do the work thus radically, the cleaning of the Vines from mealy-bug will be a work of several years. In the first place, the Vines should have the older bark peeled closely, afterwards thoroughly brushing them over twice with soft-soap and water, with a small quantity of carbolic soap and petroleum added, and finally painting the Vines with the following mixture:—To 3 gallons of water add half a pint of gas-tar, 6 lb. of flowers-of-sulphur, with some clay to give it body, brushing this into every part of the stems with a stiff brush. The upper crust of the soil of the inside border should be shovelled out of the vinery, and new soil put in its place; moreover, every bit of the structure should be washed with petroleum. Thrips may be kept in check by fumigation, practised early in the season two or three times, with four-day intervals, and fumigating the vinery twice before starting the Vines. *Bailey Wadds.*

Communications Received.—G. Nesbit.—T. Lambert.—H. J. Clayton (arrived too late for insertion).—G. Schneider.—P. Perry.—T. Lunt.—W. G. S.—Ch. de B., Antwerp.—U. D., Berlin, 2.—W. R. & Co.—F. V. M.—C. W. D.—Charles Moore, Sydney.—H. C. F.—H. C. A.—Canon F.—W. W., Kew.—J. A.—G. M.—H. B.—W. S.—W. B. H.—A. K.—S. Heaton (too late).—T. H. Maycock.—S. Backhouse.—H. Howard.—W. Kruse.—F. Cole.—G. N.—A. A.—E. Riley (shortly).—W. R.—E. C.—Sutton & Sons.—A. H. Hall.—J. A.—T. J. H.—A. H. S.—W. W.—Thorburn & Co.—P. L. & Co.—R. N.—J. C. S.—R. B. P.—W. B. H.—H. B.—Ch. Moore, Sydney.—J. A.—A. K.—Ch. de B., Antwerp.—C. W. D.—Sander & Co.—M. L. Langersbury.—M. S., Munich.—W. H. M. (next week).—G. M.—A Constant Reader (next week).—Box packed with Asparagus leaves, no name (next week).—J. Aytoun.—J. Bowler.—J. Tegg.—A. F. B.—H. W.—R. M.—Cello.—Burgess & Sons.—F. L. B.—J. Mitchie & Co.—P. J. Perry (shortly).

Photographs, Specimens, etc., Received with Thanks.—Ch. de B.—W. R. & Co.—C. W. D.—C. Moore.—Major Gen. L. S.—A. K.—J. W.—A. R. K.—C. M., Sydney.—Gen. S.

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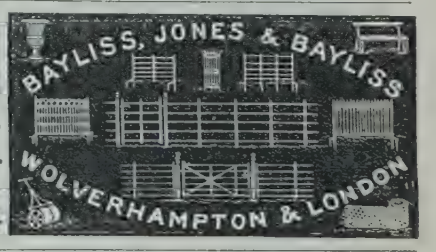
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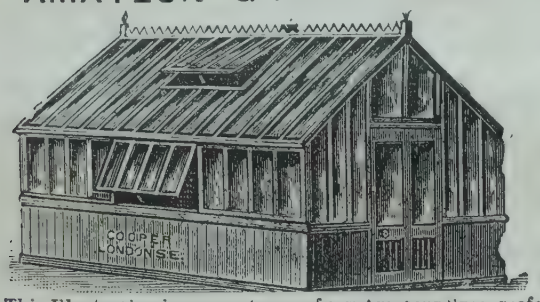
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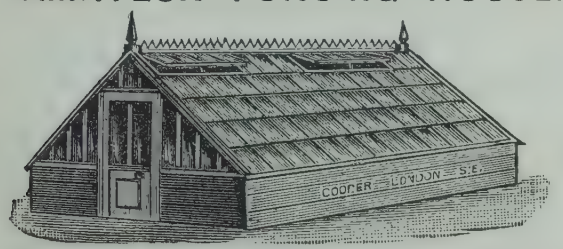
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Feet	1	1½	2	2½	3	3½	4	4½	5
Per 1,000 ...	2/2	3/9	6/-	8/-	10/-	14/-	17/-	23/-	29/-
Painted Green	6/-	8/-	14/-	17/6	20/-	25/-	32/6	40/-	55/-

WOOD LABELS—Best Make.

Inches	3	4	5	6	7	8	9	10
Per 1,000	1/5	1/8	2/-	2/9	3/6	4/6	5/6	6/-

SPECIAL BAMBOO CANES—About 4 ft.

Best and most durable for Tomatos, Chrysanthemums, &c.

Per 100.	Per 1,000.	Per 5,000
2*s.* 9*d.*	25*s.*	£5

RAFFIA, for Garden Tying, best quality. 1 lb., 9*d.*; 2 lb., 1*s.* 4*d.*; 3 lb., 2*s.*; 7 lb., 4*s.* 3*d.*; 14 lb., 8*s.*; 28 lb, 14*s.*

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz, 100 ft.,	21-oz., 100 ft.
4ths	8*s.* 3*d* ...	11*s.* 3*d.*
3rds	9*s.* 0*d.* ...	12*s.* 3*d.*

10,000 Boxes to select from.

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15 oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

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PAINT, quality guaranteed: 7 lb., 3*s*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

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GERANIUMS, out of small pots, very best varieties, 1*s.* per doz.; 7*s.* 6*d.* per 100.
CALCEOLARIAS, Golden Gem, 10*d.* per doz.; 6*s.* 6*d.* per 100.
VERBENAS, all finest varieties, 9*d.* per doz.; 6*s.* per 100.
PETUNIAS (single), fine large fringed flowers, 10*d.* per doz.; 6*s.* 6*d.* per 100.
LOBELIAS, blue and white, bushy, strong plants, 3*d.* per doz.; 1*s.* 9*d.* per 100.
PYRETHRUM (Golden Feather), exceedingly bright colour, 2*d.* per doz.; 1*s.* 3*d.* per 100.
MIMULUS, my own strain, lovely colours, 10*d.* per doz; 6*s.* 6*d.* per 100.
CINERARIA MARITIMA, for bedding, &c, silvery white, 10*d.* per doz.; 6*s.* 6*d.* per 100.
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ASTERS, splendid selection, dwarf varieties, indispensable for borders and beds, making a mass of bloom and colour, 3*d.* per doz.; 1*s.* 9*d.* per 100.
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DIANTHUS, good selection, 3*d.* per doz; 1*s.* 9*d.* per 100.
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COLEUS, very strong plants, magnificent colours, in 3-in. pots, 1*s.* 6*d.* per doz.; in 5-in. pots, large, decorative plants, 4*s.* per doz.
BALSAM, large Camellia-flowered, 5*d.* per doz.; 3*s.* per 100.
AMPELOPSIS VEITCHI, the small Virginian Creeper, self-clinging, autumn foliage turning to brilliant red, 3*s.* per doz.; 20*s.* per 100; in 3-in. pots.
PASSION FLOWERS, climbers, capital plants, in 3-in. pots, with about 18 in. to 2 ft. growth, 3*s.* per doz.; 20*s.* per 100.
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DOUBLE PRIMULAS, rooted, 3-in. pots, 3*s.* per doz.; 22*s.* per 100.
CARNATION MARGARET, White, in 3-in. pots, 2*s.* 6*d.* per doz.; 18*s.* per 100.
CINERARIA HYBRIDA, very grand plants of my superb strain, from finest show varieties, in 3-in. pots, big lot to clear, 1*s.* 3*d.* per doz.; 3 doz., 3*s.*; 100, 9*s.*
The most liberal collection of GREENHOUSE FERNS and MOSSES, consisting of fine plants of Aspleniums, Polypodiums, Selaginellas, Pteris cristata, Isolepis, &c., at 3*s.* per doz.; 3 doz., 8*s.*; in 3-in. and 5-in. pots.

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MARÉCHAL NIELS and GRAPE VINES, any variety, in 5-in. pots, from 2 ft. to 3 ft. long, before potting into very large pots, to complete this season's growth, will make 9 ft. to 12 ft. canes in either hot or cold houses during the season, and will bear flower and fruit respectively next year. 1*s.* 3*d.* each; 3 for 3*s.* 6*d.*; 6 for 6*s.* 6*d.*; 12 for 12*s.* Extra large plants from 4 to 5 ft. long, in large pots, 2*s.* 3*d.* each; 3 for 6*s.* 3*d.*

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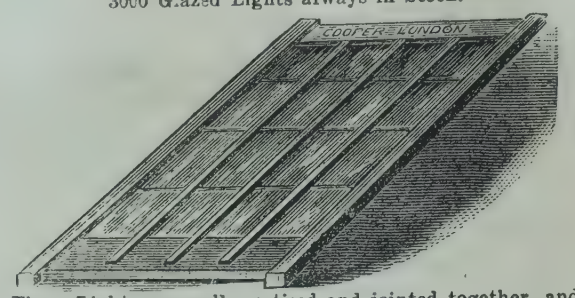
Do not be misled by other people advertising houses at the same price as ours, as it is impossible for them to give such good value. Call at works and see the houses being made and the materials we use. We have only one establishment in the Old Kent Road, 747 to 755, on the left-hand side from City. Do not be misled by little ladder-makers and small house-decorators, styling themselves Horticultural Providers, and in some cases have no name up. Competition courted. Imposition hatred.

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3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbetted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	...	...	...	...	5	0
4 ft. by 3 ft.,	,,	,,	...	...	6	6
6 ft. by 4 ft.,	,,	,, with 21-oz. glass	...	...	9	0
6 ft. by 4 ft., unglazed lights ...	...	...	...	...	3	6

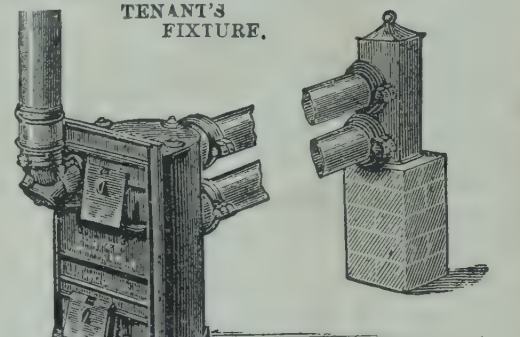
Special quotations for large quantities.

See page 278 in List.

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Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

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Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20*s.*

5ft. by 4 ft.	...	25*s.*
6 ft. by 4 ft.	...	30*s.*
7 ft. by 5 ft.	...	36*s.*
9 ft. by 6 ft.	...	42*s.*

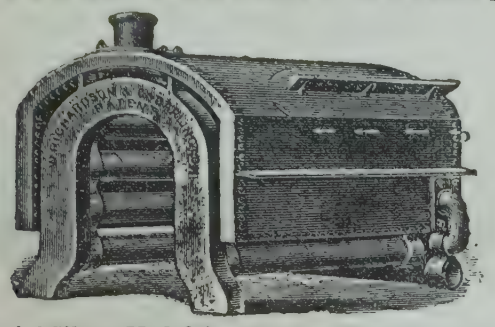
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1-lb. tins Fertiliser...	per dozen	£0 4	0
1-lb. tins Sunshade...	,,	0 6	0
Cocoa-nut Fibre Refuse	per sack	0 1	0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0 2	3
Best Orchid Peat	,,	0 3	0
,, Rhododendron Peat...	,,	0 1	9
,, Brown Fibrous Peat	,,	0 2	0
,, General Peat...	,,	0 1	9
,, Loose Peat	,,	0 1	9
,, Surrey Loam	,,	0 1	9
General Potting Compost	,,	0 1	6
Fern Compost	,,	0 1	6
Bulb Compost	,,	0 1	6
Leaf Soil, well decayed	,,	0 2	0
Pure Wood Charcoal	,,	0 2	6
Fertiliser for Farming and Market Gardening, in 1-cwt. sacks	per sack	0 13	0
Worm Destroyer	per ½-pt.	0 0	6
Insecticide	each	0 0	3
Tobacco Paper, 6*d.* per lb.	per cwt.	1 18	0
Wonderful New Mushroom Spawn	bushel	0 2	6

All Sacks and Bags free. Send for List, post-free.

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Awarded **Silver Medal** for Boilers and Heating Apparatus at the International Horticultural Exhibition, London.

Have combined in one the advantages of the two best forms of Boilers hitherto made—the plain Saddle and Tubular Saddle.

They Heat more than Twice the Quantity of Piping that can be heated by the ordinary Saddle with an equal amount of fuel. They are durable, quick-heating, easily set, and easy to manage. PRICE LIST from the patentees,

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Dear Sirs,—It affords me much pleasure to inform you the 25 ft. Annular Sail Windmill, on 40 feet timbers, working a set of 3 in. × 9 in. stroke treble pumps, that you fixed here for Baron Schröder, is giving very great satisfaction, pumping the water through 4,224 feet of pipe, to a vertical height of about 80 feet. I must also express my thorough appreciation of the manner in which the whole of the work has been so successfully carried out.—Yours faithfully,

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"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.

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Price Lists and Testimonials on application.
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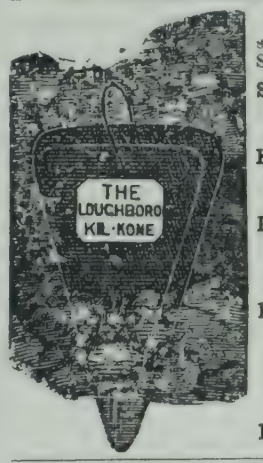
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ORCHID PEAT.

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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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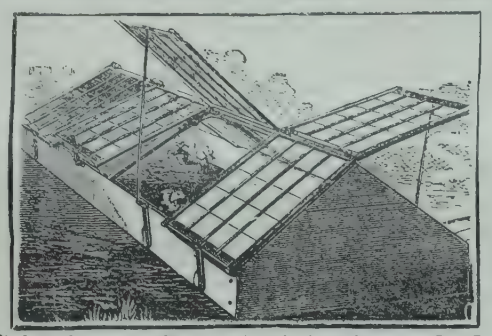
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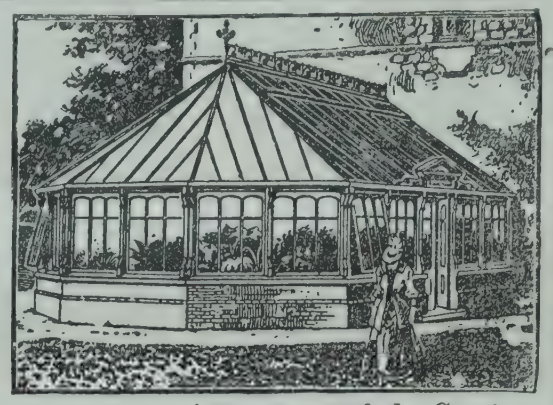
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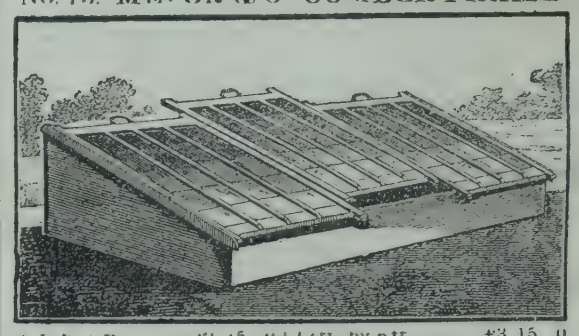
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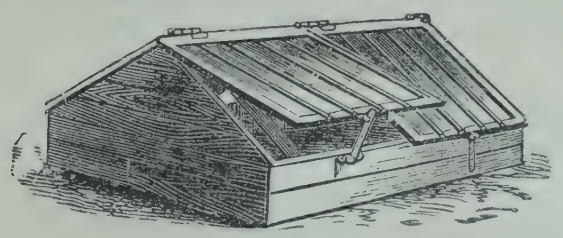
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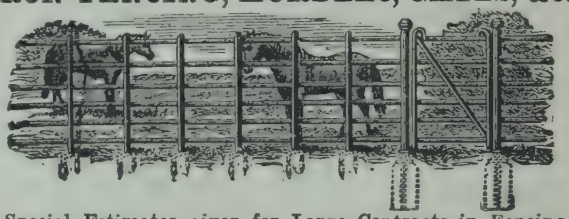
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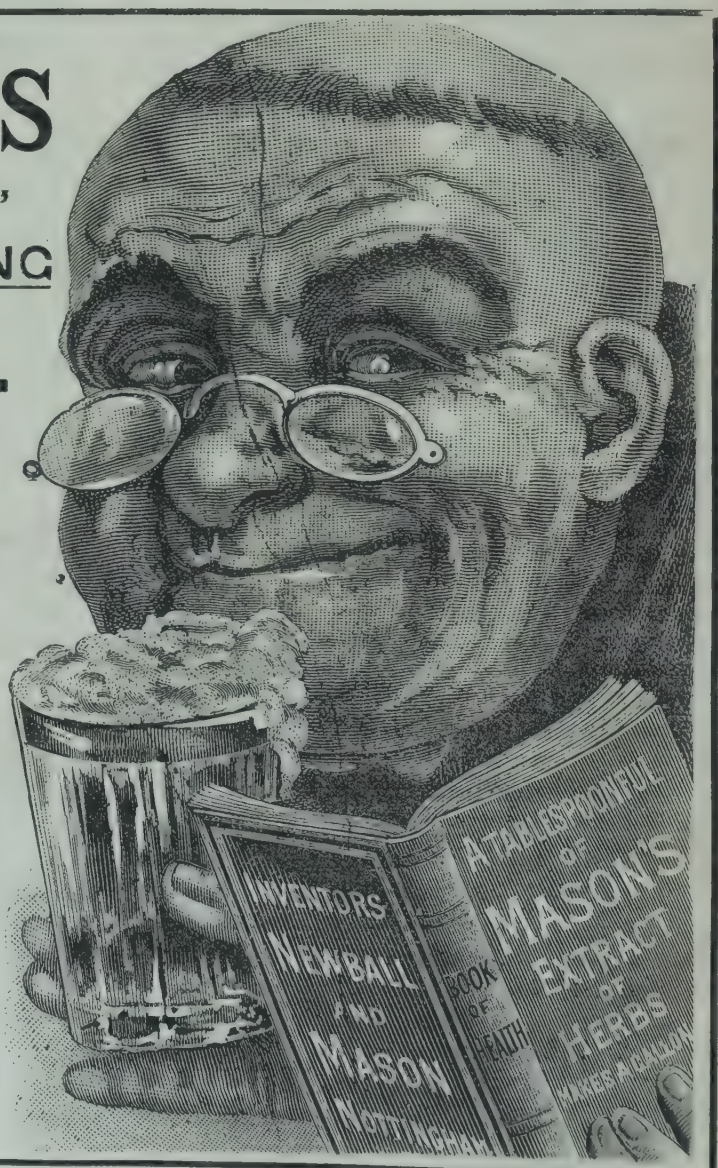
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GRAND SHOW in Wilton Park, AUGUST 15, 1894.

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SUMMER SHOW, August 28 and 29.

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A HANDSOME SILVER CHALLENGE BOWL, presented to the Society by J. M. Kidd, Esq., President, will be held by the First Prize Winner for the one year; the SOCIETY'S SILVER MEDAL will also be awarded to the Gardener.

For further particulars and Schedules, application should be made to the Secretary, MARK LONGHURST, 18, Church Road, Hove, Sussex. Entries close August 23.

FOR DISPOSAL, for want of room, the following SPECIMEN PLANTS:—Adiantum Farleyense, 3 feet; formosum, 4 feet; cardiochlæna, 5 feet. Cissus discolor; Pandanus Veitchii, 5 feet. Azalea Flower of the Day and Criterion, 4 feet. Offers wanted, to—

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I, THE undersigned, CHARLES EASTWOOD, of Bloomer Gate, Mytholmroyd, in the parish of Halifax, Nurseryman and Landscape Gardener, HEREBY GIVE NOTICE that the business of a Nurseryman and Florist, lately carried on by me at Lane House, Luddenden, in the said parish, has been taken over by my son, THOMAS EASTWOOD, of Lane House aforesaid, who will carry on the said business of a Nurseryman and Florist, in his own name, and on his own account from the date hereof. All debts due and owing up to the date hereof will be paid and received by me. The business of a Nurseryman, Florist and Landscape Gardener will still be carried on by me at Bloomer Gate, Mytholmroyd, aforesaid.
Dated this 1st day of August, 1894. CHAS. EASTWOOD.
Witness, John Wormald, Riding Head, Luddenden.

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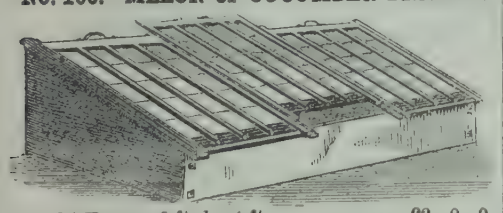
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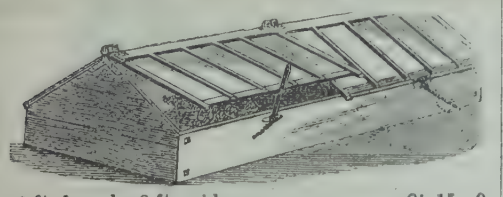
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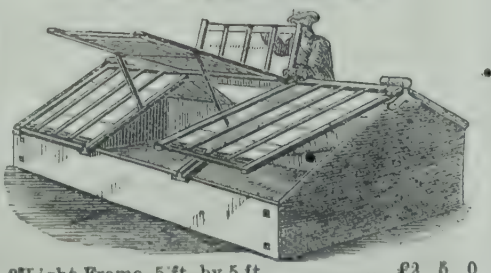
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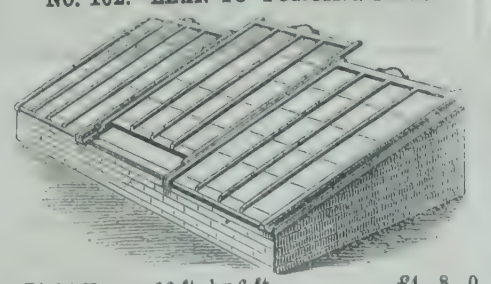
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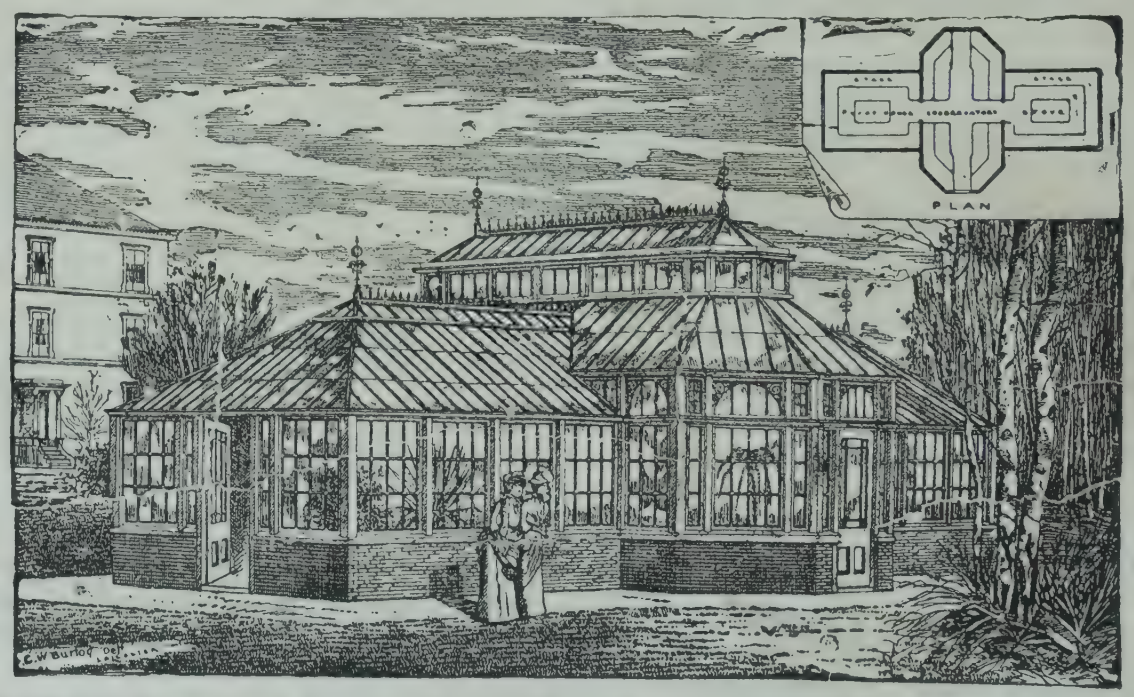
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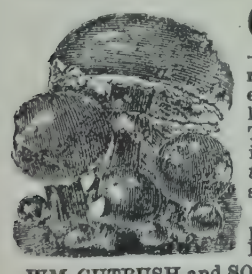
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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 11, 1894.

THE FRUIT CROPS.

IN our last issue we gave a synopsis of the very numerous reports as to the condition of the fruit crops we had received from all parts of Great Britain and Ireland. The results in the main were singularly uniform. The hot dry summer of last year had ripened the wood, and there was every promise of a most abundant crop of all kinds, when those hopes were dashed by the severe frost of May 20. The tabular matter already published does not allow of much detail being given, and the great degree of uniformity in the fuller reports we have received from the kindness of our correspondents relieves us of the necessity of publishing more than a small selection from them.

0. SCOTLAND, N.

MORAYSHIRE.—Fruit crops of all sorts in this neighbourhood are looking most promising, with the exception of Strawberries, which got badly frosted on the 21st of May. Apricots, Peaches, and Pears set almost every blossom, and have had to be severely thinned. Plums and Apples, although they looked well when in blossom, have only an average set. With the heavy rains we have experienced recently, the fruits are swelling fast, and the foliage is clean and healthy. *C. Webster, Gordon Castle.*

—— It is doubtful if the Pears and Apples will have the same size and finish as last year. There has been plenty of moisture, both for root and foliage; but last year showed that sun-heat was of more importance, in this part, for fine fruit-growing than root-moisture. *Wm. Ogg, The Gardens, Duffus House, Elgin, N.B.*

NAIRN.—Apples have but a sprinkling of fruit, and even Denyer's Victoria Plum, so prolific generally, is almost a failure; Gooseberries are an extra fine crop and larger than usual; Raspberries very good; Strawberries small, the frost on the 20th of May having nipped the leaves; and Currants are but half a crop, the black varieties plentiful. Pears on walls have had to be thinned. *James Maitland, Cawdor Castle.*

SUTHERLANDSHIRE.—Fruit crops are generally hereabouts over the average, and Apples and Gooseberries especially bear unusually heavy crops. The gardens at Dunrobin Castle being near the sea coast suffered little damage from spring frosts—although the outlook during the period of frost and the cold winds at the beginning and middle of May was by no means bright. The temperature was not below 32° during May in the screen thermometer stand, and crops have turned out altogether much better than we expected. *D. Melville, Dunrobin Castle Gardens.*

1. SCOTLAND, E.

ABERDEEN.—Plums, Pears, and Cherries blossomed early, and were set and swelling their fruit before the frosts we had in the end of May set in, and escaped with but little injury, also Gooseberries; on the contrary, the Apples, which, were in full blossom, suffered severely, and the crop is almost a failure; Black and Red Currants also suffered from frost and are a very poor crop; Strawberries were not in flower, so they escaped harm. *John Forrest, Haddo House Gardens.*

Banffshire.—The fruit crop is not up to my expectations, although the early spring months were favourable and there was a grand appearance of blossoms, but the late frost that we had greatly reduced the Apple crop. Pears on walls being earlier than usual were set and so far escaped the frosts; Standard Bergamots and Hessle are also good. Plums to a great extent are a failure. Peaches set most abundantly, also Apricots, but set rather irregularly; we have a fair crop of Figs on trees on the open wall. Small fruits in general are a good average crop; early Strawberries suffered a little by the frost, as did also Black Currants; Strawberries are now suffering very much by the wet weather. *J. Fraser Smith, Cullen House Gardens.*

Berwickshire.—The winter-like weather we had here from May 20th to 24th inclusive, when we had an aggregate of 31° of frost in all, destroyed the blooms of Strawberries, Gooseberries, and Currants. The Apple-blossom was abundant and strong, yet the result will be the poorest on record. The Pears being earlier in bloom suffered less, and the crop is a good one. *John Cairns, The Hirsel Gardens, Coldstream, N.B.*

—— Apple-trees were a mass of blossom, but scarcely a fruit is now to be seen, except a few on the walls. Pears are an average crop. Plums, of the Victoria variety, a heavy crop, most of the other kinds a failure. Cherries are a fair crop, but many of the fruits are split and deformed. Peaches, Nectarines, and Apricots are still a heavy crop, although two-thirds of the crop was taken off, and the quality promises to be good. Small fruits vary a good deal, but all are very good in quality. Raspberries are a poor crop, and of bad quality. Strawberries under the average, except Garibaldi. The two last-named fruits usually do very well here. Nuts never do well, and this year are a complete failure. *J. Ironside, Blackadder Gardens, Edrom.*

East Lothian.—The frosts at the end of May did a great amount of damage, Apples and Strawberries suffering most, Gooseberries and other small fruits being badly hit. Apricots, Pears and Peaches may be said to be *the* fruit of the year. The foliage and general appearance of trees is all that can be desired. *R. P. Brotherston, Tyninghame.*

—— After one of the most promising prospects I ever saw, the frost we had in the last week in May did great damage to nearly all kinds, and to Apples more especially. Pears have still a good crop, both on wall trees and standards. Plums are very scarce. Peaches, Nectarines and Apricots are excellent crops, and will be fine if we only get a favourable ripening season. All our first blossoms of Strawberries were killed, consequently we have a poorer crop. All the other small fruits suffered too, except Raspberries, which were not in flower, and we have a good crop of these. *Z. Dow, Newbyth Gardens.*

—— Although everything is about a month later as compared with last year, our crops are quite as good, with the exception of Apples, which suffered severely from the sharp frosts in May. Some of our young Apple trees are carrying a few nice fruits in sheltered places. *Wm. McKelvie, Broxmouth Park, Dunbar.*

Fifeshire.—The blossom on all fruit trees was unusually good, and those of the wall fruits set well, but dropping has resulted in the majority of stone-fruits just at the stoning period, while Apples and Pears dropped immediately after setting. Gooseberries promised an extraordinary crop, but the late frost ruined them, and now they are only average. The same applies to Red Currants and Raspberries; Black Currants are almost nil. Strawberries while in blossom (which was after the frost of May 21st), promised an enormous yield, but evidently the check from the frost of above date was too much for them, as they eventually mildewed, and are scarce. *John Proctor, Donibristle Gardens, Inverkeithing.*

—— Three nights in succession of 4°, 5°, 6°, played havoc with the Apple blossom, rendering the crop almost nil on standard and bush-trees, while Gooseberries and Currants were reduced to less than half a crop. The wall-fruit that was set received a check only, and is now healthy and growing freely. Except a few early patches that were in bloom, the Strawberry crop suffered very little, and is plentiful and good. *Wm. Williamson, Tarvit, Cupar.*

Forfarshire.—The severe frost we had on 20th May, and for several days after, made havoc, even the foliage and many of the fruiting spurs being killed outright. Plums and Cherries were set some time before the frost, and these trees being all on walls have good crops. Gooseberries, Black and Red Currants, although set and swelling, shed a good deal of fruit, especially the first two. Early Strawberries just coming into flower here at that time had the first and best blooms destroyed, and now the fruit is rotting with the continued rain. We gathered the first a fortnight later than last year. *W. McDowall, Brechin Castle.*

Kincardineshire.—Our standard Apple trees had an immense quantity of bloom, but the continuous wet weather rotted nearly the whole of it, hence the crop is poor. Black Currants were nearly all destroyed by the 7° frost experienced on May 22nd. *J. M. Gairns, Arbuthnot Gardens, Fordoun.*

Mid-Lothian.—Here we had 7° of frost on May 21st, and 6° on the two following mornings, followed by bright sunshine, which caused great damage to the newly set apples, and killed all the early flowers on the Strawberries. Still, the effects were very partial, places suffering badly adjoining others in which very little harm was done; and, excepting the Apples and small fruits generally, the crop of fruit is fully an average in quantity, and decidedly above average in quality. Among Apples, the Codlin section has suffered the worst—Lord Suffield, Keswick Codlin, Manx Codlin, and such like, being almost fruitless, Lord Grosvenor proving an exception with a fine crop. Most of the other standard varieties, especially on dwarf trees, are bearing moderate crops; and many of the newer varieties are also bearing well, especially Worcester Pearmain, Lane's Prince Albert, The Queen, Bismarck, Sandringham, Maltster, Baumann's Red Reinette, and many others, including Lady Sudeley, which for the first time is bearing well. Pears are the crop of the season, and are generally a heavy crop of very fine fruit. All the standard varieties are bearing well,—Louise Bonne of Jersey, Marie Louise, Doyenné du Comice, Beurré d'Aremberg, Hacon's Incomparable, Jargonelle, Williams' Bon Chrétien, Easter Beurré, and Catillac, being most conspicuous. Plums are a good average, and the same may be said of Cherries. Peaches and Nectarines on open walls are finer than they have been since the "Seventies." Apricots are also a splendid crop, quite equal in quantity and superior in quality to last season's crop, one of the best on record in this locality. Gooseberries and Currants suffered last year from the heat and insects, and in many places the May frost pinched them; still the crop is fair and generally free from insects. Strawberries, as already mentioned, were nipped in May by the frost; but the later flowers have set well, and are giving a good average crop. Nuts of all kinds are thin, but they are not much grown, either in gardens or for market. The season is still late, a month behind last year, which was exceptionally early; and heat with sunshine is required to bring crops to full maturity. Fruit trees of all kinds are making a fine growth, and the foliage is clean and healthy, the dripping weather having kept insects in check, and with a fine autumn the prospects are good for another year. *Malcolm Dunn, Dalkeith Gardens.*

—— On the 20th and 21st of May we registered 7° and 9° of frost, which blighted all hopes, especially the Apples on standards, also Gooseberries and Black Currants which had no shelter, but where sheltered on borders behind north walls they are an average crop yet. Sweet Cherries on north and east walls are heavily cropped, also Morello varieties, May Duke, Governor Wood, Belle Agathe, Bigarreau, Napoleon, Archduke, Black Eagle. Plums on walls, viz., Victoria, Jefferson, Kirke's, Pond's Seedling, Washington, Magnum Bonum, Greengage, also Bradley's Greengage, Coe's Golden Drop, average. Pears, varieties on walls, Brown Beurré, Easter Beurré, La Fortune,* Ambrosia, Louise Bonne of Jersey, Napoleon,* Beurré de Capiaumont,* Saint Germain, Doyenné du Comice, Bon Chrétien, average. Many others. *Niel McDougall, Riccarton Gardens, Currie.*

Perthshire.—The disastrous low temperatures in May have given very opposite results. Pears, such as Jargonelle, Beurré Diel, and a few other hardy varieties, are carrying good average crops, Apples being nearly a failure in most cases. The flowers of small fruits—Strawberries—were just opening during the last week in May, and by being so far retarded in growth are giving fair average crops. Plums on walls a total failure, but standard Victorias as a rule have a full crop. Strawberries are both abundant and of good quality. *George Croucher, Ochtertyre, Crieff.*

Roxburghshire.—The frost of May 20, 21, and 22, completely spoilt what would otherwise have been the most prolific year for all kinds of fruit in the Jedburgh district of Roxburghshire. May Dukes and Morellos promise well. Apricots a very heavy crop, but not swelling, and still dropping off. *J. Page, Monteviot, Jedburgh.*

Selkirk.—The sharp frost we had in May did a lot of damage to Apples on standards, Black Currants, and Strawberries in the early parts of the county. Pears, Plums, Cherries, Apricots, and Peaches being mostly grown on walls, and escaped where protected. *W. G. Pirie, Sunderland Hall Gardens.*

6. SCOTLAND, W.

Ayrshire.—Fruit crops are now anything but satisfactory, Apples and Strawberries being reduced to less than a third of an ordinary crop, although up till the 20th of May a better show of all kinds of outdoor fruits could scarcely have been desired; a succession of five frosty nights with a scorching sun during day played sad havoc at that time. Pears and Apricots are the only two kinds of fruit showing satisfactory crops at the present date. *D. Buchanan, Bargany Gardens, Girvan, N.B.*

—— I find the fruit crops in this district are very variable; some much, and others little damaged by the severe frost we had on the 21st and 22nd of May; very exposed places suffering a good deal more than others that are well sheltered. On the whole the crops are light, but promise to be good. All trees and bushes are very clean and free from aphis, owing, I think, to the very showery weather we have had during the last two months. *A. Wilson, Auchencruive.*

Stirlingshire.—Never were fruit crops of every kind more promising than during the early days of May; but the last week of that month brought severe frost. Several nights the thermometer indicated 4° to 7° below the freezing point. The sun was very powerful early in the morning, and all fruits with exposure to south and east were completely destroyed. Apples such as Seaton House, Stirling Castle, Lord Suffield, and Golden Spire, which have never failed to fruit abundantly for ten years past, have not one-fourth of a crop upon them; although Currants (red and white) suffered somewhat, they are very heavily cropped, whilst Black ditto were severely thinned. Cherries, which promised remarkably, are greatly reduced. President Strawberry is a good crop and first rate in quality. *M. Temple, Carron.*

Wigtonshire.—The Apple crop in this district is the worst known for some years, many of the trees being quite fruitless; whereas Peaches, Nectarines Figs, and Pears have remarkably good crops. Strawberries lost much of the earlier bloom by the frosts in May. Currants, Raspberries, and Gooseberries have abundant crops, and the fruits are of good quality. Fruit trees in general are very healthy. *James Day, Galloway House, Garliestown.*

* Those marked (*) were heavy crops.

2. ENGLAND, N.E.

Wylam-on-Tyne.—Owing to frost in May, fruit crops are very partial in this district. Some gardens near here have excellent crops of Gooseberries and other small fruit, and others none. Pears and Apples are an entire failure. *Jas. Moore, Castle Hill Gardens.*

Hexham.—The show of bloom and the promise of crops in this district of small fruits such as Gooseberries and Currants, also Pears and Apples, was very good, and remained so until Monday, 21st May, when we registered 6° frost; on 22nd 9° frost, and on 23rd 5° frost, blighting all these prospects. It is considered in the northern districts to be one of the most severe late spring frosts experienced during fifty years. *Wm. Fell & Co., Seed Merchants and Nurserymen.*

Northumberland.—Apples promised a full crop up to the frost of May 20th, when it was almost destroyed. There is a crop on many Apple-trees, and on others merely a sprinkling of fruit, but the bulk is gone. Strawberries were much injured by the autumn gale in November, and severe frost during the winter; the frost in May destroyed all the early bloom, still some good fruits are being gathered in late places. Black Currants may be half crop; Raspberries rather more here. Gooseberries are heavily cropped in some places, and in others a failure. *George Harris, Castle Gardens, Alnwick.*

—— Apples are very much under what was expected, but still we have good crops of some varieties, such as Domino, Pott's Seedling, Cellini, Peck's Pleasant, Ecklinville, Warner's King, and The Queen. Pears are but a moderate crop, the cold east winds having destroyed the blossoms. Raspberry Superlative is by far the best variety I have ever grown. *David Inglis, Howick Hall, Lesbury.*

Yorkshire.—In low lying situations all fruits are very scarce, but on more elevated ground there is a good average crop. The following varieties of Apples, viz. King of Pippins, Early Margaret, Lane's Prince Albert, Stirling Castle, Mannington, Adams' and Worcester Pearmain, are carrying heavy crops; and of Pears, Jargonelle, Marie Louise, Beurré de Capiaumont, Louise Bonne of Jersey, and all wall trees are carrying abundant crops. This has been the worst year I can remember for insect pests on fruit trees, both outside and under glass. *J. Riddell, The Gardens, Castle Howard.*

—— The present season's crop of fruit taken all round is one of the worst on record. Apples very few; Pears, a nice crop on walls and on old standard Hessles; none on espaliers. Plums are scarce and the trees much blighted; Dessert Cherries scarce, having suffered from frost, but we have some fruit on standard May Dukes and on Morellos on the north wall; Peaches and Nectarines are looking well, having had during the period of severe frost the protection of doubled fish-nets. Strawberries suffered much from frost, especially Noble, Black Prince, British Queen, Sir J. Paxton; President and Pauline half a crop; good crop on John Ruskin, a variety which here is without flavour and the foliage subject to mildew. *Bailey Wadds, Birdsall Gardens.*

—— The fruit crops in this district were never more promising than this season, up to the frosts of the 20th, 21st, 22nd, 23rd, and 25th of May, when we registered from 3° to 4° of frost. This degree of cold almost destroyed the Apple and Pear crops. Apple King of the Pippins, and Pear Napoleon, have the best crops. Plums on walls where protected are good crops, otherwise they are very poor. Morello Cherries on north walls very good, while those on pyramids are a failure. *W. Higgins, Stanwick Gardens, Darlington.*

—— There was an abundant blossom on all fruit trees the past spring, especially so on Apples, while the severe frosts on and about the 20th of May had much to do with destroying the embryo fruits. I am of opinion that, owing to the long continued drought of last year, the fruit buds so plentifully formed were not so fully developed as they might have been, hence this had something to do with the light crops of fruits—especially Apples: Hawthornden, Beauty of Kent, Cockpit, Yellow Ingestre, and Early Harvest are the only kinds we have that have anything like a crop on them. Of Pears, Citron des Carmes, Doyenne d'Été, Williams' Bon Chrétien, Louise Bonne of Jersey, have fair crops on them. Victoria Plum is the best; Strawberries are the lightest crop we have had for twenty-one years. Red Currants and Gooseberries are plentiful; Raspberries fairly good; Black Currants are almost a complete failure. Insect pests were very troublesome; as soon almost as the trees came into leaf they were infested with both green and black fly. The late rains having well soaked the soil down to the roots the trees are making a good growth now, betokening a fine fruit crop next year. *Henry J. Clayton, Grimston Park Gardens, Tadcaster.*

Hull.—Apples showed good bloom, but suffered from the frost; and the Plum-trees were affected by the dry season of 1893. Cherries: Morellos were cut by the cold weather experienced during May and the early part of June this year. Old plantations of Strawberries suffered from drought during 1893, and the stronger plants from frost and cold weather during May and June of this year. Small fruits showed well, but suffered to some extent from frost. *J. P. Leadbetter, Tranby Croft.*

(To be continued.)

The Rosary.

THE NORTHERN SHOW OF THE NATIONAL ROSE SOCIETY, HALIFAX.

In one respect the National Rose Society has this year been peculiarly fortunate, its three exhibitions have all been held on fine days, which is much to be able to say in so fitful and changeable a time as we have been lately experiencing. The days though fine have not had that blazingly hot character associated with the dog-days, and consequently the Roses have maintained their freshness to a much greater extent than is usual at our exhibitions. The Northern show, which was held at Halifax on the 19th ult., could not have been held under more favourable circumstances, and was decidedly a great success. It was held in the beautiful grounds of Mr. Alderman Booth, the President of the Salterhebble and Halifax Rose Society, and the Roses were arranged under a spacious light tent; while the exhibits for the local Society, whose show took place at the same time, were arranged in other tents.

It was an exhibition in which many unexpected events took place. It was fondly anticipated by some that the northern growers' time had come, and that, as they had been out of the running in the two previous shows of the society, they would make up for it by a successful sweep of the board at the Northern show. We were encouraged to hope for the appearance of Messrs. Alex. Dickson & Sons of Newtownards in the north of Ireland, and of that of Messrs. Harkness & Sons of Bedale, but the former did not put in any appearance, not only not having recovered from the severe frosts of May, but having also suffered from storms a day or two previous to the exhibition, and the hopes expressed by some that the Challenge Trophy would find its way to Ireland were thus disappointed; while the Yorkshire champions were not up to their usual form, and in all the principal leading classes, the south again asserted its superiority. Taking the exhibition as a whole, there was, as at the previous shows, a general lack of superior blooms such as has characterised the two previous exhibitions. There were good flowers, and some fine flowers, but there was also a general level of mediocrity. At the Crystal Palace Show the Teas were certainly in advance of the H. P.'s, but in colour and freshness the order was reversed at Halifax. This was especially the case amongst nurserymen, and the fine stands exhibited by such growers as Messrs. B. R. Cant and Harkness & Sons, Prior & Son, and Paul & Son, contained some flowers of excellent merit. There was, perhaps, a general want of size, and, notwithstanding the statement of some, that this quality is less regarded than it used to be (a statement from which I entirely differ), there can be little doubt, I think, that when it is combined with brightness of colour and good form, most persons prefer a good-sized Rose. The dark-coloured Roses were more, I think in character, as far as colour is concerned, than they were in the earlier southern shows, cool weather having probably contributed to this result. The forward movement of Messrs. Prior & Son of Colchester to the forefront, and the successful appearance of the new firm (new, at least, as far as exhibiting at the National is concerned) of Messrs. Townsend & Son of Worcester, were noticeable features, and will cause, perhaps, some of our veteran exhibitors to "look out for squalls." One has to be careful of one's expressions upon such subjects, for I find that what I said upon the subject of Mr. George Mount's exhibits has been interpreted in a way which the words did not justify. I never said that he was going to displace our veteran exhibitors, but simply that they would have to look to their laurels, and that in some cases he might probably step in before them. In the amateurs' classes another surprise awaited us. Mr. E. B. Lindsell had been so severely hit by the frost that he had been unable to put in an appearance at the two previous shows, so we were hardly prepared to find him exhibiting at Halifax; this, however, he did, and with a box of blooms which I think was not only the best in its class, but also the best in the exhibition, the flowers being of that fine finish that generally characterises this amateur's exhibits. Two jubilee trophies were secured in the professional class by Mr. B. R. Cant, and in the amateurs' by Mr. Lindsell; it will thus be seen, as bearing upon a controversy which seems about to be initiated on the number of blooms to be shown, that even where, as in the jubilee class, the moderate number of twenty-four is fixed, in nine cases out of ten it is the master of big battalions who carries off the much-coveted prize. The Prize Medal Rose was in the Hybrid Perpetual Class, won by Messrs. Paul & Son with a grand bloom of an old and now-a-days rather too much neglected Rose, Duchesse de Morny. There was a time when this fine flower was seen in almost every stand, but it is now comparatively rarely exhibited. A grand bloom of The Bride obtained for Mr. Geo. Prince the like honour among the Teas and Noisettes. In the amateurs' division a grand bloom of another old Rose, Xavier Olibo, secured for Mr. Lindsell the Silver Medal for the best hybrid perpetual; its colour was magnificent, and in fact, when in best condition, there are few dark Roses that can excel it—unfortunately, it is one of those Roses whose constitution is feeble, and therefore, I suppose, small amateurs do not venture upon it. The Medal for the best Tea and Noisette was gained by Mr. Parker, of Headington, with a beautiful bloom of Catherine Mermet.

New Roses.

These were but very sparsely shown, and as on previous occasions the box exhibited by Messrs. Paul & Son contained a considerable number of home-raised flowers. Charles Gater (Paul & Son) was much brighter and less shaded than on some former occasions; Marchioness of Londonderry; Duke of Fife, a sport; Margaret Dickson, shown in fine form; Mrs. Paul, which fully kept up its character as a good and useful Rose; Bridesmaid Violet Queen (Paul & Son), which has a remarkable likeness to a somewhat light-coloured bloom of Sir Rowland Hill and Duchess of Fife. It will be thus seen that only three out of twelve came to us from France; this was the only box exhibited in this class. In the class for new seedlings there was but one exhibit, Clara Watson, shown by Mr. Geo. Prince of Oxford, but which, as on previous occasions, the judges did not consider a Gold Medal Rose, but gave it a Card of Commendation.

Garden Roses

Were not so largely contributed as at the Southern shows, there being fewer exhibits, and the classes smaller, but those exhibited were quite up to the mark. Messrs. Paul & Son again held the leading place amongst professionals, some of their blooms, such as L'Idéale, Gustave Regis, Camoens, and Marquis of Salisbury, were especially conspicuous. Mr. H. V. Machin, of Gateford Hill, Worksop, showed a very beautiful box, conspicuous amongst which were Village Maid, Celestial, and some of the smaller Polyantha Roses. It is a curious circumstance that while the National Rose Society had borrowed from that of Halifax the notion of offering a prize for Roses staged for effect in a given space, there was not one exhibit of the kind at this show; the storms of wind and rain had probably contributed in some degree to this, as we were all looking out to see in what way the Northern folk managed their display, and were of course proportionately disappointed at finding nothing of the kind.

It has been my privilege to have attended all the provincial shows held by our Society, and to have witnessed the various ways in which local societies have discharged their duties. I need hardly say that this varies considerably, but in none that I have attended have things gone more smoothly than in this show at Halifax; while all connected with the local society seem to have worked well, especial praise must be given to its excellent and indefatigable Secretary, Mr. John E. Brooks. I felt convinced that it would be so, for in my previous correspondence with him he had shown an anxiety to master all the details, so as to be prepared for every contingency. The proverbial hospitality of Yorkshire was not wanting on the occasion; and when it is added that upwards of 10,000 persons attended the show, we may conclude that the Northern Show of 1894 will be long remembered as one of the most successful shows that the Society has ever held. *Wild Rose.*

KEW NOTES.

Gladiolus platyphyllus.—This new species of Gladiolus was described by Mr. Baker in the *Gardeners' Chronicle* last year (see vol. xiv., p. 456), from a specimen received from Herr Max Leichtlin, who imported it from Kaffraria along with Gladiolus oppositiflorus. There are plants of it in flower in the bulb frame at Kew, and these also were mixed with G. oppositiflorus received from Professor MacOwan in 1892 (see *Gardeners' Chronicle*, vol. xii., p. 552). Except in the width of the leaves and the colour of the pollen, there is no difference between G. platyphyllus and G. dracocephalus. The Kew plants are 4½ feet high, including the spike, and the leaves are 3 inches wide, and 1½ feet long; the pollen is purple — it is yellow in G. dracocephalus, and there are a few purple spots on the lower part of the small lower segments. There was a plant of it in flower at Kew in September last year, but it was then supposed to be G. dracocephalus simply. G. oppositiflorus is also in flower in the bulb frame at Kew.

Gladiolus aurantiacus rubrotinctus.

This is a distinct and brightly-coloured Gladiolus, remarkable in having orange-yellow flowers dotted all over with red. The type is described as having bright orange-yellow flowers on a lax secund spike. The variety now flowering at Kew was received in the spring from Mr. Medley Wood, of the Durban Botanic Gardens. It has uniform leaves a foot long, and a stem, including the spike, 2 feet high. The flowers are nearly as large as those of G. dracocephalus, not unlike them in shape, and arranged loosely on the spike. There is, however, a well-marked difference between these two species in the size of the three lower segments of the corolla, which in the plant under notice are small and almost of uniform size, whereas in G. dracocephalus they are unequal, the central one being much the largest. There is a large bed of G. dracocephalus now flowering finely near the entrance to the Orchid house.

Hedychium Elwesii.

Mr. Baker described this species from material collected in the Khasia Hills by Mr. Elwes, and now Messrs. F. Sander & Co. have it in cultivation. It has stems as stout as those of H. Gardnerianum, leaves 16 inches long by 4 inches wide, glaucous and hairy beneath, glossy dark green above. The terminal spikes are 6 inches long, formed of about a dozen large dark green bracts, fully 2 inches wide when opened out, and less closely imbricating than those of H. coronarium. Flowers with a tube 2 inches long, a lip 1½ inch wide, petals spatulate, three outer segments linear, stamen as long as the segments; colour, rich yellow, deepening to orange at the base of the segments. The species ranks next to H. coronarium, but is quite distinct from it and all its varieties, and is at the same time a good garden plant. Plants of it are now in flower at the St. Albans Nurseries.

Momordica mixta.

This is one of the most striking of the collection of tropical gourds grown in the Water-lily house at Kew. It has long quick-growing angular climbing stems, large, palmately-lobed, dark green smooth shining leaves, and one-flowered axillary peduncles, bearing each a pair of large green bracts just below the black-purple five-lobed calyx, and a spreading campanulate corolla 4 inches across, formed of five overlapping petals, which are hairy and soft, like flannel, creamy-yellow, with a blotch of purple at the base of the three inner petals. The plant flowers freely, and it is an attractive climber, well worth growing for the sake of its handsome flowers. Both male and female plants are in flower, and the latter is ripening its "large oval-rotundate, red, muricated fruits." M. mixta is synonymous with M. cochinchinensis, and is a native of China, Cochinchina, and India. It first flowered at Kew in 1859, when a figure of it appeared in the *Botanical Magazine*. *W. W., Kew.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CRISPUM VAR. APIATUM.

According to M. Godefroy in *Le Jardin*, July 20, p. 163, this variety is the same as that previously figured in the *Orchidophile* as O. Alexandræ var. Duvali. M. Godefroy goes on to say that the name apiatum was given in the auction-room "devenu en passant sous le marteau du commissaire-priseur, etc." This is an error. The plant was shown in flower by Mr. Ballantine at the meeting of the Royal Horticultural Society, 27 April, 1886, without a name. It is the rule of that society, that a name should be given to a plant before the plant can be formally recognised by the committee. Possibly this was the reason why the present writer was requested to suggest a name for it. In any case he did so, at the request of the exhibitors, being unaware of its history or that it had been already named. *M. T. M.*

Cypripedium Mendeli.

From the collection of Major-General Hutchinson, Bowthorpe, near Bournemouth, comes a flower of this form with three sepals, three equal petals, arranged in a spiral, and each one of a lip-like character (peloria). The column, as is usual in such cases, is straight. *M. T. M.*

A MARKET GARDEN IN EAST ANGLIA.

In many counties old-fashioned agriculture has given place to horticulture, where ordinary garden produce is cultivated for the market in quantities that, until a decade ago, were unknown, and to such a change of circumstances there are many economical aspects well worth consideration. It is fortunate that at a time when agriculture has reached so low an ebb, when it has almost, and in many cases totally, ceased to be profitable, the people's taste for fruit and flowers has so far developed, that the land can be profitably cropped with these wherever soil and climate are such that their culture can be carried out.

A further matter for congratulation is that the new fruit farming employs much more labour per acre than agricultural crops do, and in this way solves in some degree the difficulty that has arisen through the labourers, who have been driven from the land owing to the diminished area devoted to corn-growing, flocking to the already too thickly-populated towns.

East Anglia furnishes abundant examples of farms that have been subjected to such change, and one that we had the opportunity of visiting at Wisbech a week or so ago is about a typical one. At this place Mr. R. H. Bath has an extensive and prosperous farm, which has been planted during the last few years. The principal part consists of the Osborne Farm, but there are other portions at Leverton and Walton, both close to Osborne Farm besides another piece of land at Long Sutton, a few miles eastwards. Altogether, there are nearly 1000 acres of land, and they are on the borders of Lincolnshire, Norfolk, and Cambridgeshire.

Pansies.

In the spring of this year particulars were stated in these columns respecting the amount of Pansies that had been sent from the farm, and doubts were entertained by some as to the accuracy of the figures, so astonishingly large were they, but subsequently confirmatory information was quoted from the report of a committee that was inquiring into the state of labour in the district. There appears to be no reason to doubt that the quantities reported to be despatched were those actually sent, and we know of no place where ordinary fancy Pansies and Violas are cultivated on so large a scale. Of course, at this time in the year there is but little to be seen in this way, as the plants in stock now consist almost wholly of those that were left from selling during spring, and in addition to the plants the immense beds running through the fields where the seedlings are just beginning to make themselves seen. These will be transplanted during August and September, and in spring will be ready for distribution. The long beds that contain these seedlings give one some idea of the amount of labour transplanting will involve, and the immense piece of land they will cover. During one exceptional day in the spring we were informed that 120,000 of such plants had been despatched from this farm.

Until this year almost the whole of the trade in Pansies has been for the market, and of course, they have been seedling varieties selected with care according to colour and quality, and the strain has become good, though no doubt the flowers excel in size at the expense of points that would be required by the florist. Now, however, Mr. Bath has determined to work up a florist's business also, and to propagate by cuttings the very finest varieties that can be got from Scotch and English growers. Amongst stock plants now in flower was a mass of the lovely Peacock sent out by Messrs. Watkins and Simpson, one of the most distinct of Pansies, from its curious blending of blue and crimson shades. Other well-known varieties exist in quantity, and it is expected there will be about 400,000 Scotch seedlings from seed obtained from nearly all the best growers on the opposite side of the Tweed; and the soil being nice and light, yet good withal, the success attending the raising, propagation, and distribution of florists' varieties will be equal to that experienced when catering for the market only.

Carnations

are also grown considerably, and in these, too, it is intended to develop a florist's business. About 2 acres are devoted to seedlings, and nearly all of the latest and best varieties have been added for the purpose of propagation by layers and cuttings. In all there are catalogued in the book 280 varieties, and these include the best of Mr. Martin R. Smith's and of Mr. Douglas's seedlings. Uriah Pike, planted

out in the open, was especially robust, its "grass" being as broad and vigorous as the strongest of the old Cloves. Delphiniums, Digitalis, Scabiosa caucasica, and gold-leaved and other Polyanthus, are also included amongst the plants cultivated; Polyanthus especially being grown in very large numbers.

Fruits.

The fruits, however, were the most interesting at the time of our visit, and we may mention the Raspberries first, as at this time they were so heavily laden with fruit of good quality that they certainly merit the first notice. Of these, then, there are 55 acres at Osborne Farm, 35 at Walton, 36 at Overton, and 48 at Long Sutton, making in all 194 acres. Although, as we have said, the soil is rather light than heavy, and very easily drains itself of moisture, the Raspberries are unquestionably at home, and they have made fine strong canes that would do credit to any garden-culture, their yield and appearance being quite equal to the very best results we have seen in the Raspberry fields in Kent. Some of the best varieties here are Fastolf, Carter's Prolific, Norwich Wonder, and Baumforth's Seedling. The last-named variety has a dwarf spreading habit, and the fruit is very much sweeter than many. Norwich Wonder grows tall, is a splendid bearer, and is prized much by the growers at Wisbech; but Fastolf, as we saw it, commended itself most to our favour. It grows from 3 feet to 4 feet high, is a prolific bearer, and the fruits have, as is well known, a good flavour. A very large breadth of land covered with this variety presented a sight that repaid us well for the journey to Wisbech.

Strawberries, etc.

Strawberries are planted in very large quantities, and with Raspberries are the most important of the fruit crops grown by Mr. Bath. Nearly all are Sir Joseph Paxton, a variety considered the best of any for cropping and flavour. It may be interesting to remark that Laxton's Noble has been discarded altogether as being of no use for market work. Royal Sovereign, however, will better take the place of an early cropper than "Noble" as soon as the price will allow of sufficient plants being obtained, but to be any use as a market kind it must be grown in sufficient quantity to supply a good and marketable lot. At the four places there are 251 acres covered with Strawberries, and the plants look capital, though on the whole this year there has not been more than three parts of a crop. The plantations are not renewed until the plants are four, or even five, years old.

Red Currants had a capital crop on breadths of good bushes about five or six years old. The crop is estimated at about 40 tons. Apples and Pears have not been planted very largely, and they are but young trees. There is plenty of the variety so popular with nearly all market growers—Yellow Ingestre.

Plums on young trees are carrying an abundant crop, and this after casting a great quantity of fruit. The varieties are Prince of Wales, La Delicieuse, and the inevitable Denyer's Victoria. If the crop here is a sample of Plums generally in East Anglia, then a rich harvest of them will be obtained. Along the hedges are planted Damsons of the very best varieties, and here again the crop is as heavy as could be wished.

Several fields were covered with crops of Veitch's Autumn Giant Cauliflower, and these again bore a first-class appearance. Young plants of Strawberries were coming on between the rows, and would make a respectable show when the land was cleared of the Cauliflowers. Now, as regards the markets to which the supplies from this district are forwarded, it may be said that but little of the fruit is sent to Covent Garden, by far the greater bulk going to Newcastle, Manchester, and other northern centres. On the other hand, the Pansies and such like plants are in the main disposed of in London.

A satisfactory and interesting feature connected with the fruit industry here has been left until last. During the fruit gathering season no fewer than 280 people from the crowded parts of London find healthy employment in the country in gathering Strawberries, Raspberries and Currants. Anyone who knows the conditions of life amongst the poor in London is well aware of the immense advantage to such people that such an opportunity presents, and seeing that reports of certain places that have appeared in the daily press have presented an unfavourable statement of the treatment the "Londoners" have received from certain fruit-growers, we may state that under this firm they are treated with fairness. No unpleasantness has arisen under Mr. Bath, except a slight hitch at Long Sutton, a hitch which was very soon put right, and arose only from a misunderstanding. The majority of the hands are the same as went last year, and a good percentage of them have been employed for several years. We were allowed to look through the pay books, and to examine the system of cheques, &c. The week's work brought 26*s.* to some of the best pickers; others earned 20*s.*, others 15*s.*, and some only 10*s.*; of course, those that have gone down year after year are able to gather a larger bulk in a given time than are the new hands. All are paid according to what they gather, and during a rainy time they have to spend an idle time; but a vacation of six weeks at a country place a hundred miles from their grimy homes, their only occupation that of fruit gathering, and afterwards a journey further south into Kent to "hop-pick," is a splendid preparation for winter, especially as they return with a valuable little "pile," an article always "wanted" in the homes of our London poor. With such industries as this there are no regrettable features, and we can wish the culture of fruits and flowers, on a scale such as agriculture has only enjoyed hitherto, the most abundant success.



Fig. 23.—A pot vine grown by Mr. Higgs.

POT VINE.

Our illustration (fig. 23) shows a plant of Foster's Seedling, three years old from the eye, and bearing eight large bunches. It was grown by Mr. Higgs, The Gardens, Fetcham Park, Leatherhead, and is a good illustration of successful culture and of decorative effect.

FLORISTS' FLOWERS.

THE CARNATION AND PICOTEE.

The Carnation season will soon be over, the hot dry weather we had about the 28th and 29th of July causing the blooms to collapse rapidly in the south. We commenced layering on the 25th, and shall con-

tinue to do so less or more until the third week in August; by that time all this work should be completed. Those intending to save seed should see that the best flowers are fertilised and marked with the names of both the seed and pollen-bearers. The amateur cultivator of Carnations loses a great deal of the pleasure that may be obtained from the cultivation of these flowers if he neglects to fertilise them for the purpose of raising new varieties. Not only do we derive pleasure from anticipating the flowering of seedlings, but the consummation of the florist's work is to obtain a higher standard of excellence than any previous cultivator has yet reached; but no one can reach this point unless his heart is in the work. The decorative value of the Carnation was never so much appreciated as it is at the present moment, and the object of the seedling raiser should be to obtain varieties that would be valued for cutting to place on the tables and side-boards in the rooms where they can be seen to the best advantage, as also for ladies and gentlemen's personal adornment. The Carnation Society has introduced classes into their schedule, especially to encourage exhibitors to show their skill in arranging Carnation blooms to the best advantage, and because of this I was glad to see a few critical remarks made at p. 104; but to make such remarks useful the critic should be a little more explicit. In the class for six button-hole flowers, the remark is made, that there were few in the 1st and 2nd prize exhibits that "a gentleman would care to put into his coat." They were all medium-sized blooms of the finest quality, and neatly set up with Carnation foliage. What is your reporter's idea of a "button-hole" flower? They are sold much larger in Covent Garden Market in the Centre Avenue. Indeed, I saw one worn by a gentleman, for which he told me he had paid a shilling, so large that I could not believe it was a single flower; and when I examined the "button-hole," I found three Carnations had been tied together, the petals crushed up to form one flower. These are what gentlemen wear in their button-hole! and it is to show what a Carnation for a button-hole ought to be that the Carnation Society give prizes. The exhibitors in this instance were Mr. Blick and myself, and I thought we both knew what such ought to be. Were they too large or too small, or what?

I do not complain of any kind of criticism; it is the duty of reporters to take note of anything, and to pass an opinion upon it; but it ought to be in such a way that both exhibitors and readers of the report may be benefited. Suggestions for improvement in exhibiting the Carnation and Picotee will be highly valued and carefully considered.

We have often been soundly rated by the Editor for showing the blooms on cards, and this year a new departure was made by showing them without, and merely with a spray of their own foliage. I thought they looked very pretty, but all the notice we get is that they "scarcely showed the blooms to advantage." But these are matters of detail, which others might consider differently. One thing was patent to all growers who know anything of Carnations, and that was the great improvement made during the last few years in the self-coloured or border varieties. Several Awards of Merit and Certificates were made to new varieties, but as these have already been reported upon, it is not for me to add more, except to say that there is still room for improvement, as some of even the best varieties have a tendency to droop. The foot-stalks of the flowers are not strong enough to support the blooms erect, and their excellence is not to be appreciated until the flowers are handled. This was a point the President of the Society (Martin R. Smith, Esq.) alluded to at the luncheon after the Awards were made. Mrs. Reynolds Hole, for instance, has flowers which hang down so much that nothing but the calyx and outer rows of petals are seen when they are growing in the flower borders. Pride of Penshurst has this fault also, while Germania is free from it. Most of the new varieties to which Awards were made had not this fault. In future I will not save seedlings that do not carry the flowers bravely in an upright position, nor will Mr. Martin Smith do so.

The yellow-ground Picotees all carry their heads well up, and in an erect position. Most of them have been raised by myself, and this is a point I have paid strict attention to. The yellow-ground Picotee is being brought to the same standard of excellence as the white-ground varieties, and in the process it is interesting to note the way in which the seedlings revert to the earlier and less perfect varieties, and how very difficult it is to obtain better varieties. I have raised hundreds of seedlings from Mrs. Robert Sydenham, but none equal, much less superior, to it. The only thing we can do is to work away patiently in the hope that the best varieties now in cultivation may be improved upon in time. This can only be done by careful cross-fertilisation with the best flowers, and I may add here that an amateur should not try to do everything in one season. Select one or two classes in which improvement is most needed, and follow them up until the object in view has been accomplished. *J. Douglas.*

ROBERT JOHN THORNTON, M.D.

(*Continued from p.* 90.)

Now, a few words with regard to the estimated and market value of these coloured engravings. I have before me a priced catalogue of them, issued in 1893, in which the prices for single plates, with the accompanying letterpress, ranges from £7 7*s.* to £25! No fewer than nineteen are priced at £20 and upwards each! Within the last twelve months I have seen a set of eighteen of the same plates offered in the catalogue of a provincial bookseller, without any indication of their origin, for the sum of 30*s.* I have also received officially various offers at about the same rate, and I have actually purchased for myself sixteen of them for the sum of £1! The latest development in this connection, is that the members of the Kew Bee Literary Society were to have the opportunity of bidding against each other for the possession of "the grand copy of Thornton's *Temple of Flora and Sexual System of Linnæus.*"

Thornton's own estimate of the value of these plates and other works published by him was probably based, to some extent, on the outlay, which must have been very great. In 1811 he obtained an act of parliament to enable him to dispose of his collection of paintings, drawings, engravings, &c., by way of chance, that is, by way of lottery. In the copy of the *Temple of Flora* in the library of the Botanical Department of the British Museum there is an original of the Act, and the prospectus issued therewith by Thornton. This document would occupy a page of the *Gardeners' Chronicle*, therefore I can only give a few of the more important particulars contained therein. It was designated the "Royal Botanical Lottery, under the patronage of His Royal Highness the Prince Regent." There were 20,000 tickets, at two guineas each, and 10,000 prizes of the total represented value of £77,000. The first prize was stated to be worth £5080, and included, among other things, the original full-length portrait of Linnæus, in his Lapland dress, by Hoffman. As Mr. Carruthers mentioned, in his presidential address to the Linnean Society in 1889, it is uncertain what became of this portrait, which he believed was a replica of one painted for Gronovius in Holland, and now in the possession of A. H. Cliffort, the descendant of Count Cliffort. Linnæus's great work, the *Hortus Cliffortianus*, will be remembered in this connection.

I have already stated that I have not seen two copies of the *Temple of Flora* exactly alike; and the description of the work in the prospectus of the lottery does not help in the least. Indeed, it would appear that the *Philosophy of Botany*, and a *New Illustration of the Sexual System*, in small folio only at Kew, with numerous beautifully executed plates, formed part of *The Temple of Flora*; for the second class of prizes is described as being "composed of that elegant and national work called *The Temple of Flora*, which consists of five folio volumes, containing several hundred beautifully-coloured plates, engraved by Bartolozzi, Earlom, Landseer, and other distinguished artists, valued at £15,920." Yet this is not borne out by available evidence. In the Kew copies of the books bearing the titles first cited, several of the plates in the above enumeration are repeated on a smaller scale. Possibly *The Temple of Flora* was the general title of the work, and the others secondary ones. From the fact that Thornton died an impoverished man, the lottery was doubtless a failure.

This article is already long, but before concluding I should like to say a few words about the portraits of botanists and other scientific men which are given in one of the volumes, entitled *The Philosophy of Botany*. They are mostly exquisite engravings, each with some appropriate adjunct, such as the plant named after the person, the scene of his labours, or the nature of his work. Here, as in the case of the plants, the names of the persons whose portraits are given, together with painter and engraver, will perhaps best answer the purpose intended.

Portrait.	*Painter.*	*Engraver.*
Earl of Bute	Ramsay	Caroline Watson.
James Edward Smith	Russell, R.A. ...	—
Rev. Thos. Martyn ...	,, ...	Vendramini.
A. B. Lambert ...	,, ...	Holl.
Daniel Rutherford ...	Raeburn	,,
J. B. Lamarck ...	David	Hopwood.
A. de Jussieu... ...	Thevenin... ...	Evans.
J. J. Rousseau ...	Ramsay	Caldwall.
Erasmus Darwin ...	Rawlinson ...	Holl.
George Shaw	Russell	,,
Sir John Hill	Coates, R.A. ...	Vendramini.
Sir Stephen Hales ...	,, ...	Hopwood.
John Magow	— ...	Caldwall.
John Evelyn	— ...	,,
C. de Bonnet	— ...	,,
Rev. Colin Milne ...	Russell	Holl.
W. Withering ...	Breda	Ridley.
W. Curtis	— ...	Evans.
W. Woodville ...	Abbott	Bond.
Rev. J. Townsend ...	Opie	Holl.
Priestley	Opie & David ...	Caldwall.
Lavoisier	,, ,, ...	,,

In the list preceding these portraits, the names of a dozen other celebrities are given; but their portraits were probably never published by Thornton, in consequence of the expensive nature of the undertaking.

With regard to Thornton's other works, I may mention that his *New Family Herbal* is illustrated with woodcuts by Bewick; but certainly not of such a quality as to have given the artist fame. *The Greenhouse Companion* was published in 1824; and the last work of our author, of which I have found any record, was the *Introduction to the Science of Botany*, which appeared in 1833.

Perhaps the foregoing particulars respecting Robert John Thornton and his works may elicit some more precise information on this subject. *W. Botting Hemsley.*

ON THE USE OF MINERAL MANURES.

Whilst in agriculture mineral manures are held in the highest estimation, in gardening they are still comparatively little used. For several years past I have been using them, and I may say, speaking, generally, that I have never had such strong, healthy, free-blooming plants as I have had during that time. Here and there I have had some failures, it is true, and many a plant, valuable to me, was killed by the manure; but that will occur always where experiments are made in a totally new field. It will be best to give first a brief account of these failures. I used five or six manures, hereinafter mentioned by number only, viz.:—

1. Nitrate of potash.
2. Phosphate of potash.
3. Phosphate of potash with nitrate of potash.
4. Wagner's flower and garden manure (containing 13 per cent. phosphoric acid, 11 per cent. potash, and 13 per cent. nitrogen).
5. Albert's garden manure (containing 16 per cent. phosphoric acid, 20 per cent. potash, and 13 per cent. nitrogen).
6. Albert's Hop manure (containing 13 per cent. phosphoric acid, 25 per cent. potash, and 13 per cent. nitrogen).

I manured Chorizema ilicifolium and C. Lawrenceanum. The plants almost all died within a

few days, with the exception of those manured with No. 2; but even those became so weakly that I have but little hope of saving them.

Heliotropium peruvianum manured with No. 2 in powder: one plant died within a few days; the leaves on another turned brown and fell off, but buds formed, and now the plant is bushy, strong, and healthy. Azalea indica received No. 2 also in a powdered form: the old leaves turned brown and fell off, but the plants made a very healthy second shoot, and look now very well. They are dark green, and covered with buds. Gloxinia, manured with powdered No. 3: after some hours the plant was weak, and hung down. Inspection showed that some of the powder was left upon the stalk, where it had, as it is very hygroscopic, absorbed from the plant the water, which was now in thick drops upon the stalks. I removed this and washed the plant. It became healthy. Humulus Lupulus manured with No. 6 in a powdered form: the old leaves became brown within a few days, but the plant made an immense number of new healthy shoots; almost every shoot bore a new bud. A dwarf Fuchsia and also a delicate pretty Fuchsia, with little flowers and long stamens (calyx purple, petals dark blue; not the gracillima), manured with powdered No. 2, became sickly. Callistemon rigidus, Kunzea corifolia, Leptospermum lanigerum var. pubescens and scoparium, Melaleuca acuminata, armillaris, Baxteri, coronata, cuticularis, diosmifolia, imbricata, lateritia, microphylla, parviflora, Preissiana var. leiostachya, pulchella, thymifolia, thymoides and viminea var. Lehmann; all manured with No. 2, thrive well, but the leaves are yellowish-green, compared with those of the same species manured with other fertilisers.

These are the failures, now for the successes: Primula sinensis, different forms, which I received at the beginning of November last year, are manured regularly with No. 5, and now and then with No. 1. Until now, that is, the end of July, the plants have flowered continuously, and so freely that often nothing else was to be seen of them but their flowers. The flower-stalks remained relatively short, so that the flowers were immediately above the leaves; the flowers became very large, and only during the last four weeks have smaller blooms appeared. Fuchsia hybrida, different varieties, young cuttings made this year, manured with No. 2: in a short time in the axil of every leaf literally there appeared two, sometimes three flower-buds, one above the other. The flowers grew very well and opened, no bud fell off. Pelargonium zonale, manured also with No. 2, formed many inflorescences, composed of many flower-buds, which all opened. The same species, manured with No. 3, formed larger leaves and flowers. Humulus japonicus fol. var., a very good climber, manured with No. 6, grows very quickly; the foliage is strong and healthy, the contrast of the colours, dark green, greenish-white and pure white, is superb. Ampelopsis hederacea, manured with the same, grows well, but it is not easy to prove that it grows better than when unmanured, whilst the same species, manured with No. 1, grows very quickly and forms strong shoots and dark-green leaves. Dahlia variabilis, a dwarf yellowish flowering form, manured with No. 1 at first, afterwards with No. 2: the leaves are as thick and strong as those of Eryngium, flower-heads appeared very early, at the end of May, and are still blossoming. The plant is about a foot high. Pteris serrulata manured with No. 1: this plant, a little one, threw up at once some five or six fronds of a bluish-green colour, and four times as long as the old ones. The same result was obtained with a Nephrodium. Palms, such as Phœnix canariensis, reclinata, and rupicola; Kentia Fosteriana and Blackburniana; Areca Baueri, rubra, Chamædorea desmoncoides, Ernesti Augusti, geonomiformis, manured with No. 1 are growing vigorously; also Corypha australis. Myrtus communis, the small-leaved form, manured with the same, becomes the large-leaved form, and grows immensely. It was then manured with No. 2, and numerous buds appeared. The above-named Callistemon, Kunzea, Leptospermum and Melaleuca, manured with Nos. 3, 4, 5, and 6, are growing very vigorously. The leaves of some species become three times as long as the old foliage. The colour of the leaves becomes bluish-green.

Now I must add a few words about the method of application of these manures. As above shown, the powdered form, laid on the top of the pot, cannot be recommended. The same manure given to the plants in solution, or mixed with the earth before planting, gave better results. I give the manure mostly in solution, 1—2 : 1000. Once accustomed to manuring, you can give this solution daily during active growth. It is a good plan also to mix the manure with the earth before planting (2 : 1000), but the mixing must be done very thoroughly. It is still better to make a solution of the manure and to spray this over the earth before planting. But in this case, do this some days before planting, so that the earth becomes again somewhat dryer. The prices of the manures are small. 10 kilogrammes (= 22 lb.) cost 3·8—4·2 Marks (1 Mark about 1*s.*), and suffice (in solution) to make 5—10,000 litres of liquid manure (1 litre = 0·220 gallons). But there is still another point which makes manuring very economical: manured plants may remain in the same pots, whilst unmanured plants have to be transplanted twice into larger pots. So you spare time, and pots, and earth, and also, as I showed, some years ago, a manure heap. *U. D., Berlin.*



Fig. 24.—COLUTEA MELANOCALYX.

COLUTEA MELANOCALYX.

Boissier in his *Diagnoses*, 1—9, p 35, and afterwards in his *Flora Orientalis*, ii. (1872), p. 194, maintained this form as distinct from the common Bladder Senna, C. arborescens, the principal distinction consisting in the calyx, which in the original form is said to be thinly covered with white (? brown) hairs, and of which the triangular teeth are five to six times shorter than the tube. In C. melanocalyx the calyx is densely covered with dark brown (fuliginous) hairs, and the calyx teeth are only one-third shorter than the tube. The young fruit is also described as hairy and not glabrous—dis-

tinctions which are minute at the best, and scarcely seem likely to be constant. That, however, is a matter of experience. C. melanocalyx is a native of Lycia and Pamphylia. For the specimen from which our figure was taken we are indebted to W. E. Gumbleton, Esq.

FORESTRY.

TIMBER PRICES IN WILTS.

So far, 1894 has not been a satisfactory year to the seller of home-grown timber, and indications do not point to early improvements. With us in the south-western counties there has been for some seasons past a ready market for all descriptions of Elm. Owing chiefly to the extreme depression of the Welsh tin-plate trade, for which a large quantity was every year consumed in boxes, the demand has greatly slackened, and figures have drooped in sympathy. Just now, of course, we are between the seasons, at a time when there is never much changing hands; but with many of the spring purchases standing over, there is very little chance of an early autumn inquiry. Taken all round, Elm has not been so little sought after since the gales of twelve or thirteen years ago. Oak, too, meets a very slow sale; in fact, except for special dimensions, it is worth little more than the price of Elm twenty years ago. A shilling per foot for fair-sized Oak is not at all an unusual figure. Ash, when good, is always in steady demand; but, unfortunately, in the way it is generally grown, from a third to half the bulk of the tree is practically only fit for the commonest uses. Amongst the Fir tribe, Larch is about the only kind bringing a fair return, as there is no regular outlet for Scotch and Spruce. There is not, however, much of either sort growing in the immediate neighbourhood. Elm, Oak, and Ash, in the order given, are by far the most important.

Waste in Ash Growing.

Hedgerow timber has been the source of much controversy. Into this, as a whole, it is not my intention to enter now, but hedgerow Ash should be avoided in every possible way. The shallow and wide-spreading roots, it is well known, beggar the surrounding soil for a long distance; but what is still more unfortunate is the poor quality of the timber, compared to what is grown closely in woods. What is essential in Ash is a long, clear stem, free from knots. Such wood, except in very rare cases, is not to be found in the open. Left alone to grow in its own way, trees will develop side branches, and consequently shorter stems. To this drawback is too often added the more fatal one of lopping, which at once ruins every bit of timber above the knots so caused, and in very many instances causes decay below. It is very clear, therefore, that the chances of growing fairly saleable Ash in the open are very scarce indeed. Fortunately there is no need, as it is not an important landscape tree, like the Elm and Oak, and what is further, generally thrives well in the closest quarters. I have very recently had occasion to deal with some young Ash grown amongst thick Oak and Scotch Fir. This may, perhaps, be an extreme case, but many of the trees run from 50 to 60 feet in height, and devoid of branches, with a diameter at butt of not more than 6 to 8 inches. Although, as I have said, an extreme instance of close growth, it will serve to illustrate the wide range of conditions under which Ash may be produced. Economically, there can be no question as to which of the two systems is nearer the true one, as almost every bit of the long close-grown stems can be used for the best class of work; whereas had the same amount of cubic contents been grown in the open, and subject to natural development, and also to accidental or intentional interference, from a third to half the bulk would have been little better than firewood.
D. J. Y.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

ONIONS.—Sowings of the varieties may now be made on ground prepared as previously advised. Before drawing drills dress the land with soot and wood ashes, hoeing and forking these into it, the latter course if weeds are appearing being the better one. It is not advisable to use salt as a dressing on the occasion, as it has a tendency to make the ground retain moisture, which is not good for the Onion plant in the winter. Having trodden the land lightly, draw drills of 1 inch deep at 6 inches apart, sow the seed, if good, thinly and cover over—a thin braird more desirable than a thick one—the plants not getting drawn and weak. The White Spanish Onion is a variety that may be sown for drawing this autumn and in the spring. Where Onions suffer much from the grub, and the plants stand well through the winter, it is advisable to sow some of the ordinary summer varieties and transplant them in the spring, the experience of many growers having proved that the grub does not attack transplanted Onions like it does those spring-sown. The seed must not be sown on ground in a pasty condition, but the gardener should wait till it is fairly dry before sowing. The remainder of the last season's crop of autumn-sown Onions, if sufficiently matured, may be laid in a dry airy place, and when dry put into store.

ENDIVE.—Sow forthwith seeds for raising plants for affording late winter and spring supplies, making the sowings where some of the plants can remain to finish their growth. The rows in the latter case may be made 12 inches apart, otherwise 6 inches will suffice, if alternate rows are taken away, and the plants left at 10 inches apart in the rows. On land manured for a previous crop no further manuring will be needed for Endive. Plant out those that are large enough to plant from previous sowings 1 foot apart, and water them, if the weather be dry, at planting time and afterwards.

MUSHROOMS.—Manure may be collected together for making the earliest beds in the Mushroom-house, or ridges out-of-doors, and if for the former, the quantity of strawy litter retained may be less than is necessary with ridges. The preparatory heating and turning over and mixing should be carried out in both cases. In making the beds or ridges the manure should be made very firm by beating with forks and treading it.

SPINACH.—Another sowing should be made of summer Spinach, Victoria, Monstreuse de Viroflay, and ordinary prickly winter varieties doing equally well. The first sowing may now need hoeing and cleaning of weeds and decaying leaves.

CORN SALAD.—A sowing may now be made on dry light soil, or, if that cannot be found in the garden, light sandy refuse soil from the potting bench put on the bed will make a suitable seed-bed. Sow in drills thinly, 8 inches apart, thinning the plants to 6 inches apart when large enough to handle.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CUCUMBERS.—For early winter supply the plants should be planted out in beds of well-prepared soil, formed about 1 foot deep, and consisting of turfy loam, leaf-mould, and rough sea-sand. A sowing of seeds or a number of cuttings should be put in for furnishing succession-plants. Cuttings strike freely in bottom-heat of 80°, and top-warmth of 70° by night, and 85° by day. Plants for winter fruiting should be grown sturdily, the growths not allowed to get crowded, a liberal amount of air being daily afforded, and shade also during bright sunshine only. But few fruits should be taken, so as not to weaken the forces of the plants before the short days set in. Red spider and thrips must be kept destroyed, and to this end strong growth and light cropping, &c., are a great help. Plants now in full bearing should be afforded liquid manure occasionally, and dressings of rich soil whenever the roots show at the surface. Syringe the plants twice or thrice daily, cast off foliage infested with red spider, and keep the shoots thinned out, deformed fruits being removed unless seeds are required; the best seeds sometimes being obtained from fruits having a thick end. A piece of string tied tightly round the middle of a fruit will cause seed to be formed in shy seeding varieties. Maintain the proper degree of heat in hot bed frames and pits by means of linings, if the plants are to be kept growing through the autumn.

PINE-APPLES.—Those intended for fruiting early next season should be sturdily grown, with stiff shortish leaves, and in maturing them care should be taken not to incline too much to dryness at the roots. The pots should be filled with healthy roots, and the plants in a state of rest at this period. Succession plants must be kept in a growing state, and the potting should now be finished. The bottom heat for succession plants keep steady at 85°, water when afforded being of the same temperature. Plants for late fruiting, whose fruits have begun to increase rapidly in size, may have liquid-manure water liberally applied, a moist atmosphere maintained, and sun-heat made use of whenever possible. Suckers and crowns, when ready, pot in 6 and 7-inch pots, plunging them in bottom-heat of 80°, damping and shading them for a time, as previously recommended.

FORCED VINES that have become exhausted by early forcing and overcropping, or which have suffered from the ravages of insect pests, should now have attention, and where the borders are old or have not been renovated recently, or the drainage is not in order, the soil should be replaced with new material, after putting the drainage and floor in good repair. If mealy-bug has been troublesome, a new inside border will greatly aid in getting rid of the pest, and should Vines not be considered worth the cost of lifting, new ones should be planted in the new border. But when the Vines are vigorous, the inside border may be made one year and the outside one the next. In the case of Vines that are to be forced early this plan answers very well, if the work be begun early in the autumn and carefully carried out when the leaves turn yellow and begin to fall. It would not, of course, do to take up a growing Vine and re-plant it, as the result would be the same as with any other deciduous subject, but transplanting may safely be done at the fall of the leaf, or even just before the Vines start in the spring.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

ERICAS.—These plants will now be assuming a bright appearance, in so far as regards those which flower in the early autumn and are now developing their flowers. The tying-out of the plants having been done in the manner advised in the spring, little is now required beyond adding a few more ties where it is noticed that such would be desirable. Great care is called for in doing this, as the twigs break off very easily. The affording water to Heaths is at all seasons a matter of some nicety, and doubly so with these varieties at this stage, and it is well to keep on the dry side, although this must not be understood to mean that an actually dry state of soil is recommended, simply that for the better preservation of the bloom no superfluous water should be afforded, or thrown about on or under the stages. All the air possible should be given, and on bright days a slight damping of the paths, walls, &c., may be afforded, avoiding all fixed shading, but making use of roller blinds during the hottest part of the day.

DIPLADENIAS.—These, from their twining habit, require a frequent regulation of the shoots, whether trained on a small trellis or as plants covering a part of the roof of a stove. The plants are liable to be infested with green and black aphides, and to keep these insects under, the plants should be syringed once a week with soapsuds, made on purpose with 1 ounce of soft soap to 1 gallon of rain-water. Dipladenia amabilis (profusa), D. Brearleyana, D. splendens Williamsii, D. insignis, and the well-known D. Boliviensis, are the best varieties.

LILIUM AURATUM.—Plants which are coming into flower may be encouraged by applications of diluted farm-yard drainings once a week. L. lancifolium album and L. rubrum, not being gross feeders should have merely a top-dressing of good loam and fresh horse-dung, the latter forming one-fourth of the entire bulk.

CAMPANULA PYRAMIDALIS. — Maintain the plants in vigour by the use of some kind of artificial or other manure, and unless the plants have to be transported some distance the stems will need no support from sticks. Young growing stock for later flowering as it seems to be needed should be given pot room, for if the plants suffer from lack of rooting-space the foliage soon begins to fall off, which at once robs the plant of decorative value.

BOUVARDIAS.—These plants will now be pushing up strong shoots from the base, which must be encouraged to extend and grow strong by affording them light and space; to this end the outer branches should be slightly tied down, so that the centre of the plant is opened out. I have found slender Bamboo canes very suitable for this kind of work, as they are very pliable, and when carefully placed, seldom noticeable at a short distance.

LILIUM HARRISII.—The bulbs now to hand should be potted-up in 48's for single bulbs, and 7-inch pots, if three in a pot are grown, in which sizes they will be very effective objects. Afford them good drainage, and a rich loamy compost, with a liberal addition of sand. Stand the pots out-of-doors on beds of coal-ashes.

THE APIARY.

By EXPERT.

CONTRACTING HIVES.—Hives may now be contracted, with the object of crowding the bees, and getting a continuance of honey stored in the supers instead of in the brood frames. For this purpose the brood-nest may be reduced to seven or eight frames, and the number will be enough for the stocks to winter on. With the object of preventing swarms too many frames are often used in the brood chambers of hives, and if the number were restricted to nine for general purposes, especially in poor honey districts, a larger surplus would be secured. Super space should also now be reduced, and all sections or extracting frames not commenced should be removed. The second crop of Clover is now in bloom in most places, and Blackberries are almost at their best, so that if the present favourable weather continue, a good deal of honey may yet be obtained, which will in a measure make up for the disappointments experienced earlier in the year. In heather districts it will soon be time to make preparations for obtaining honey from this source. If the bees are crowded below, and given worked-out combs in which to store the honey above, success will be attained, provided that the weather is fine. Hives may easily be reduced in size by using dummies; and a ready way to make these is to nail a piece of thin wood on each side of a standard frame, filling up the space between with chaff, sawdust, or other suitable material. If one frame does not give the width to fill the required space, two or more may be nailed together, the pieces of board being fastened on either side as before.

THE PREVENTION OF ROBBING.—In removing honey from hives now, the evening will be found the best time for the operation, and care should be taken not to leave any honey exposed, or robbing may quickly be started. As the honey is taken out, a good plan is to have a box at hand to put it in, which can be kept covered by a lid, or a piece of cloth thrown over the top. While the hive is open, it will be a good opportunity to examine the brood frames for eggs, so as to make sure that a queen is present, as if this necessary operation is put off till later, there will then be risk of "balling" taking place. For the same reason, any re-queening that may be necessary should be taken in hand at once, before honey ceases to come in.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

VERONICAS.—These beautiful (and what is more to the purpose in many places) useful class of plants, may now be propagated from cuttings, choosing as such the young firm growths of about 4 inches in length. Insert the cuttings when made in pots filled with some ordinary kind of mould, mixed with plenty of sharp sand; and afford good drainage to the pots. About ten cuttings will be a proper number for a 4½-inch pot. The cuttings should possess a heel of last year's wood, and should be made firm in the soil, and after being well watered placed in a cold frame and kept close till rooted, afterwards hardening them off gradually. They should, when well rooted, be potted off singly in small 60's. A few useful varieties are gentianoides, Chamædrys, incana, and spicata.

HOLLYHOCKS.—These plants will be benefited by a heavy mulch of rotten manure, and an occasional heavy application of water. Look carefully to all the fastenings, to see that they are not cutting into the stems.

LYCHNIS.—Cuttings of the young flower-stems, which are not become too hard, may still be made; and the double-flowered Rockets, Antirrhinums, and several other perennial plants of this class, may still be increased in the same way.

HUMEA ELEGANS.—If seed has been sown as advised, the seedlings will now be ready for potting into thumb or small 60-pots, according to strength; and a compost, consisting of fibrous loam with a small quantity of sand, lime-rubble, and finely-broken bones mixed with it, suits the plants admirably. Return them to a greenhouse temperature after potting, and in a position near the roof-glass, so that they may not get drawn; shade them till re-established, which takes but a few days.

THE ORCHID HOUSES

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

SOBRALIAS.—Most of the species of Sobralia are free growers, succeeding in an intermediate house; and they should oftener find a place in collections than is the case at present. The individual blooms having no stalk, are of little use when cut, and they last but for a short time; still the plants, when established, afford a long succession of flowers, which compensates for the blooms being short-lived; and coming into flower when there is a scarcity of Orchid blooms is a point in favour of the cultivation of the plants. An unusual and interesting spectacle was seen at Burford a few days ago, when eight distinct species and varieties of Sobralia were in bloom at the same time. These consisted of S. macrantha splendens, the yellow-flowered S. xantholeuca, S. leucoxantha, S. albo-violacea, the white S. Liliastrum, S. Warscewiczi, also a distinct species similar in some respects to S. macrantha, but the colour of whose sepals and petals bore a resemblance to those of Cattleya superba, except that they were smaller, and had a yellow throat. At present this species has not been recognised at Kew. Another was a distinct and pretty variety of S. xantholeuca, named Princess May, with white flowers and a lip frilled at the edges; the disc coloured lemon-yellow, with a faint suffusion of pink. Other varieties of sterling merit are S. virginalis, S. macrantha alba (Kienastiana), and S. Lucasiana. Sobralia Cattleya has not, I think, hitherto produced flowers under cultivation in this country, although many methods have been tried to induce it to do so. There is at Burford a strong plant with growths measuring nearly 10 feet in height, which has been grown for many years in a variety of temperatures and positions, and at present is standing in the open air in full exposure day and night. According to the description given by the late Professor Reichenbach in the *Gardeners' Chronicle* in 1877 it will, when we get it to flower, prove to be a beautiful and distinct variety. All of the above species, being very strong growers, require plenty of pot room; and any which may have become pot-bound can with safety be afforded a liberal shift so soon as the new breaks commence to show themselves. Early spring is probably the most suitable time for repotting the plants, but where a plant is suffering from want of a larger pot, it may be performed at almost any time. Unwieldy specimens may be divided at this season. Well-drained pots, and a soil consisting of lumpy, fibrous peat and rough, sandy loam, with a small quantity of sphagnum-moss, will suit the plants. The compost should be pressed down, and a space of half-an-inch left below the rim of the pot for affording water, a good deal of which is required in quantity in the growing season. It is not always necessary to repot a Sobralia immediately it has filled its pot with roots, nor is it desirable, as the plants soon become too large and unmanageable if frequently repotted. We have a large healthy specimen here, which has been in the same pot for eight or nine years, and by giving it copious supplies of water, and occasionally liquid manure, it grows well, and blooms freely every year.

THE MEXICAN-HOUSE.—This is now gay with several forms of Cattleya Eldorado, among them being the variety splendens, with the rich, dark coloured lip; also the variety Wallisii, which has white flowers with an orange-coloured disc on the lip. C. Eldorado is well worth growing in quantity: the flowers lasting a long time in perfection, and varying in their colouring—scarcely any two of them being exactly alike, which is in their favour; moreover, it is rare to find an inferior variety amongst them. The flowers have an agreeable fragrance. As soon as these plants go out of flower they should be kept rather dry for a few weeks, but not so much so as to cause shrivelling of the pseudobulbs, placing them in a light position in the same house as that in which they have been growing, and where they can obtain plenty of fresh air. The new roots will soon push from the flowering breaks, and thereby aid the plants to recover their vigour. The best time for repotting is just before the appearance of the new roots. After repotting water should be afforded, to nourish the new roots and preserve the old ones. Their so-called resting season commences when re-establishment has taken place. This species, like C. superba, should not be subjected to so low a temperature as is generally afforded the majority of Cattleyas. I have been recently informed by a competent authority who has been living in the Cattleya Eldorado district for some considerable time, that these plants are always in a more or less fairly moist condition. For the next few weeks a brisk temperature must be maintained in the warmer divisions, many of the plants being in active growth. Although no great amount of fire-heat is required by day, the hotwater-pipes should be made sufficiently warm before finishing up for the night, so as to prevent the warmth falling to too low a point. A preventive against "spot" is to slightly open the top ventilators at night, which will allow some of the humid air to escape. The night temperature for the present should be as follows:—East Indian-house, 70° to 75°; Cattleya, 65° to 70°; Mexican, a few degrees below 70°; cool houses, if the external air will permit, about 55° to 60°; the higher degree of warmth being that of the house the last thing at night, and the lower one the early morning temperature.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

SUMMER PRUNING OF THE APPLE.—A beginning should be made in the pruning of such trees as have become filled with young shoots, cutting the strongest of these back to three or four leaves, also any which may unduly shade the fruits, but leaving the rest to be pruned over in about one week later. Where the trees are of large size, rather than risk giving a check to the growth of the fruits, by finishing the pruning at two operations, select only the strongest growths for cutting back at the second pruning, and in another week finish the work. In the case of young trees, all the leading branches should be left uncut. These remarks apply chiefly to trees worked on Crab stocks, and to those on the Paradise or dwarfing stock, which may be growing in heavy land and making strong shoots, but the usual run of Apple trees on the Paradise stock, which are bearing full crops of fruit, may not require any pruning till late in the autumn,—that is, after the crop is gathered. Continue to freely thin early varieties for use where the crop is a heavy one.

APRICOTS.—Should rainy weather continue, and the fruits ripen unsatisfactorily, it will much improve the flavour to gather them in shallow boxes lined with paper, and place in a warm airy vinery where Grapes are ripening, keeping them there for a few days before they are eaten or preserved. On the other hand, should wasps become troublesome, the fruits may be gathered before being quite ripe, and placed in a vinery where the Grapes are ripe, from which wasps are excluded.

ORCHARD TREES.—Take the earliest opportunity to thin out the spray from the middle of the heads of all trees, removing these small shoots entirely with a sharp knife. If this operation be done at this season, there is less risk of other shoots growing from the base of those severed than if the pruning were deferred to the winter. If American-blight be present near the wounds caused by the removal of branches in the winter, let the bark be dressed with soft-soap and petroleum emulsion.

RIPE FRUITS.—As soon as wasps, flies, &c., begin to feed on Apricots, Plums, and other ripe fruits, which they may be expected to do on the return of bright weather, means should be taken to trap them; and nothing is more efficient as a trap than one made by placing a sound hand-glass on the top of another, the bottom one being placed on four bricks, and baited with blemished fruit or sweetened beer. A small hole is made in the cover of the bottom hand-glass, to afford an entry for the insects into the upper chamber, and the space between the two lights is closed at the edges with paper covered with earth. Recourse should also be had to trapping them in moderately wide-mouthed bottles half filled with sweetened beer, and hung on the walls; put also a few yards away from the trees which are carrying ripening fruit. Large numbers of wasps and flies may be got rid of in this manner.

GENERAL HINTS.—The budding of Apples, Pears, &c., should be finished without further delay. Loosen the ties of those put in last month, and where they are disposed to grow the side shoots should be shortened. After the buds have started well into growth prune the side shoots back to the base, thereby concentrating the energies of the stock in the growth of the scion, which should make a good shoot in time to get ripened by the winter. Look over and remove all bad fruits from Bigarreau, Napoleon, and other late varieties of sweet Cherries, the season of which it is desired to prolong. In fine weather ply the hoe among bush-fruits, but weed by hand in the event of rainy weather continuing.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	AUG. 14.	Royal Horticultural Society. Lecture on Fruit Culture in France, by M. C. Baltet.

SHOWS.

TUESDAY,	AUG. 14	Claycross Horticultural. Taunton Horticultural. Blagdon Horticultural.
WEDNESDAY,	AUG. 15	Cardiff Horticultural (two days). Ancient Society of York Florists' Flower Show. Wilts Horticultural. Cuckfield Horticultural. Sevenoaks Horticultural. Bishops Stortford Horticultural.
THURSDAY,	AUG. 16	Maidenhead Horticultural. Sherborne Horticultural.
FRIDAY,	AUG. 17	Exeter Horticultural. Great National Cooperative, at the Crystal Palace.

SALE.

FRIDAY,	AUG. 17	Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°·5.

Orchid Literature.

IT is only a week or two ago that in announcing the appearance of no fewer than three substantial works of first-class importance from a horticultural point of view, we had occasion to comment on the extent and importance of the literature concerning Orchids. Now, we must add a fourth to the list, for Count OSWALD DE KERCHOVE, the accomplished and energetic President of the Royal Agricultural and Botanical Society of Ghent, has just published his long-expected Orchid Book.*

It forms a bulky volume of more than 600 large 8vo pages, and is illustrated by 310 woodcuts and 31 chromolithographs. To a large extent, as a matter of course, it traverses the same ground as the works previously mentioned, and it has suffered somewhat by the length of time it has been in the press. The delay is not to be wondered at by those who know the demands which political and municipal affairs make upon the time of the author. The book is written by an amateur for amateurs,—we should rather say for connoisseurs,—for those who are not content merely to admire, as all of us do, but who desire also to know; for those who take an intelligent interest in the natural history of Orchids and the many problems connected with it.

The work is divided into three parts: the first treats of the structure and organisation of Orchids, including not only the morphology of the entire plant, but also germination, hybridisation, and classification. In the second part, the economic value and the botanical geography of Orchids are given. The third part is devoted to the cultivation of Orchids, and the enumeration of their friends and foes. In addition, more than seventy pages of two columns each are devoted to a synonymic index of the principal Orchids in cultivation, including hybrids. For this list alone the Orchid-grower has cause to be thankful. In addition, there is a full general index, a table of contents, numerous woodcuts, and several coloured plates. Obviously *Le Livre des Orchidées* fulfils the conditions which ALPHONSE DE CANDOLLE laid down as necessary to constitute a book.

Having indicated the general nature of the contents, not much space is left for comment, and each reader will form his own opinion according to his own predilections and requirements. We may, however, point out that the details relating to floral structure are exceedingly full and very well done, the author having availed himself of the publications of LINDLEY, ENGLER, PFITZER, and other botanists, and having had the advantage of the assistance of MM. COGNIAUX and BERTRAND. It is not, therefore, surprising that the section relating to the morphology of Orchids is unusually well done. Of course there are numerous points which are mere matters of opinion and open to dispute; for instance, we do not think everyone would agree to the statement that a plant with isolated carpels holds higher structural rank than one in which the carpels are united. Nor do we think that many observers will agree that the ovules of Orchids are "bitégumentés." Of special interest, because in horticultural books on Orchids less attention is bestowed upon it than upon the floral details, is the organisation of the stem and leaf. Here the author has followed PFITZER, and although the details are well known to botanists, we commend them to the increased attention of thoughtful cultivators.

As to classification, M. DE KERCHOVE, after alluding to the work of LINDLEY, REICHENBACH, BENTHAM, and other systematists, has adopted the classification proposed by PFITZER, and gives an elaborate table for the determination of the genera. This will be very useful for those who have not access to the original, or who do not read German. This is not the place to criticise PFITZER'S classification; but if Apostasias and Neuwiedia especially, which has three stamens, are to be included among diandrous Orchids, surely Selenipedilum and Paphiopedilum might have been allowed to remain in Cypripedium. The adoption of Paphiopedilum (PFITZER), or as M. DE KERCHOVE writes it, Paphiopedium, for those Cypripedes with duplicate vernation, a three-celled ovary, and a thin seed-coat, is, for horticultural purposes at least, very inconvenient, for if generally adopted it involves the transfer of a very large number of species hitherto placed in Cypripediums to the new genus. Of course we must not complain if it should prove, in the end, that this course is the most consonant with the interests of science. At present we have not arrived at that point, believing that the weight of scientific evidence in favour of the change is not great enough to warrant us in upsetting the balance of convenience in favour of the retention of the old genus with possibly Selenipedilum and Paphiopedilum as sections or subgenera. While Cypripedium is thus dismembered, it is not wonderful that the genera Pescatorea and Bollea should be retained as distinct, though there is now a general feeling that they should be placed under Zygopetalum. But all this is matter of opinion.

The chapter on geographical distribution is very interesting, and gives a good idea of the distribution of Orchids over the surface of the globe, and of the causes influencing it.

The general principles regulating cultivation are laid down briefly, but with a precision and lucidity begotten of practice alike in the Orchid-houses and at the library table, but they are not worked out in detail, nor treated so fully as are the sections relating to structure, classification, and geographical distribution.

Our notice has run to such a length, that we have left ourselves no space for comment on the chapters relating to insect and fungous enemies, but as the discussion of these matters is not specially characteristic of this work, we may pass them over.

Throughout the volume care has been taken to cite the most important treatises on the structure and cultivation of Orchids, so that the book will be a very valuable book of reference for the library of the amateur, and the lover of Orchids generally.

* *Le Livre des Orchidées*, par le Comte O. de Kerchove, de Denterghem, &c., &c. Ghent: Ad. Hoste, Rue des Champs, 47. Paris: G. Masson, 120, Boulevard Saint Germain.

ROSE VISCOUNTESS FOLKESTONE IN MR. RUMSEY'S NURSERY.—The illustration in our Supplement represents some bushes of Rose Viscountess Folkestone growing in Mr. RUMSEY'S Joynings Nursery at Waltham Cross, Hertfordshire, and forming, when in full bloom this year, very charming objects. The variety belongs to the Tea-scented class, and is a hybrid Tea of the late Mr. H. BENNETT'S raising. Its flowers may be described as creamy-pink, centre salmon-pink, large, and very sweet; the foliage large and handsome, and growth vigorous.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the above Society will be held in the Drill Hall, James Street, Victoria St., Westminster, on Tuesday, August 14. The Committees will assemble as usual at 12 o'clock; and at 3 P.M. M. CHAS. BALTET, of Troyes, will deliver a lecture on "Fruit Culture in France."

"KEW BULLETIN."—The July number contains articles on the Comino tree of Colombia, a Lauraceous tree called Aniba perutilis by Hemsley. The timber is much valued for constructional and decorative purposes. It can be successfully cultivated at a temperature of 18° to 20° C. Other articles have reference to the cultivation of Vanilla in Tahiti and Fiji. A description of some newly-discovered plants from the Solomon Islands is given. An extract is inserted from the *Standard* of September 16, 1893, on the cultivation of vegetables in this country, and on the importation of vegetables from abroad. In this article one side of the question is treated, but the writer has not availed himself of the very striking facts which were published on this subject in our columns last year, nor does he deal with the very difficult problems connected with markets and the means of distribution.

THE "BOTANICAL MAGAZINE."—The August number is more than usually interesting. It comprises coloured figures and descriptions of—

Leptactina Mannii, t. 7367, a Rubiaceous shrub from West Tropical Africa. Its leaves are opposite, 4 to 5 inches long, oblong acute; the flowers collected in tufts at the ends of the branches. The corolla is pure white, with a slender tube, 4 inches long, expanding into a spreading limb, the five lobes of which are about 2 to 3 inches long, lanceolate, recurved at the tip. Kew, ex Jardin des Plantes.

Neuwiedia Lindleyi, t. 7368, is a Malayan plant of much interest to botanists, as furnishing a link between Orchids and other Monocots. By some it is placed in a distinct order, Apostasiaceæ, whilst Sir JOSEPH HOOKER includes the group under Orchidaceæ. The plant has ribbed lanceolate leaves, and numerous yellow flowers, in erect racemes. Each flower is about an inch long, curved, cylindrical, and separated from the inferior ovary by a short neck or tube. There are three stamens, concrescent at the base, and connate also with the style.

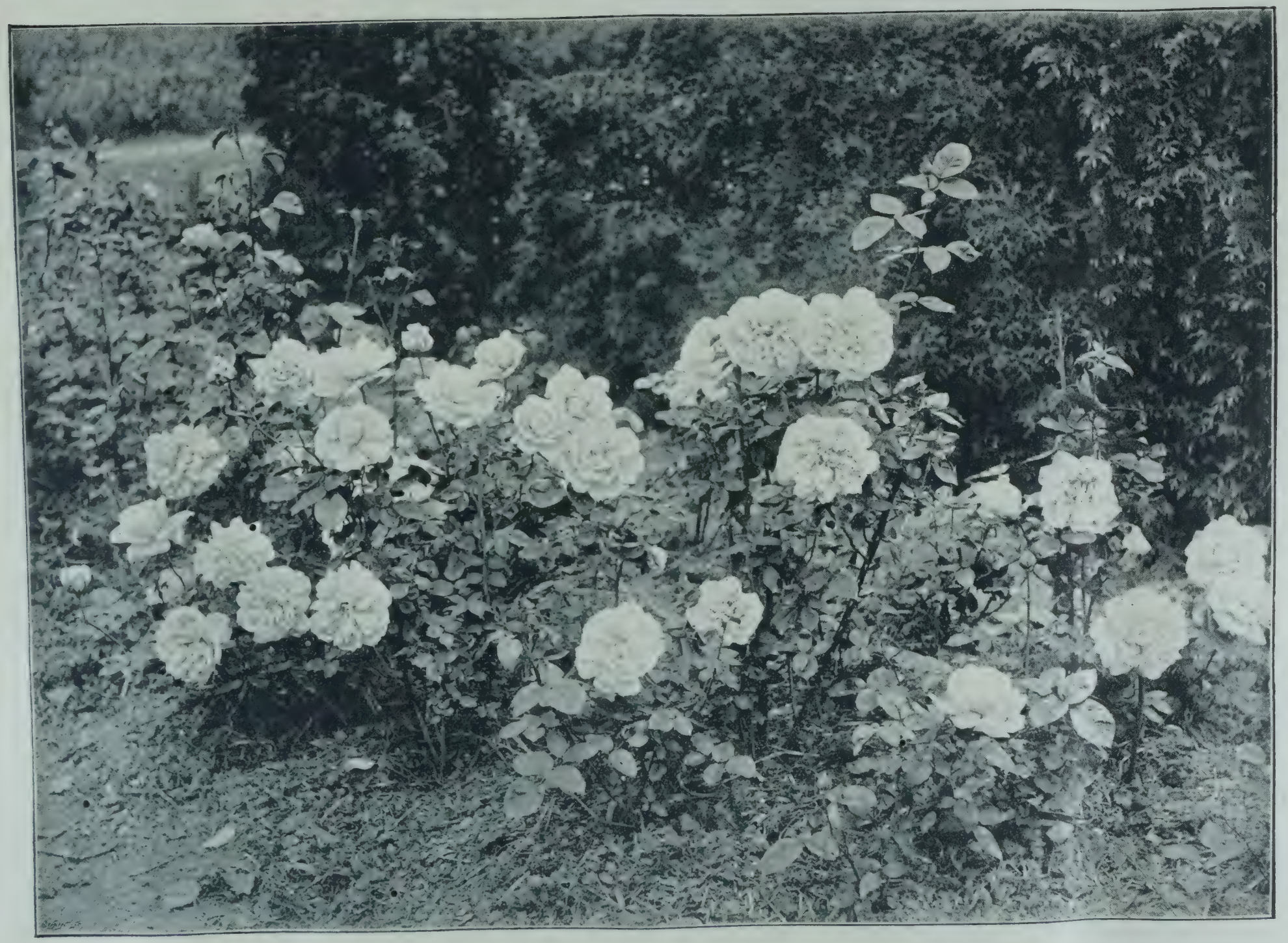
Dermatobotrys Saundersii, t. 7369.—This is a Natal shrub, with opposite, rather fleshy, shortly-stalked, oblong acute denticulate leaves. The shortly-stalked flowers are borne at the ends of the stems; each has a curved trumpet-shaped corolla, about 2 inches long, with a reddish tube, expanding into a flat rotate limb, with five short deltoid yellowish lobes. There are five equal stamens, and a two-



Highclere, the Seat of Lord Carnarvon.



View in the Grounds at Highclere.



Rose Viscountess Folkestone in the Nursery of Mr. W. Rumsey, Waltham Cross, Herts.

A hybrid Tea-scented variety, flowers creamy pink, centre salmon pink, large and sweet.

celled ovary with axile placentas. It is here referred to Scrophulariaceæ, with a mark of hesitation, and might equally well be placed in Solanaceæ. In spite of some obvious differences, it also suggests an affinity with Gesnerads. In any case it is a distinct and pretty stove shrub. Kew.

Veronica amplexicaulis, t. 7370.—One of the dwarf shrubby New Zealand species, with concave oblong leaves and pale lilac flowers. It is hardy at Kew.

Dendrobium atroviolaceum, t. 7371.—A New Guinea species, the perianth segments being yellow, spotted with dull red, and the lip three-lobed, the lateral ones violet, with darker streaks of the same colour. It was described by Mr. Rolfe in our columns, 1890, vol. i., p. 512.

The Natural History of Plants.—The fourth part of Prof. F. Oliver's translation of Kerners' splendid work is before us. It deals with the form and position of leaves with reference to transpiration, the action of the sun's rays, &c. To those who have hitherto only looked on leaves and other members as affording means of distinction between this plant and that, this book will come as a revelation, whilst those who have looked at plants from the point of view of beauty only will now be fascinated by the endless evidences of purpose and adaptation.

"Printers' Ink."—We have received a copy of "Printers' Ink," a small publication also known as "The Little Schoolmaster of Advertising." The booklet is published simultaneously in London and New York (by F. W. Sears), and is, as its sub-title indicates, devoted to the uses and interests of advertising. Much useful advice is given on this subject, and a good idea may be gleaned from it of the progress made of recent years in this particular "art."

Labels.—Mr. C. T. Druery, 17, Gracechurch Street, sends us samples of a very serviceable plant-label made of metal, covered with enamel, on which the name of the plant can be inscribed, together with any remarks that may be desired. Both the label and the inscription are practically indestructible, and the cost is decidedly moderate. The labels can be made of any form or size that may be desired.

Mr. W. Divers.—Owing to the death of his employer, Mr. W. Divers, who for over forty one years has had the charge of the gardens at Wierton House, Maidstone, is now giving up the management of that establishment.

Colutea with Two Pods in a Flower.—In most Leguminosæ one carpel only is present, which ripens into the legume or pod. On theoretical grounds botanists conclude that there should be five carpels, but that four out of the five are abortive. It is not very uncommon to see two pods to one flower in French Beans, and now we have before us two Bladder-senna pods within one calyx, which has a curious effect, the more so as the two pods are bent abruptly upwards as they emerge from the calyx. A Pea or a Bean with five carpels would in some particulars be desirable. Specimens like that before us show that such productions are not impossible.

"Dictionnaire Pratique d'Horticulture."—The French translation of Nicholson's Dictionary, published by Octave Doin, 8, Place de l'Odéon, Paris, has now reached its 27th part, and brings the work to the commencement of the article Gossypium. The numerous additions to this edition render it a desirable book for garden libraries.

Isle of Wight Horticultural Improvement Association.—The monthly meeting of the Society was held at Newport on Saturday, the 4th inst., when a paper on the "Cultivation of Carnations and Picotees" was read by Mr. M. Geddes of Shanklin, who demonstrated the various operations of layering, making cuttings, taking pipings, and the dressing of flowers for exhibition. A good collection of seedling and named varieties of Carnations was staged by Mr. Geddes and Mr. J. H. Silsbury of Shanklin. A discussion ensued. The next lecture will be on the "Geology of the Isle of Wight," by Dr. Groves.

Ayrshire Gardeners' Mutual Improvement Association.—The above Association held their monthly meeting in the Carrick Street Hall, Ayr, on Thursday evening last. Mr. D. Halliday, Cuttican Gardens, presided. An excellent paper on "The Kitchen Garden" was read by Mr. W. M'Connochie, Doonside Gardens, Ayr. Mr. Maxwell, The Knowe, and Mr. M'Lelland, South Park, brought forward exhibits of fruits and flowers. We understand that the next meeting will take place on September 6, when a paper on "The Orchard House" will be read by Mr. Thomas Gordon, Ewenfield Gardens, Ayr.

The Flowers at President Carnot's Funeral.—The number of the *Revue de L'Horticulture Belge* for August 1 contains an article on the flowers used as memorial wreaths and crosses on the occasion of the funeral of President Carnot. The writer says that "From the moment that the news of President Carnot's death reached Paris, the large flower market in the Halles was discontinued. When flowers were priceless there could be no question of traffic in them. Roses vary in value according to the varieties; the most common, Jules Margottin and Le Roy, were selling, previous to June 28, for one franc (about 9d.) a dozen; they rose on Friday, 29, and Saturday, June 30, to three francs; blooms of La France and Brumaire, selling at six francs a dozen, afterwards fetched a franc each. Pansies usually cost about threepence per small box; they were then hardly to be had for sevenpence halfpenny. The principal florists,* who received many orders, went daily, twice in the morning, once in the afternoon, to the nurserymen in the suburbs of Paris. They purchased at the rate of an entire Rose-border, a bed of Marigolds, Marguerites or Pansies, or a house full of flowering Orchids; and paid, without demur, any price that was asked. If they did not decide at once, another comer some minutes after their departure would buy up what they had been bargaining for. Every kind of flower was used for the wreaths—anything that could be got was used. Thus, decorative flowers such as Hortensia or Rhododendrons, which are never used for funeral wreaths, were employed in some of the floral tributes which formed part of the *cortège*, but, naturally, herbaceous plants predominated. Among magnificent trusses of Roses were mingled Petunias, Mignonette, Verbenas, African Marigolds, Begonias, white Lilies, Corn-flowers, China Asters, Pansies, and, above all, Orchids. Most European Sovereigns, the King of the Belgians, Emperor of Russia, Emperor of Germany, &c., sent splendid wreaths of rare and beautiful flowers. We may mention, in addition to these, the wreaths of yellow, white, and red Roses from the French Société Nationale d'Agriculture; that of Pansies, Roses, and Orchids from the Prefects of the Republic; an all-white wreath from the Archbishop of Paris; a tribute of Lilies and Gardenias edged with Passion-flowers, with a central cross of white Orchids; a wreath of Marguerites and Poppies, from the town of Foix; one composed of Roses and white Lilac, across which was thrown a lovely spray of mauve Orchids, offered by the ladies of Geneva; a large flowering Palm from the French colony in Ghent, and many others. Many of these wreaths were of an unheard-of size—many yards round! †

* Our readers can judge of the numbers of orders by this fact: the Emperor of Russia ordered, through his ambassador, M. de Mohrenheim, a wreath costing 8,000 francs, from a leading florist in the Rue Royale. This firm could not undertake the order, having already received more commissions from other customers than could be satisfactorily executed. M. de Mohrenheim then applied to a florist on the Boulevard de la Madeleine, who furnished a wreath for 5,000 francs.

† That from the city of Bordeaux was of Roses and white Lilac, and included a pomegranate-velvet pillow, with an inscription upon it in gold letters. This tribute was raised by a subscription which was limited to a franc for each person. It measured no less than 10 metres (over 32 feet) in circumference, and was all made of flowers, on which were represented in white, the crescents of Bordeaux, and across which was laid a tricoloured flag draped in *crêpe*.

Horticultural Shows.—Reports have reached us of shows at Wells, Somerset, Middleton Tyas, Elsham, Arreton, and Brighstone, Isle of Wight.

Antirrhinums.—Messrs. Laing send specimens of their strain in three colours, one a particularly rich velvety crimson, another canary-yellow with an orange-coloured palate, and a third, a white flushed with a shade of yellow on the palate. The spikes are good and the flowers of moderate size and pure colour.

Bristol Amateur Horticultural Society.—At the invitation of the President (Councillor J. Walls, M.R.H.S.), the members and friends of this Society held their monthly meeting for July in the gardens at Cromwell House, Royal Fort, St. Michaels, when a lecture on Orchids was given by Mr. Wm. Tanser, of Bath, who dwelt on the different species and their habits, and gave valuable advice as to their treatment in the various stages of growth. The lecture was illustrated by some beautiful specimens grown in the gardens.

Sydenham and District.—The Gardeners' and Amateurs' Mutual Improvement Association of the above held their second annual show of flowers, fruit, and vegetables, on Tuesday and Wednesday, July 25 and 26, in a field adjoining Longton Nursery. It was a very creditable show, extensively patronised by the horticulturists of the district, and productive of some capital exhibits.

Belgium.

M. F. KEGELJAN'S GLOXINIAS.

This respected amateur, so well-known for his skilful gardening at Namur, and so highly esteemed by his English friends, has for some days past been showing his Gloxinias to his appreciative friends. It is impossible to describe the beauty, luxuriance, size, and brilliant colouring of some of his specimens. There is one new variety which has attracted much attention, and which will probably be the starting-point of a new strain; it is a large and handsome flower with well-defined longitudinal and parallel lines in the throat. The effect of these stripes is beautiful.

The Peru Heliotrope at Antwerp.

One of the features of the Antwerp Zoological Gardens is the Peru Heliotrope, which, grown from a cutting struck in 1849, has now attained a remarkable size. In height it measures about 6½ feet (2 mètres), has a bushy, conical top, and a trunk nearly 8 inches (30 c.m.) in circumference. The plant is now in full flower, and the perfume is delicious and far-reaching.

Orchids at l'Horticulture Internationale, Brussels.

There are now in bloom at the above-mentioned establishment some fine specimens of Cattleya gigas. Among the varieties is C. gigas triumphans, with a very beautiful and large lip. Beside and below the two yellow spots which are the characteristic feature of gigas, is a large cream-white blotch; this colour also appears on various parts of the amethyst-tinted lip. The general hue of the flower is a beautiful shade of lilac. One C. gigas is noticeable for a lip of unusual size, also for the fineness of the whole flower, which is nearly 10 inches (25 c.m.) across. The plant bears four large flowers on one stem. There are many specimens of C. rex in flower, a hundred in bud. One variety, C. rex var. citrina, has citron-yellow divisions; the lip is chamois-leather coloured, and as peculiar as pretty. A consignment of the rare C. aurea has lately been received. We must mention also a C. gigas with a pretty lip and unusually dark colouring. Very beautiful also are C. Eldorado Leopoldi, C. virginalis, and C. crocata. Catasetum punctatum is flowering for the second time; there is also a species of Lycaste, with greenish flowers, growing like a Cattleya citrina. There are hundreds of seedling Cypripedium, Cattleya, and other species growing well.

Treatment of Imported Orchids.

It is known that imported Orchids are treated at l'Horticulture Internationale on a different plan to that pursued in England. In Brussels they are potted as soon as unpacked, and water is given plentifully. This suits them well, and they soon begin to grow. In proof of this, it may be instanced that six weeks ago the collector, Roebelen, from l'Horticulture Internationale, helped to unpack a fine Vanda Sanderiana (V. Esmeralda Sanderiana) with three stems, one 3 feet, another 2 feet, the third 1 foot high. Twenty minutes after being unpacked the plant was potted, contrary to the advice of the collector. Since then, this Vanda has not only never lost a leaf, but two roots, one about $\frac{1}{50}$ inch (17 mills.), the other $\frac{1}{125}$ inch (8 mills.) in length, testify to the perfect healthiness of the vegetation. *Ch. De B.*

BROOK HOUSE, ISLE OF WIGHT.

The resident owner of Brook House, Charles Seeley, Esq., M.P., is a gentleman well-known for his generosity to the poor, and for his efforts for the education and amelioration of the condition of the people in the Isle of Wight, and also in parts of Nottinghamshire, where he possesses extensive collieries. Brook House is situated in large and well-kept grounds, which are managed by Mr. W. Tribbick, the gardener. The place is 9 miles from Newport, and 3 from Ringwood, the nearest station.

In most large gardens something is made a specialty of, but here everything is equally well done. The pleasure-grounds are extensive, and undulating, the beltings and beds of shrubs arranged with good taste, and contain a number of pools, the water passing from one to the other by circuitous rocky channels, the crevices of which afford places for alpine plants and creepers in variety. Among Conifers noted are Cedrus deodara, C. atlantica, C. Libani, Abies Nordmanniana, A. Pinsapo, A. Loweana, Picea pungens glauca, Cupressus macrocarpa, C. erecta viridis, Pinus excelsa, P. insignis, P. Strobus, Retinospora plumosa aurea, Cryptomeria elegans, C. Lobbii, Taxus baccata, T. b. aurea. Kalmias, Weigelas, and Syringas are found in variety; Veronica Traversi is a mass of bloom just now, and Diplopappus chrysophyllus and Olearia Haastii show an abundance of flower. The Sycamore, Beech, Chestnut, and Oak are grown in much variety.

The fruit garden, a large tract, with a S. by S.W. aspect, enclosed on two sides with a wall about 12 feet high, and on the remaining sides by the vineries, greenhouses, &c., contains hundreds of pyramids and bushes of various fruits, as well as many wall trees. The best crops of Apples are found on King of the Pippin, White Juneating, Irish Peach, Keswick Codlin, Warner's King, and Tower of Glamis. Seventy varieties are grown.

The Plum trees, which consist of thirty varieties, are carrying heavy crops, especially Kirke's, Autumn Compote, White Magnum Bonum, Coe's Golden Drop, Diamond, Prince Englebert, and Jefferson.

Out of eighty varieties of Pears, the following are bearing well, viz., Beurré Hardy, B. Diel, Doyenné d'Alençon, D. du Comice, Louise Bonne of Jersey, Thompson's, Pitmaston Duchess, Williams' Bon Chrétien, Dr. Trousseau, Gansell's Bergamotte, and Alexandre Lambre.

The Strawberries, Gooseberries, Currants, and Raspberries, are excellent, which is more than can be said of bush fruit in general in the island.

The forcing-houses bear testimony to the ability of Mr. Tribbick and his foreman, Mr. J. Rawles. Ten of the Peach trees, which have been planted about twenty years, cover a space of 3000 square feet, and are carrying about 3000 fruits, which, according to present appearances, will be large and fine. The following varieties are among those cultivated, viz., Bellegarde, Alexandra, Noblesse, Grosse Mignonne, Walburton Admirable, Barrington, Dr. Hogg, Stirling Castle, and Princess of Wales; and the Nectarines are Humboldt and Pitmaston Orange.

In the vineries are good crops of Grapes, particularly of Black Hamburgh and Muscat of Alexandria, the bunches large, and of good shape; the berries well-coloured.

In the stoves were noted plants of Allamanda, Stephanotis, Anthurium, Bougainvillea, Croton, Dracæna, Gloriosa, Sarracenia, &c. Eucharis amazonica is a fine stock, free from insects, and the leaves of a glossy green colour; they are flowered chiefly in the winter season.

Orchids are represented by Cattleya, Vanda, Lælia, Odontoglossum, and Cypripedium, the collection of the last-named being the finest in the island. Ferns and greenhouse plants are largely and well cultivated. The kitchen garden and other departments are as well-ordered and managed as the glass-houses and fruit garden. *S. Heaton.*

AN ONION DISEASE.

Examples of diseased Onions, sent to this Journal for identification, prove that we have to struggle with yet another pest, belonging to a small group of fungi that have become specially adapted for leading a parasitic life on certain groups of flowering plants. The great interest of these fungi, from a purely scientific point of view, has resulted in a very thorough knowledge of their structure and life-history; and although the scientific investigator will probably get but small thanks for his labour, nevertheless the knowledge at command will enable the Onion-grower to avoid losing his crop, by attacking the fungus at the weak point in its life-cycle.



Fig. 25.—Sclerotinia bulborum.

1, The Botrytis-stage of the fungus, growing on an Onion-leaf (magn. 100); 2, tip of branch of same, bearing conidia (magn. 400); 3, Ascophore-stage, growing from a black sclerotium, marked ×; 4, Ascus, containing eight spores of the Ascophore-stage; 5, two Ascophores (magn. 400).

The fungus belongs to the Peziza group, characterised by having a cup-shaped fruit, usually supported on a stem; its name is Sclerotinia bulborum, Wakker, and it was first observed on Hyacinths near Amsterdam. The first indications of the disease appear under the form of small yellowish blotches on the leaves in spring; these blotches gradually increase in size, become brownish, and covered with a very delicate velvety olive-brown mould. This is the Botrytis stage, fig. 25, 1, and enables the fungus to spread rapidly; the conidia, fig. 25, 2, are formed in immense numbers, and germinate at once, so that when a single plant is attacked, the disease spreads very quickly, the conidia being conveyed to neighbouring plants by wind, rain, &c.

During the formation of conidia, the mycelium or spawn of the fungus is increasing in quantity in the tissues of the Onion leaves, and gradually growing downwards into the bulb; when this point is reached the spawn forms itself into numerous compact lumps, varying in size from that of a Rape seed to that of a Pea. These bodies, called "sclerotia," are black externally, and continue to increase in numbers until, in severe cases, they form a compact crust, fig. 25, 3×, on the surface of the rotting bulb. These sclerotia or compact masses of spawn remain in the soil in a resting condition during the winter, and on the return of spring each sclerotium produces one to three of the stalked, cup-shaped structures known as the ascophore stage of the fungus, fig. 25, 3. Finally, the spores produced by the ascophore are carried on to the young Onion leaves, where they germinate at once, enter the tissues, and produce in turn the Botrytis stage.

The weak point of the disease is the Botrytis stage, developed pretty early in the season on the leaves; the fruiting stem of the mould being produced on the surface of the leaves can be readily seen if specially looked for, and on the first indication of the disease the entire crop should be sprayed with a rose-red solution of permanganate of potash, or a dilute solution of Bordeaux Mixture; the addition of 1 lb. of soft soap to 5 gallons of either of the solutions mentioned is an improvement. If the Botrytis stage is allowed to spread, there is no hope of saving the crop, and where the sclerotium stage of development has been reached, the diseased bulbs, along with the soil immediately surrounding them, should be burnt, because if allowed to rot in the ground, the sclerotia would produce fruit the following spring, and form the starting point for a new centre of disease.

The same or a very nearly related fungus has done much damage to Lilies of late years, Lilium candidum and L. longiflorum being especially subject to its attacks. The Botrytis stage attacks the leaves and also the flowers, and if allowed to proceed undisturbed the sclerotia are formed in immense numbers in the bulb, and sometimes also in the decaying stem. Syringing with the solutions mentioned above, if applied sufficiently early, will completely arrest the disease. *G. Massee.*

THE HERBACEOUS BORDER.

TROPÆOLUM POLYPHYLLUM.

This is one of the most beautiful and charming of choice herbaceous plants. It is so perfectly hardy, and so easily suited to almost any and every condition of soil, that a home should be found for it in every garden. Indeed, were its beauty and graceful bearing more generally known than is apparent by its rather rare occurrence in gardens, I am sure it would be much more frequently seen. Once planted, it will root deeply, and spring up annually in increased vigour and quantity, its long tresses of glaucous leaves being densely studded with golden-yellow blossom. So perfectly hardy and vigorous is it, that it will readily force its way through a very firm gravel path, a fact which may be doubted by a stranger on first finding its young shoots. By far the best position that can be given it is one rather high on the rockery, where its beautiful tresses of golden flowers may trail just where they please, and thus display itself to good advantage. Any interference in staking it up, even supposing it were planted in the ordinary border, means simply to spoil one of the most charming of all hardy trailing plants. The plant is tuberous-rooted, and may in season be had quite cheaply in a dry state. One of the most sumptuous displays I have ever seen was a huge bank, 50 feet long perhaps, in the Hale Farm Nurseries, some years ago. It was in full flower, and was truly a most glorious sight. *J.*

Lychnis Haageana.

Under this head we have one of the most beautiful as well as the most varied groups of choice and dwarf perennials. Though only attaining in a general way from 1 to 1½ foot in height, the plants are very freely flowered, and continue a long time in good condition. In general appearance they are widely distinct from the rest of this group, both in habit and flower. The latter frequently embrace some of the most vivid shades of scarlet, vermilion, rose, salmon-red, and crimson, together with many varying and intermediate shades. Whites are also found, though I have never seen a thoroughly good and pure white flower. In flower the plants are very showy, on account of the large size of the individual blossoms. These frequently approach 2 inches in diameter, and when seen in compact bushes, embracing the more distinct and brilliant

hues, are very striking. The plants are usually of easy culture, giving preference in point of soil to rich sandy loam of fair depth. In clayey soils the plants are not so happy as in light warm soils; indeed, it seems hardly possible to have a position either too dry or too hot, in proof of which I may mention that I planted some strong tufts immediately beneath a bay window having a south aspect, and I have rarely seen the plant attain to greater luxuriance. Not only was the position excessively hot in summer, but it was also very dry by reason of its closeness to the foundation of the dwelling. Those of your readers having similar positions, and who are at a loss how to brighten them, may do well to embrace a few of these Lychnises. They are easily raised from seeds, which are produced in plenty. The process, however, is rather a slow one, and those desiring immediate effect would do better, perhaps, to purchase a few plants of decisive colours, established in pots; good plants may be had from dealers in hardy plants at quite a cheap rate. *J.*

Geranium Endressi.

A neat and effective plant, suitable alike for the large rockery, or as a front-row plant in the border. In its flowering it is extremely free, the pretty rose-pink flowers, with which the plant is smothered throughout the livelong summer, producing a very pleasing effect. The plant usually grows about 2 feet high, and makes itself contented in any soil or position, and may be increased by division to any extent. *J.*

THE MANOR HOUSE, ASHBY-DE-LA-ZOUCH.

Our illustration (fig. 26) shows a view in the garden of W. Hemsley, Esq. In the foreground are carpet-beds. A crescent-shaped bed filled with sub-tropicals is further back. The ruined castle dates from the 15th century, and occupies the site of a castle that will be remembered by all readers of *Ivanhoe*. It is a matter of opinion whether this style of formal gardening is congruous with ruined architecture; but in any case, the effect of contrast is striking, and highly appreciated by the many visitors, and does much credit to Mr. Curtis, the gardener.



Fig. 26.—Manor House, Ashby-de-la-Zouch.

Home Correspondence.

Small nuts.—There is this year what in sporting parlance may be termed a record crop of small nuts. Not that good crops of these pleasant fruits are not common, but at least this year there will probably be one of unusual abundance. That should be good news for the vegetarians, for they hold that our molars are especially intended for the cracking of nuts and other frugivorous products, and that the more of work we give them the better for them as well as for human health. Man and monkey are very much alike in their appreciation of sweet nuts, and capital food they are also. Were our markets dependent upon the fruit of the common Hazel, possibly our fondness for nuts might be less of an enthusiastic kind; but now that we have such a wealth of Filberts and Cobs, the fruits so fine, clean, and sweet, it is not a matter for surprise that we have never found them overdone, nor is it at present probable that they will be. Our home growers have even found a capital market for their produce in America, and if the Yankee sends us Apples amongst other fruits, we can now send him small nuts in exchange. Thus both nations are benefited. That there will be an immense crop of Kentish Cobs is evidenced by the statement of one grower that he expects to gather so enormous a weight as two tons to the acre. An average good crop would be about 30 cwt., but the pecuniary return is consequent on price, hence only problematical estimates can be made. That small nuts of the finest quality will be presently much cheaper than usual there can be no doubt, and no fruit can be more safely purchased for keeping, for good nuts may be kept fresh for several months. In Kent, which is the great nut county, it by no means follows that two tons or even 30 cwt. per acre of produce represents the entire production of the land. There Apples in the form of standard trees are unusually associated with the nuts. This year the fruit of the former will be few, and therefore the lack of crop will have to be largely made up for by the great abundance of nuts. In that county too, small nut culture is, as it were, reduced to a science, The cup-shaped outline is that favoured, and that it is productive of fine crops there can be no doubt. Still further, it is a method of culture best suited for intermingling with Apples. It does not, however, follow that good Cobs and Filberts may not be grown in a less formal fashion. Few gardeners get from free-grown trees or bushes, that are all tops rather than bottoms, finer crops than does Mr. Turton at Maiden Erlegh, and he seldom has a blank season. The soil is stiff, but the nuts thrive well upon it. They are somewhat sheltered by tall trees from the east, certainly. Considering that the small nuts blooms chiefly in January and February, there can be little doubt but that the bloom is of the hardiest. That the present splendid nut crop is largely due to the thorough ripening of the shoots last year there can be no doubt. The chief failures come after cold wet summers. Still, there can be no doubt but that the average cropping capacities of nuts are as high as are those of most fruits, hence taken all round it does seem as if few hardy fruits were more profitable or better worthy of extended cultivation. *A. D.*

Tropical plants at home.—There is probably no gardener living who would not be both charmed and educated by a series of good photographs of tropical plants and scenery. Engravings and lithographic reproductions are useless; the former are not botanically correct, nor do they convey the true feeling required, and the majority of lithos are simply a libel on Nature. There are photos, and good photos, of nearly everything in creation, from that of the house in which the last murder was committed to a seascape illuminated with the sails of fishing smacks advertising Teachem's pills; but where are the photos of Nature at her best? The *Gard. Chron.* gives us pictures of things and places which most of us can see every day, but where is the enterprising soul who will give us such pictures of tropical Nature as Stoddard's reproductions of things in general, which

are now being issued wholesale at a cheap rate? Surely some of those who have the power will rise to the occasion. The lovers of gardening and Nature at her best are not so small a minority as to make such a venture a failure commercially. *Thos. Fletcher, Grappenhall, Cheshire.*

TUBEROSE PEARL.—Is it a common occurrence for the Tuberose Pearl to throw two and three flower-spikes from a single bulb, which carry from twenty to twenty-six flowers on each? I have several bulbs which are flowering to that extent this season. The bulbs were potted to the number of two in a 5-inch pot, and are very strong. *E. Preece, Brewery House, Lowestoft.*

LILIUM ELEGANS CRUENTUM OR HORSMANNI.—Mr. Wallace, at p. 135, says he does not know when I received my L. Thunbergianum (elegans) cruentum. I bought at a sale, March 27, 1882, two lots together, seventy-five bulbs. I do not remember to have seen the Lily before these flowered. The note in my garden book is "richest dark elegans." Neither L. e. cruentum nor L. e. Horsmanni are mentioned in M. Cannart d'Hamale's *Monographie des Lis*, published in 1870, nor in Mr. Elwes' *Monograph*, part v., August, 1878. There were a good many lots similar to those which I bought, so that a large number of these Lilies must have been put into circulation. Perhaps Mr. Ware, or some other large Lily buyer, can give some account of them. I see by your editorial note, p. 74, that L. Thunbergianum (elegans) cruentum was certificated July 11, 1882. Should any of your readers have correspondents in Japan, and try to get L. e. cruentum in quantity, I would recommend them to try also for L. e. atrosanguineum; this is not so dark as L. e. cruentum, but with a bright warm tinge, it is very handsome. *George F. Wilson.*

A WORD ON THE NARCISSUS GRUB.—Now that cultivators of Narcissus are lifting their bulbs for transplanting, a word on the Narcissus grub may not be amiss. Without entering into the history of the fly and grub, I may mention a simple method I have often used to rid an infested bulb. This is to steep the bulb—that has been pierced at the base and in which you are certain the enemy has taken up his winter quarters—in a weak solution of salt and water. Generally in eighteen to twenty-four hours you will find the grub has left the bulb and may be seen in the water. When I say that the grub may become at times as great a pest as basal-rot, it is well to have a simple plan of riddance. *W. Crawford, M.D., Uddingston.*

LIGHTNING AND THE POTATO DISEASE.—"E. C.'s" assurance that the Potato fungus is the product of lightning shows how very hard popular superstitions die. He might with as much wisdom have attributed the Onion-maggot or the Gooseberry-caterpillar or the spider to the same cause. What happens is that thunderstorms are almost invariably accompanied by either rain or followed by a very humid atmosphere, which saturates the Potato leafage as would a bath of vapour. The minute spores of the Phythophora infestans being then abundant in the atmosphere or on the Potato plant leafage, held there probably by the minute hairs which cover the leaves, no sooner become thus immersed in moisture than they become active, causing rapid growth in the leafage, which destroying the cellular tissue, causes the black spot seen on the leafage. It is very common experience for a breadth of Potato to seem full of rude health in the evening, and next morning after a humid hot close night to be covered with black spots. I have often found vaporous exhalations or mist to be far more productive of spore growth than is rain. I mentioned some time since seeing at Reigate so early as July 6th, in a low-lying damp locality, a breadth of Beauty of Hebron, of which the leafage was badly affected with disease. That was in the morning, and in the evening a very heavy thunderstorm visited the district. Possibly some persons would in that case have attributed the disease there to the lightning, which if it were of that disastrous character ascribed to it by "E. C." would, because it was most remarkable in its intensity, have blackened all the Potato-tops in the district. That the fungus attacks the more mature leafage first is well known, but has not been explained. *A. D.*

THE CRYSTAL PALACE FRUIT-SHOW.—There appear to be many fruit-growers in the kingdom who do not seem to be aware that the schedule of this show has been issued by the Royal Horticultural Society. From the copy before me I gather that there are over 140 classes, and all of a character to attract good competition, and bring together a wonderful body of splendid fruit. That it should eclipse all other similar efforts in the way of fruit displays is certain, if liberally supported. A few defects have already been criticised. First, that the show extends over four days, inclusive of Sunday; that may deter many private growers from exhibiting choice fruit; still, were it possible to have the whole of the choicer or softer fruit covered up during Sunday and at night, if but with papers, great good would result. Again, the temperature of the Palace is never high, and its atmosphere is pure, so that fruit will take much less harm than two days' exposure only in some other places. Then some have said the prizes are not large enough; still, they are not bad; and, best of all, owing to the great number of classes, they give chances to very many competitors, instead of to the few. There are no fewer than seventy-five single-dish classes for Apples and Pears which shows how open is the competition. A fault, too, has been found with the interleaving of advertisements with the prize-list. That is always an objectionable practice; but as the advertisements are all on separate leaves, the nuisance is soon got rid of. I am satisfied that this is an illustration of the way in which advertisers in their demand for particular places entirely overshoot the mark. Advertisements at the beginning or end of a schedule remain, those in the middle of a schedule don't. In spite of any small defects, the exhibition promises to be one of the finest fruit shows ever seen, and there can be no doubt that it will be so. I think 5*s.* per head for a gardener's luncheon is an exorbitant charge, as it is notorious the contractor would make a good profit out of 2*s.* 6*d.* per head. *A. D.*

SOCIETIES.

SMETHWICK HORTICULTURAL.

July 25.—The seventh annual exhibition of this society was held in the Victoria Park on the above date. Through the interest and energy of the Rev. George Astbury, the vicar, and a hard-working Committee, the show has flourished from the beginning, and is a source of enjoyment to thousands who dwell in the immediate neighbourhood, being close to Birmingham. The neighbourhood has some good gardeners, who exhibit plants at the show. Some fine specimens of Dipladenia amabilis, Stephanotis floribunda, Clerodendron Balfouri, and Statice profusa, Ericas and Phœnocoma prolifera Barnesii were shown by the local gardeners; also some good Cycas revoluta, Crotons, and Palms.

In the competition for the best groups there were eight exhibits, and so good were they considered that six prizes were awarded.

Cut flowers made a good feature, and although Smethwick is only a few miles from Birmingham, 104 bouquets of wild flowers were exhibited, gathered, and arranged at the various schools, in the presence of the teachers. Fruit and vegetables were good, and as many as twenty-six collections of the latter were staged by amateurs and cottagers chiefly. The society is in a good financial position.

SOUTHAMPTON ROYAL HORTICULTURAL.

August 4, 6.—The floral fête of the above society was held in Westwood Park on Saturday and Monday. The weather was very threatening in the morning, but it held up sufficiently to secure a good attendance of visitors, although rain fell smartly in the afternoon of the first day.

The floral portion of this show is held in connection with an extensive programme of sports, the latter taking place on the second day (Bank Holiday), and in both sections of the programme, especially the horticultural one, the prizes offered were more numerous and of more value than is usual. Throughout the arrangements were very satisfactory, and reflect great credit upon the secretary, Mr. C. S. Fuidge.

Special mention may be made of the plants and groups; while if cut Roses were not so numerous as usually seen at this show, the quality compared favourably with any that we have seen at exhibitions this season. Messrs. Keynes & Co. had a fine lot of flowers not for competition—dark varieties—and these flowers, as well as the premier stands of Roses from Messrs. Perkins & Son, Coventry, were very clear and bright looking.

OPEN CLASSES.

Plants—These were excellent, especially those of the stove and greenhouse section.

For ten stove or greenhouse, five to be in bloom and five foliage, distinct: 1st, Mr. J. Cypher, nurseryman, Cheltenham, with grand specimens of Erica tricolor vera, Croton Sunset, Statice profusa, Allamanda nobilis, a beautifully grown and coloured Croton Chelsonii, and three grand Palms—Kentia australis, Latania borbonica, and Kentia Fosteriana. The last three, and a Phœnocoma prolifera Barnesii were specially noteworthy. Mr. T. Wilkins, gr. to Lady Theodora Guest, Henstridge, Blandford, was 2nd, with a collection which contained the largest Latania borbonica we have seen outside of Kew Gardens; well-grown Ixora Williamsii, and Kalosanthes coccinea major, also deserved attention. 3rd, Mr. F. C. Jennings, gr. to W. Garton, Esq., Roselands, Woolston. Mr. Jennings was close up to the 1st and 2nd prizemen, but there was a great falling off in the other competitors.

For six stove and greenhouse, three in bloom and three for foliage, Mr. J. Cypher again led the way. Ixora Pilgrimii being his best. Mr. Jennings 2nd, beating Mr. Wilkins in this instance.

In a collection of six miscellaneous plants, not less than three to be in bloom: 1st, Mr. N. Blandford, gr. to Mrs. Haslefoot, Moor Hill, West End, with splendid specimens of Cycas circinalis and Croton Morti; Mr. Peel, gr. to Miss Todd, Sidford Lodge, Shirley, and Mr. T. Hall, gr. to Sir S. Montague, Bart., M.P., equal 3rd; the contest being close indeed.

Six stove or greenhouse Ferns were not particularly striking: 1st, Mr. Jennings, gr. to W. Garton, Esq.; 2nd, Mr. J. Amys, gr. to the Hon. Mrs. E. Yorke, Hamble Cliff.

For a specimen stove or greenhouse plant in bloom, Mr. Cypher led with a small but well-flowered Erica Austiniana, and Mr. Jennings, was 2nd, with Allamanda Hendersoni.

For a specimen foliage plant, Mr. Evans, gr. to Lady Louisa Ashburton, won with a good Cycas revoluta; Mr. Jennings following with a very deep-coloured Croton Williamsii.

For a specimen Palm (Latanias excluded) Mr. J. Amys, gr. to the Hon. Mrs. Eliot Yorke, Hamble Cliffe, and Mr. Jennings, gr. to W. Garton, Esq., Woolston, were 1st and 2nd.

Groups of miscellaneous plants were the best it has been our lot to see this season. All were beautifully arranged, no overcrowding, and with a light feathery effect. Much of this was attained by the free use of Francoa ramosa, Asparagus, and various Orchids, Oncidium incurvum being particularly pleasing. 1st, Mr. E. Carr, gr. to W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, with an excellent group in the chief class, followed by Mr. E. Wills, nurseryman, Winchester Road, Shirley; and Mr. T. Wilkins, gr. to Lady Theodora Guest, Inwood House, Hunbridge, was 3rd.

For a smaller group (12 by 8 feet), well arranged collections were also put up. 1st, Mr. Peel, gr. to Miss Todd, Sidford Lodge, Shirley, with a good group, followed by Mr. Hall, gr. to Sir S. Montagu, Bart., M.P., and Messrs. Longster Bros., Nurserymen, St. Mary's Road.

Mr. E. Wills, Nurseryman, Winchester Road, Shirley, was 1st for six Begonias, Mr. J. Hughes, gr. to W. Baring, Esq, Norman Court, Dean, following. But for four double ditto, Mr. Hughes was well in front of his rival.

The contest for a collection of Orchids brought out three competitors. Mr. E. Carr, gr. to W. A. Gillett, Esq., who was 1st with some very pretty little pieces of Epidendrum vitellinum majus, Anguloa Clowesii, Cypripedium barbatum majus, C. Laurenceanum and Oncidium incurvum; and Mr. N. Blandford, gr. to Mrs. Haselfoot, Moor Hill, West-end, who was 2nd; and Miss Todd, Shirley, 3rd. Mr. Carr was likewise 1st for a specimen Orchid.

For four double-flowered Pelargoniums.—1st, Mr. G. Windebank, nurseryman, Bevois Mount; Mr. J. Stratton, nurseryman, Shirley, occupying a similar position for four Zonals.

Mr. Hall, gr. to Sir S. Montague, Bart., was well in front for six Coleus, having beautifully grown and coloured specimens, and was also 1st for six Cockscombs; and Mr. R. C. West, gr. to H. J. Wigram, Esq., Northlands, Salisbury, was 1st for six Celosias.

Six plants suitable for table decoration brought some well-grown stuff, Mr. Webster, gr. to E. J. Preston, Esq., Kelsey Park, Beckenham; Mr. Peel,

gr. to Miss Todd; and Mr. E. Wills, nurseryman, Winchester Road, Shirley, being winners in the order of their names.

Roses were good but not numerous. Messrs. Perkins & Sons, nurserymen, Coventry, were 1st for twenty-four varieties. This was one of the most perfect stands which we have observed during this season. Messrs. Keynes, Williams & Co., Salisbury made a good 2nd.

Twelve blooms (amateurs) were also good and clean: 1st, Mr. W. Neville, gr. to F. W. Flight, Esq., Cornstiles, Twyford; 2nd, Dr. D. Seaton, Rutland Lodge.

In a class for twelve bunches of hardy flowers: 1st, Mr. B. Ladhams, Nurseryman, Shirley, with a capital lot, having fine Coreopsis, Gaillardias, &c., and some blooms of a very showy new hardy Gladiolus, "La Fayette," which attracted much attention. Mr. Evans, gr. to Lady Ashburton, was 2nd. Mr. Evans was 1st for twelve bunches of cut flowers, followed by Mr. Henbest, gr. to E. B. Marshall, Esq, Crawley Court, Winchester. Mr. W. Baring, Norman Court, Dean, had the best twelve Carnations.

In the open class for twelve Show or Fancy Dahlias, and also for twelve Pompones, Messrs. Keynes, Williams & Co., Salisbury, and Mr. J. Evans, took the 1st and 2nd prize in the order of their names.

Fruit.

There were several splendid collections of fruits, and the quality was generally very good. For six dishes: 1st, Mr. H. W. Ward, gr. to the Right Hon. Earl of Radnor, Longford Castle, Salisbury; 2nd, Mr. J. Evans.

Dishes of Grapes were numerous, and of much excellence. For three bunches of black Grapes: 1st, Mr. W. Mitchell, gr. to J. W. Fleming, Esq., Chilworth Manor; Mr. J. Sanders, gr. to Miss Shelley-Bontein, Paulton's Park, was 1st for three bunches of white Grapes.

Mr. R. C. West, gr. to H. J. Wigram, Northlands, Salisbury, was 1st for two bunches of black Grapes; and 2nd, Mr. T. Wilkins, who was 1st for a like number of bunches of white Grapes.

For six dishes of fruit, outdoor growth: 1st, Mr. R. C. West; and 2nd, Mr. J. Evans. For a similar number of hardy fruit from amateurs: 1st, Mr. W. Fellows, Hill Lane; being closely followed by Mr. F. M. Vokes, Sholing.

Vegetables.—Here also there was strong competition, and first-class produce was shown. In the open class for nine distinct kinds: 1st, Mr. T. Wilkins, and Mr. Pope, gr., Highclere Castle, was 2nd.

In the class for six kinds (amateurs): Mr. A. R. Bone, Portswood, and Mr. W. Batten, Old Basing, took 1st and 2nd.

Messrs. Sutton & Sons' 1st and 2nd special prizes went to Mr. J. Hughes, gr. to W. Baring, Esq., and Mr. Pope, gr. to the Earl of Carnarvon. The 1st and 2nd, by Messrs. Webb & Son, to Mr. W. Pope and Mr. T. Wilkins, gr. to Lady T. Guest; and the two premier prizes, by Messrs. Toogood & Sons, to Mr. W. Wiltshire, jun., Westend, and Mr. Vokes, Sholing.

Non-competitive exhibits were numerous and varied, the most notable being a special tent and stand of horticultural sundries, seeds, &c., from Messrs. Toogood & Sons, Southampton. A collection of choice plants and Carnations came from Messrs. Cutbush, Highgate. Conifers, flowering shrubs and herbaceous plants were shown from Mr. E. Hillier, the Nurseries, Winchester; and Roses from Keynes, Williams & Co., of Salisbury, attracted much attention.

Mr. J. Douglass, "Edenside," Great Bookham, had a good collection of Carnations and Picotees.

THE MIDLAND CARNATION SHOW.

August 5.—This exhibition, which was held in the Edgbaston Botanical Gardens on the above date, proved, like that in London, a distinct success, flowers coming from many parts of the country, and being generally well shown. The border varieties, shown in bunches, were very numerous, though some of them were unduly large. The selfs and fancy varieties, together with the yellow grounds, were seen in their best form.

The best twelve Carnations came from Mr. R. Sydenham, Birmingham, who had Fred Phillips, Lord Salisbury (a very fine C.B.), Mrs. Rowan, Guardsman, Joseph Laken, Sarah Payne, &c.; the 2nd prize going to Messrs. Thomson & Co., Birmingham, who also had some very good blooms.

Mr. B. Simonite, Sheffield, had the best six blooms; Mr. J. Edwards, Manchester, came 2nd.

Picotees were very good, Mr. A. W. Jones, Birmingham, being 1st with Little Phil, Esther, Brunette, Ne Plus Ultra, Mrs. Burnett, Thomas William, Lady Louisa, Mrs. Sharpe, Muriel, and Favourite; Mr. R Sydenham taking the 2nd place.

With six varieties Mr. C. Chappell, Lozells, was 1st; and Mr. B. Simonite 2nd.

The best twelve yellow grounds or fancies came from Mr. Charles Turner, Slough, who had splendid blooms of The Miser, Almira, George Cruikshank, The Dey, Adela, Romulus, E. M. Wynne, and Countess of Jersey; Mr. R. Sydenham was 2nd, with some very fine blooms also. Mr. T. E. Henwood took the 1st prize with six fancies or Y.G.; Mr. T. Anstiss, Brill, was 2nd.

The selfs made a brilliant display, Mr. C. Turner being again 1st with Salamander, Louis Napoleon, King of Scarlets, Cedric, Fiery Cross, Hayes' Scarlet, &c.—a rare collection of show flowers; Messrs. Thomson & Co. were 2nd.

With six selfs, Mr. J. Walker, Thame, was 1st, and Mr. W. Kenyon, Bury, 2nd.

A class was provided requiring six Carnations and Picotees from maiden growers. Mr. J. W. Bentley, Stakehill, Castleton, took the 1st prize.

There were classes for twelve blooms, each arranged with its own foliage, the 1st prizes going to Mr. A. W. Jones, for large mop-like flowers; Messrs. Thomson & Co., who had smooth blooms of fine quality, having to be content with the 2nd place. In the class for six blooms, Mr. A. Spurling, Blackheath, was 1st, and Mr. C. F. Thurstan, Wolverhampton, 2nd.

Of single blooms there were a great number, each division being well represented, and as there were fifteen classes, the work of judging occupied some time. Germania was still the best self, and Mr. R. Sydenham the best yellow ground.

The premier bizarre Carnation was Lord Salisbury (Thomson & Co.); the best flake P.F. Mr. Douglas (Simonite); H.E.P. Red Brunette (Jones); L.E.P. Red, Mrs. Gorton; Self, Germania (Jones); Yellow Ground, Mrs. R. Sydenham (Spencer); Fancy, The Dey (C. Turner).

Bunches of Carnations and Picotees were largely represented, Messrs. Thomson & Co. taking the 1st prize with twelve bunches; Messrs. Hewett & Co. being 2nd. The class for six bunches brought a brisk competition also. Six bunches of border varieties brought a rare display, Messrs. Thomson & Co. taking the 1st prize, and Mr. S. Rogers the 2nd.

Plants in pots, well shown by Mr. R. Sydenham, shower bouquets, sprays and button-holes of Carnations, floral arrangements of various kinds in other flowers, &c., all added to the interest of the exhibition, and several special prizes were offered for Carnations, the competition being good in all.

Miscellaneous collections of various kinds greatly added to the display.

SAFFRON WALDEN HORTICULTURAL.

August 6.—The annual summer exhibition of this Society took place in the grounds of Elm Grove and Fairy Croft, two adjoining residences, with appropriate grounds, near the railway station, four good-sized tents being required to accommodate the exhibits. One of the principal exhibitors was Mr. Archer, gr. to Miss Gibson, Saffron Walden, who had fine specimen stove and greenhouse plants, large specimen Fuchsias, a group of plants, cut flowers, &c., which greatly helped the display. Among flowering plants, tuberous-rooted Begonias, Zonal Pelargoniums, and Ivy-leaved ditto; and among foliage plants a fine collection of six from Mr. Archer, Ferns, Coleus, &c.

Cut flowers were numerous and good, one exhibitor setting up a superb collection of twenty-four bunches. Zonal Pelargoniums in bunches were particularly good, and so were the African Marigolds; bunches of annuals were charming, and Mr. Archer's twelve bunches of stove and greenhouse plants very good.

Fruit was somewhat sparingly represented; Grapes, culinary Apples, and bush fruits were the most numerous kinds.

Vegetables were very good, and the baskets of not less than twelve sorts, and baskets of salads, very attractive.

Among miscellaneous exhibits, Messrs. Paul & Son, the Old Nurseries, Cheshunt, had a fine collection of cut Roses and hardy flowers in great variety; Messrs. Webb & Brand, nurserymen, Saffron Walden, cut flowers of various kinds, including some of the fine old named Hollyhocks of years past, which we had feared were quite lost, and some highly promising seedlings; Mr. J. R. Pitch, nurseryman, Saffron Walden, collections of Sweet Peas, Carnations, &c.; and Mr. C. G. Paine, "Rose and Crown," Saffron Walden, a superb bank of Begonias. The show appeared to be highly successful in every way.

THE CARNATION AND PICOTEE UNION.

July 31.—In favourable weather, the annual exhibition of the Carnation and Picotee Union took place, as usual, in the gardens of the Lodge, Stanley Road, Oxford. The exhibition was a remarkably good one, the quality of the flowers being higher than at the Drill Hall, and there was a remarkably good competition in all the classes. A tent, open at the sides, contained the competitive exhibits, and the numerous visitors were enabled to inspect them under pleasant conditions.

There were seven stands of twelve dissimilar blooms of Carnations, Mr. R. Sydenham, Birmingham, taking the 1st prize with some excellent blooms of C.B. J. D. Hextall, P.P.B. Sarah Payne, P.P.B. Charles Phillips, S.B. Robert Lord, P.F. Gordon Lewis, C.B. Master Fred, R.F. Thalia, P.F. Agricola, C.B. Lord Salisbury, S.F. Sportsman, S.B. Dr. Hogg, and S.F. Clipper; Messrs. Thomson & Son, nurserymen, Birmingham, were 2nd, having some very good blooms also, the leading flowers being S.F. Guardsman, R.F. Tom Woods, C.B. J. D. Hextall, C.B. James Merryweather, P.F. Mayor of Nottingham, and S.B. Robert Houlgrave; 3rd, Mr. C. Phillips, Reading.

There were eight exhibitors of six blooms of Carnations, Mr. F. Hooper, nurseryman, Bath, taking the 1st prize with S.B. Edward Adams, P.F. James Douglas, C.B. Seedling, P.P.B. William Skirving, P.F. Charles Henwood, and C.B. Mrs. Barlow; 2nd, Mr. Joseph Brockhurst, Moston, Manchester, who had in fine condition S.B. Edward Adams, C.B. Master Fred, S.F. Waterloo, R.F. Thalia, C.B. Thaddeus, and S.B. Robert Houlgrave; 3rd, Mr. J. Edwards, Manchester.

The class for twelve dissimilar Picotees brought eight stands, and Mr. R. Sydenham was again 1st. He had H. Red E. Mrs. Lovett, H. Ro. E. Norman Carr, L.P.E. Mrs. Kingston, H. Red E. Brunette, L. Ro. E. Rosie Sydenham, H. Ro. E. Little Phil, L.P.E. Diana, and H. Ro. E. Heroine, H.P.E. Amy Robsart, H.P.E. Miriam, L. Ro. E. Favourite, and H.P.E. William Openshaw; 2nd, Mr. A. W. Jones, Birmingham, also with a good stand of blooms, the varieties mainly as the foregoing; 3rd, Messrs. Thomson & Son, Birmingham. There were eleven stands of six Picotees, Mr. F. Hooper again taking 1st prize with H. Red E. J. B. Bryant, L. Red E. Mrs. Bower, L. Ro. E. Edith D'Ombrain, L. Ro. E. Nellie, H.P.E. Amy Robsart, and H. Red E. Brunette; Mr. W Spencer, jr., Hendon, was a very close 2nd with H. Rose E. Mrs. Sharpe, H. Ro. E. Little Phil, H. Ro. E. Harlequin, H. Red E. Brunette, H.P.E. Muriel, H. Ro. E. Mrs. Burnett, &c.; 3rd, Mr. H. Haslett, Oxford.

Single blooms were produced in large numbers, the best scarlet Bizarres were George, C. H. Herbert, and Robert Houlgrave; the best crimson bizarres, Richard Beilby, Homer, and John Harband; the best pink bizarres, J. D. Hextall, Rifleman, and Sarah Payne; the best purple flakes, James Douglas, and Mayor of Nottingham; the best scarlet flake, Sportsman; the best rose flakes, Thalia, Dodwell's 1341, and Tom Wood. The best selfs, Germania and Ruby; the best fancies, Tournament, Mr. Robert Sydenham, and Fred Hooper; and the best yellow grounds, Thomas Anstiss and Terra Cotta.

Of Picotees, the best heavy edges were Rose E., Mrs. Burnett, Red Edge, Brunette, Rose Edge, and Little Phil; the best medium edges, Rose, Little Phil, Rose, Rosie Sydenham, and P. E. Amelia; the best light edges, Rose Nellie and Rose Favourite; the awards in each case being made in the order in which the names are given.

The premier Carnation was J. D. Hextall, C. B. from Mr. R. Sydenham, who had the premier self in Ruby; the premier Carnation was Cardinal Wolsey, from Mr. J. Douglas; the premier Picotee, Mrs. Payne, rose edge, from Mr. C. Phillips; the premier yellow ground, Mrs. R. Sydenham, from Mr. W. Spencer, Jr.

Stands of twelve selfs, fancies, or yellow grounds were numerous, and the blooms very bright and effective. There were ten exhibitors of twelve blooms, Mr. R. Sydenham being 1st with Dodwell's 919 Y.G., self Ruby, self Mrs. Ford, Y.G. Queen of Buffs, self rose sport from Thalia, fancy Duchess of Portland, Uncle Tom, dark self Fanny Vandyck, Y.G. Star of Bath, scarlet self sport from H.

Cannell, Y.G. Dodwell's 957, and pink self Midas. 2nd, Mr. W. Read, The Cottage, Stanley Road, Oxford, who had Uncle Tom, Germania, and seedling selfs and fancies. 3rd, Messrs. Thomson & Son.

There were ten stands of six blooms, yellow grounds preponderating, and Mr. A. W. Jones was 1st, with very good blooms indeed of Mrs. R. Sydenham, Victory, Stadtrath Bail, Germania, Dodwell's 1143, and Dodwell's 969. 2nd, Mr. W. Spencer, jun., with Mrs. R. Sydenham, Romulus, Victory, Janira, Madame Van Houtte, and Schlieben. 3rd, Mr. J. W. Foulkes, Chester.

With six yellow grounds out of eleven stands, Mr. C. Harden, Ash, Dover, was 1st, having very fine blooms of Nellie Bath, Annie Douglas, Stadtrath Bail, Countess of Jersey, Romulus, and Dodwell's 961. 2nd, Mr. T. E. Henwood, Reading, with Agnes Chambers, Eurydice, Mrs. R. Sydenham, Lily Henwood, and seedlings. 3rd, Mr. J. Douglas, Bookham.

Certificates of Merit were awarded to Mr. J. Douglas for the following new yellow-grounds:—Mrs. Douglas, Ladas, and Mrs. Drawfield; and to the following border varieties:—Mrs. Audrey Campbell, a soft yellow self; Cardinal Wolsey, a pale ground flower, deeply edged with bright salmon-red; Duke of Orleans, a pale, soft yellow self; and Hayes, scarlet self.

BEDDINGTON, CARSHALTON, AND WALLINGTON HORTICULTURAL.

The fifth annual exhibition took place on Bank Holiday in the fine grounds surrounding Carshalton Park, and may be recorded as a great success.

Group of plants arranged for effect in a space not exceeding 80 square feet: in this class the 1st prize was well won by Mr. G. W. Cummins, gr. to A. H. Smee, Esq., the active president of the society, for a beautiful arrangement in which plants of Cattleya aurea were made much use of; 2nd, Mr. J. H. Stevens, gr. to E. G. Coles, Esq, whose Crotons were well coloured.

The best four flowering plants, distinct: 1st, Mr. J. Slater, gr. to Mrs. Hulse, with creditable examples; 2nd, Mr. J. Wright, gr. to Mrs. Bridges. Six Gloxinias in flower: 1st, Mr. J. H. Stevens; 2nd, Mr. T. A. Glover. Three specimen Coleus, good coloured examples, from Messrs. A. Etheridge and J. Wright, gained the awards in the order named.

Three Fuchsias: 1st, Mr. A. Etheridge; 2nd, Mr. J. Wright; nicely flowered examples. Six Exotic Ferns: fine specimens gained Mr. J. H. Stevens the premier award; 2nd, Mr. J. Slater. Tuberous Begonias presented a bright patch of colour, the 1st and 2nd prizes going to Messrs. J. Slater and E. Etheridge.

Cut Roses taking 1st honours were well shown by Mr. G. W. Cummins; 2nd, Mr. J. H. Stevens. In the class for hardy herbaceous flowers, the prizes for well selected and bright collections went to Messrs. J. Slater and G. W. Cummins.

Fruit.—The last-named exhibitor took the leading prizes for single dishes of Nectarines (Dryden) and Peaches (Stirling Castle). In the class for three bunches of Grapes the awards went, for fine fruit, to Messrs. H. Shorbridge and J. Slater. Green-fleshed Melon, for flavour: 1st, Mr. D. Harris; 2nd, Mr. J. Davis. Brace of Cucumbers, nice even examples, gained the prizes to Messrs. J. H. Stevens and A. G. Price.

A very keen competition resulted in the class for a collection of vegetables, nine distinct kinds, open to gardeners and cottagers in the district: 1st, Mr. J. H. Stevens; 2nd, a very creditable exhibit for a cottager, Mr. A. McCrae.

Non-competitive exhibits made an attractive display. We may mention a beautiful lot of hardy flowers, &c., from Mr. John R. Box, Croydon; Messrs. J. Peed & Sons, a nice group of hardy herbaceous flowers; Messrs. J. Laing & Son, a good miscellaneous selection of flowering and foliage plants; the Surrey Seed and Fruit Orchards Company; table decorations from Miss Cooper; and flowers of hardy herbaceous perennials from Messrs. J. Cheal & Sons, Crawley.

A remarkable display of flowers, fruit, and vegetables was made by the cottagers of the district, and in the afternoon the Right Hon. Jesse Collings, M.P., gave an interesting and instructive address on garden allotments, &c., to a crowded audience. Mr. John Wright also gave an address, with object lessons, showing the effects of right and wrong methods in the production of vegetables and fruit, which was listened to with great attention.

In the Conference tent was an excellent display of vegetables from the Continuation School Gardens, under the auspices of the Surrey County Council Technical Education Committee. This attempt—and a very successful attempt it was—is noteworthy by reason of its being the first that has been made in this country. We look to great things in this direction in the future; now that such a good start has been made the idea is capable of much expansion and an infinity of good resulting to the participators in it. It was very interesting to observe the different effects of soil on the same vegetable, this information being given with each exhibit. A deserved Award of Merit was given in each case.

The show was well managed by Mr. G. W. Cummins, the Hon. Secretary.

NURSERY NOTES.

MR. JOHN R. BOX'S, CROYDON.

Since 1876, when the tuberous-rooted Begonia may be said to have been put into commerce, the proprietor of this nursery has done much to improve this now deservedly popular flower, and a recent visit shows him to be still in the van of progress. In looking over the doubles it was observed that most of the old pendulous varieties have been discarded, those now in favour having almost an erect poised flower, very large and full, and some of them may be grown without any supports being needed, being stocky and short-jointed, invaluable therefore for the greenhouse and conservatory. A few varieties (amongst the many observed) may be noted. Beauty of Belgrove: in colour and form of flower this resembles the well-known La France Rose, beautiful silvery pink, flowers large and very fine. Mrs. Cannell is a great beauty, creamy-white, perfect in shape. Primrose Queen, light yellow, most beautifully shaped of its colour. Henshaw Russell, glowing scarlet flowers of fine form and great substance, good habit. A good acquisition is J. E. Midson, fine scarlet, free flowering. A new variety not yet introduced to commerce has just been named Prince Edward, a plant of very good habit, bearing bright scarlet rosette-shaped flowers. A superb variety is Mrs. Castle, of a beautiful salmon shade, quite distinct. Octavie is a very pretty white Camellia-like flower, remarkably free-flowering, dwarf, and for cut blooms it is invaluable. Rev. E. Lascelles is a very fine deep yellow, flowers well formed and free; splendid habit; one of the best. Mrs. Stephenson is a soft rose, delicate shade, large flowers. Hollyhock, pink, medium-sized flowers, quite upright, a favourite. Triomphe de Nancy, delicate pale yellow, broad petals, like a Tea Rose; a grand variety. Hon. Mrs. Bertie, creamy white, beautiful shape, perfectly upright; a great beauty. Another good creamy white is Mrs. French, very large imbricated flowers, vigorous habit; a fine variety. Madame Pfitzer is a rich yellow, flowers medium sized. A good collection of singles was also observed in superb colours as dark crimson, crimson, brick-red, scarlet or vermilion, blush pink, rosy pink, rose, deep rose, pure white, primrose yellow, rich yellow, golden yellow or bronze, orange scarlet, copper or apricot, and salmon or flesh.

In a week or two hence the bedded-out Begonias will be a grand sight at this Nursery, judging from present appearances. Some 100,000 are used for this purpose, and in all the popular colours, the aim which has been attained being to get dwarf stocky plants producing upright flowers on short stalks, so as to ensure the most effective results. Mr. Box is marching with the times in having a good and comprehensive collection of hardy herbaceous plants, containing all the most desirable plants amongst this popular class. *J. B.*

Obituary.

George Medland.—This patriarchal florist and hybridiser passed away at noon on Friday, August 3, 1894, in his eighty-seventh year, from sudden stoppage of the heart. Seventy-two years ago George Medland commenced a seven years' apprenticeship with the late Mr. Chas. Sclater, at the old Summerlands Nursery, Exeter, and remained in his service for over twenty years. In one of his many notes to me on gardening he refers to that far-off period, speaking of Sclater's Gardens on Southernhay, and that they grew fruit, flowers, and vegetables for market; and also of other gardens in Holloway Street, where they had a fine stretch of brick walls, on which Apricots, Nectarines, and Peaches were in full vigour, producing splendid fruit, and even at that time fetching good prices (3*d*., 4*d*., and 6*d*.). Salading was also a paying crop. One of his favourite flowers—the Carnation—was cultivated extensively, for he remarks that every year several hundreds in pots were grown for blooming, and there was a canvas screen for sheltering them when needed; also all the leading kinds of named Auriculas, Polyanthuses, and Pinks. North-country Pinks were small and thin, but beautifully laced, and were inferior to the larger and fuller flowers of the southern growers. Barrett's Conqueror, Davey's Britannia, Lady Albemarle, and Davey's Earl of Uxbridge were great favourites. Davey of Chelsea was a florist of some note. At that time Mr. Sclater visited London, and made a selection of Pelargoniums, which were then quite unknown in the Exeter district, as only some Cape scarlets and zonals, with a few tuberous-rooted kinds, were grown. These new Pelargoniums created a great sensation in Devonshire, and many of them were Davey's seedlings. Thomson, of Mile End, about the year 1828 was selling off his fine collection of Camellias, and Mr. Sclater bought many of them, including fine specimens of Double White and Chandleri. How to get them to Exeter was a difficulty, the only conveyances being waggons and stage coaches, so he went to Topping's Wharf, and arranged with the captain of an Exeter trading ship. Fortunately the wind was fair and the passage quick, and so all arrived safe and sound. With regard to gardening at Exeter, Mr. Medland states that there were amateur growers of Tulips, Auriculas, Carnations, Polyanthuses, double Primroses, Turban and Persian Ranunculus, and Hyacinths, and that in the upper part of the city lived numerous serge weavers, most of them having nicely kept gardens behind their houses. These old weavers, it seems, were regular devotees, for they had a real love for their pets. Messrs. Ford & Please had a large nursery in Okehampton Street, afterwards known as Dymond's Nursery. Mr. William Ford also had a large nursery in Longbrook Street, another at Lion's Holt, and one near the Cavalry Barracks. Lucombe, Pince & Co.'s nursery was the oldest, dating from 1720, and so long ago as 1840 that great gardener, the late Mr. Pince, had a rich and varied collection of stove and greenhouse plants and Orchids, including many splendid specimens. The other nurseries are of recent date, except Messrs. Veitch & Sons at the Mount Radford Nursery, but now of the Royal Exotic Nursery, Chelsea. When the Mount Radford Nursery closed, the present nursery in the New North Road was opened by the late Mr. Robert Veitch, and is now known as Veitch's Royal Exotic Nursery, Exeter. But of private gardens there were only a few cultivators of hothouse plants, such as Charles Booth, gardener to the late Mrs. Johnes, of Hills Court, and afterwards gardener at Downes, Crediton, who had a good knowledge of plant-growing. Mr. Johnes had a fine lot of stove and greenhouse plants, as well as ornamental trees and shrubs. The late Mr. John Milford of Coaver House, a famous banker of Exeter, was also a great enthusiast and pioneer of horticulture in those parts, and his gardener, Mr. Camble, used to do Grapes, Pine-apples, and stove plants well. It was in this garden that Mr. Medland first saw Azalea indica alba. An old lady named Miss Weston had nice gardens on Southernhay also, and used to visit her brother in London, and return with new and rare plants, obtained from Loddiges' once famous Nurseries. Dung beds, leaves, and tanner's bark, with the old smoke flues, were in those days the heating mediums, and the first hot-water apparatus known to him in the West of England was by Corbett, gardener at Pencarrow, Cornwall, which was the open trough system, flow and return, and very useful in many ways, and that Mr. John Milford aforesaid had

steam for heating his plant houses at Coaver, but eventually hot water for heating purposes soon became general.

With regard to gardeners of that period, after the Exeter Horticultural Society was formed in 1829 or 1830, Mr. Medland gradually became acquainted with many of them, and on the whole they were a respectable and intelligent lot of men, for there were few changes, and most of them remained in their situations to the last. He could only remember two who were able to retire on their means. A few of the oldest gardeners were Hall, at Powderham Castle; Lawrie and Cleall, Nutwell Court; Lowe, Bystock, Saunders, Luscombe Castle; Saunders, Kitley House; Craggs junr., Killerton Park; Craggs sen., Weare House; Nicholls, Winslade Park; Griffin and Yole, Cowley House; Kemp, Rockbeare Court; Anderson, Glendinning and Barnes, Bicton Park; and Mason, Escott Park.

Mr. Medland was born on February 18, 1808, and was employed in Sclater's Nursery over twenty years; in Russell's Nursery at Sidmouth two years; in Mr. Radford's Nursery with the late James Veitch six years; in Addiscott's Nursery at Saint Thomas seventeen years; and from 1875 to 1890 with the late Messrs. Lucombe, Pince & Co., of the great Exeter Nursery, when from infirmities of old age he gave up, and became a pensioner of the Gardeners' Royal Benevolent Institution. He was naturally a retiring and modest man, kind-hearted and a firm friend, and knew more trees, shrubs, fruits, and flowers, at sight than any man I have so far met with. His knowledge of herbaceous and border plants in particular was extraordinary. Those who can remember Messrs. Lucombe, Pince & Co.'s floral displays, during Dr. Woodman's proprietorship, at most of the more important flower shows, will recall their skilfully grown prize-winners in stove and greenhouse plants and Orchids, &c., and also their gorgeous trays of Carnations, Dahlias, Delphiniums, Gaillardias, Hollyhocks, Irises, Pansies, Pæonies, Pentstemons, Phloxes, Picotees, Pinks, Pyrethrums, Roses, &c. The whole of the latter section being under Mr. Medland's control and management. Moreover, his annual exhibition of 500 specimen Chrysanthemums at the Exeter Nursery was also noteworthy. *W. N.*

MARKETS.

COVENT GARDEN, August 9.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl....	2 0–	3 0
Asters, French, p. bun.	0 6–	1 0
Bouvardias, per bun.	0 6–	1 0
Carnations, 12 blms.	1 0–	3 0
— doz. bun. ...	2 0–	4 0
Cornflowers, 12 bun.	1 0–	2 0
Eucharis, per dozen	2 0–	4 0
Gardenias, per dozen	1 0–	3 0
Gladiolus, doz. bun.	3 0–	6 0
Lilium Harrisii, doz.	2 0–	4 0
— lancifolium, p. bunch	1 0–	2 0
— — p. 12 blooms	0 9–	1 6
Maidenhair Fern, per 12 bunches ...	3 0–	6 0
Marguerites, 12 bun.	1 6–	3 0
Mignonette, 12 bun.	3 0–	6 0
Myosotis, or Forget-me-Not, doz. bun.	1 6–	3 0
Pansies, 12 bun. ...	1 0–	2 0
Orchids:—		
Cattleya, 12 blms.	6 0–	12 0
Odontoglossum crispum, 12 blms.	2 0–	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0–	4 0
— 12 sprays ...	0 4–	0 8
Pinks, doz. bun. ...	1 6–	4 0
Pyrethrums, 12 bun.	2 0–	6 0
Roses, Tea, per dozen	0 6–	2 0
— coloured, p. doz.	2 0–	4 0
— yellow (Maréchals), per doz.	1 6–	5 0
— red, per dozen ...	0 6–	1 0
— Moss, French, doz. bun. ...	12 0–	18 0
— outdoor, doz. bun.	3 0–	9 0
Stephanotis, dozen sprays	1 6–	2 0
Sweet Sultan, 12 bu.	2 0–	3 0
Tuberoses, 12 blms.	0 2–	0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, half-sieve...	1 9–	2 6
Figs, per dozen ...	1 0–	2 0
Grapes, 1st quality, black English, per lb.	1 6–	2 0
,, English, 2nd quality, p. lb.	0 6–	1 0
Grapes, Muscat, per lb.	2 0–	3 0
,, Muscat, 2nd quality, per lb. ...	0 9–	1 0
Grapes, Guernsey, per lb.	0 9–	1 0
Melons, each ...	1 6–	2 6
Peaches, large, p. doz.	4 0–	6 0
,, small, per doz. ...	1 0–	
Pears, p. sieve, small	2 0–	2 6
,, (Dessert), half-sieve	3 0–	4 0
Pine-apples, St. Michael, each ...	5 0	7 0
Plums, half-sieve ...	2 0–	3 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0–	12 0
Aspidistra, per doz.	12 0–	30 0
— specimen, each	7 6–	21 0
Calceolarias, per doz.	3 0–	6 0
Cyperus, per dozen...	4 0–	10 0
Dracæna, each ...	1 0–	5 0
Ericas, various, p. dz.	9 0–	24 0
Evergreen Shrubs, in var., per dozen ...	6 0–	24 0
Ferns, various, doz.	4 0–	12 0
— small, per 100	4 0–	8 0
Ficus elastica, each	1 0–	7 6
Foliage plants, doz.	9 0–	24 0
Fuchsias, per dozen	4 0–	6 0
Heliotropes, per doz.	3 0–	6 0
Hydrangeas, per doz.	9 0–	18 0
— specimens, each	2 0–	3 6
Ivy Pelargoniums, dz.	3 0–	6 0
Lilium Harrisii, per dozen ...	12 0	24 0
— lancifolium, pr. dozen ...	9 0–	18 0
Lobelias, per dozen...	3 0–	4 0
— small, per doz.	1 0–	2 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0–	6 0
Musk, per dozen ...	2 0–	4 0
Nasturtiums, p. doz.	1 6–	4 0
Palms, various, each	2 0–	10 0
— specimens, each	10 6–	84 0
Pelargoniums, p. doz.	6 0–	10 0
— scarlets, p. doz.	3 0–	6 0
— scarlets, small, per dozen ...	1 6–	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, half-sieve	2 0–	2 6
,, Runners, half-sieve	2 0–	2 6
Cauliflowers, p. doz.	1 6–	3 0
Cucumbers, per doz.	2 0–	3 0
Marrows, per doz. ...	1 0–	2 0
Mushrooms, per lb.	0 6–	0 8
Peas, per bushel ...	4 0–	5 0
Tomatos, per lb. ...	0 3	0 4

POTATOS.

Potato market firm. Prices vary from 3*s.* to 6*s.* per cwt. Old Potatos finished.

SEEDS.

LONDON: *August* 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market was poorly attended, with but little business passing. New Trifolium, both French and English, is now enquired for, at the low rates prevailing. Samples of this season's new English Rape and Rye, offer at moderate figures. There is no notable alteration in Canary-seed; Hempseed dull. Other articles, at this quiet season, attract but little attention.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *August* 7.—Quotations:—Cabbages, 2*s.* 6*d.* to 4*s.* per tally; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Parsley, 1*s.* 6*d.* to 2*s.* per dozen bunches; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.

STRATFORD: *August* 7.—The supply to this market during the past week has been excellent, and, with a large attendance of buyers, a brisk trade has been done as under:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Lettuce, 6*d.* to 10*d.* per score; frame Cucumbers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Green Peas, 5*s.* 6*d.* to 6*s.* per bag; Plums, English, 2*s.* 6*d.* to 3*s.* 6*d.* per half-sieve; do., foreign, 1*s.* 6*d.* to 2*s.* 3*d.* per box; Green Gages, foreign, 1*s.* 3*d.* to 1*s.* 6*d.* per box; red Currants, English, 2*s.* to 2*s.* 6*d.* per half-sieve; black Currants, 3*s.* to 3*s.* 6*d.* do.; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 2*s.* to 3*s.* per bag; Mangels, 25*s.* to 30*s.* per ton; Onions, Egyptian, 4*s.* 6*d.* to 5*s.* per bag; Apples, English, 2*s.* 6*d.* to 3*s.* 6*d.* per half-bushel; Watercress, 6*d.* per dozen.

FARRINGDON: *August* 9.—Quotations:—Cabbages, spring-planted, 4*s.* to 5*s.* 6*d.* per tally; autumn do., 2*s.* 6*d.* to 4*s.* do.; Carrots, 2*s.* per dozen bunches; Turnips, 1*s.* 6*d.* to 2*s.* do.; Scarlet Runners, 5*s.* 6*d.* to 6*s.* per bushel; Vegetable Marrows, 3*s.* to 4*s.* per tally; Plums, green, 1*s.* 6*d.* to 1*s.* 9*d.* per half sieve; 3*s.* to 3*s.* 6*d.* per bushel; ripe Plums, 4*s.* per half bushel; Apples, Lord Suffield, 3*s.* to 3*s.* 6*d.* per half-sieve; Gooseberries, 2*s.* 6*d.* to 3*s.* per half sieve; Red Currants, 2*s.* to 3*s.*; Black do., 2*s.* to 3*s.* per half sieve; Cucumbers, 1*s.* 6*d.* per dozen; Tomatos, 6*d.* per lb. English; Melons, 11*s.* per case Grapes, 8*s.* per barrel; Greengages, 3*s.* per half sieve; Pears, 6*s.* per bushel.

POTATOS.

BOROUGH AND SPITALFIELDS: *August* 7.—Quotations ranged between 60*s.* and 80*s.* per ton.

FARRINGDON: *August* 9.—Quotations:—Essex Hebrons, 70*s.* to 80*s.*; Sutton's Abundance, 70*s.* to 80*s.*; Magnums, 60*s.* to 70*s.*; Bedfordshires: White Hebrons, 80*s.* to 90.; Puritans, 80*s.* to 90*s.*; Snowdrops, 80*s.* to 90*s.*; Reading Giants, 70*s.* to 80*s.* per ton.

LONDON AVERAGES: *August* 8.—English Kidneys, 80*s.* to 90*s.*; Hebrons, 70*s.* to 80*s.*; Snowdrops, 70*s.* to 90*s.*; Rounds, 60*s.* to 74*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 120*s.*; do., new, 75*s.* to 130*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 140*s.*; do, inferior, 60*s.* to 100*s.*; do., new, 70*s.* to 90*s.*; Mixture, 90*s.* to 130*s.*; and Straw, 43*s.* to 63*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 4, and for the corresponding period last year:—1894: Wheat, 24*s.* 4*d.*; Barley, 21*s.* 4*d.*; Oats, 18*s.* 8*d.* 1893: Wheat, 20*s.* 2*d.*; Barley, 21*s.* 8*d.*; Oats, 21*s.* 5*d.*

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

BERBERIS MAHONIA.—Is the fruit of the above shrub fit for domestic purposes? A gentleman calling on me lately and seeing the plants much laden with berries, told me he always made them into wine, and after keeping a short time was quite equal to port. *W. Divers.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending August 4.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	116	0	+ 309	— 51	0 aver	137	32·8	26	35
1	2 +	116	0	+ 40	+ 8	7 +	125	22·9	25	35
2	0 aver	123	0	+ 104	— 51	1 —	124	15·3	27	34
3	0 aver	137	0	+ 121	— 100	4 —	116	14·9	35	37
4	1 +	132	0	+ 144	— 79	1 +	118	14·7	26	34
5	0 aver	137	0	+ 138	— 119	4 +	115	16·9	27	38
6	2 +	123	0	+ 100	— 69	5 +	136	31·5	27	33
7	1 +	129	0	+ 207	— 121	7 +	132	21·3	27	34
8	0 aver	126	0	+ 146	— 81	2 +	133	23·2	29	38
9	2 +	123	0	+ 83	— 33	3 —	147	24·7	29	31
10	0 aver	120	0	+ 131	— 67	1 +	140	25·4	24	33
*	2 —	126	0	+ 231	— 18	9 +	136	21·3	25	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 4, is furnished from the Meteorological Office:—

"The *weather* during this week was again in an unsettled condition, with frequent rain, and occasional thunderstorms in nearly all parts of the kingdom. The rain experienced at the opening of the period was very heavy at most of the southern and south-western stations, and that of Aug. 2 and 3 was equally so in Scotland and several of the more northern parts of England.

"The *temperature* continued a few degrees above the mean over 'Scotland' and in 'Ireland, N.,' and slightly exceeded it in the 'Midland Counties' and 'England, N.W.;' in most other districts the values just equalled the normal, but in the 'Channel Islands' there was a deficit of 2°. The highest of the maxima, which were recorded during the earlier part of the week, ranged from 83° in 'Ireland, N.' (at Londonderry), to 74° in 'Scotland, E.' and 'Ireland, S.,' and to 66° in the 'Channel Islands.' The lowest of the minima were registered on somewhat irregular dates, and ranged from 43° in 'Scotland, E.,' to 50° in 'England, S.,' and 'England, N.W.,' and to 54° in the 'Channel Islands.'

"The *rainfall* was less than the mean in 'England, N.E. and E.,' as well as in 'Ireland, N.;' while in 'Scotland, N.' the normal was just equalled. In all other districts there was an excess, that in 'Scotland, E.,' 'England, N.W.,' and the 'Channel Islands' being large. The largest amounts measured at any individual stations were 1·53 in. at Eastbourne, which fell between 1 P.M. and 8 P.M. on July 29, and 1·96 in. at Braemar, 2 in. at Glenlee, and 2·22 in. at Bigrigg, Cumberland, which fell during the twenty-four hours ending on the morning of August 3.

"The *bright sunshine* was less than the normal in all districts excepting 'Scotland, N.' and 'Ireland, N.' The percentage of the possible duration ranged from 35 in 'England, E.,' to 25 in the 'Channel Islands' and 'England, E.,' and to 24 in 'Ireland, S.'"

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** FRUIT CROPS.—*We greatly regret that we were unable fully to meet the demand for last week's number, in consequence of which, we fear, some of our correspondents must have experienced delay in the receipt of their copies.*

ARTICHOKE: *C. H. J.* We fail to see anything about the head sent that would account for the long time that they take to cook, &c., unless you let them stay on the plants till the stalk gets tough, when, of course, they are scarcely fit to be eaten.

BIGENERIC HYBRIDS: *W. N.* We are not disposed to say there can be no such thing as a bigeneric hybrid, and we are quite unable to furnish any absolute distinction between species and genera. For practical purposes, such distinctions are matters of convenience only, and depend upon the degree and importance of the points of difference. Of course, if you consider the subject from the point of view of pure science it is quite another matter, but there is then less reason for dogmatic assertion than in the other case.

CARNATIONS: *A. J. S.* Send them to some large growers. We cannot undertake to name florists' flowers,—*R B. P.* The plants are infested with eelworms. Dig up and burn, and do not plant Carnations on or near the spot.

CATTLEYAS: *Dinwoodie.* Next week.

CHRYSANTHEMUM: *Cello.* See the article in present issue on Onion fungus.—*X.* The disease is caused by a fungus, Sclerotinia, like that which attacks Onions; see p. 160. Burn all the affected plants at once. It begins as a mould, and when in that state can be checked by Bordeaux Mixture. Now nothing can be done but burn the plants.

CLOVE CARNATION PRODUCING FLAKED BLOOMS ON SAME PLANT AS THE TYPE FORM: *S. H.* It simply shows of what mixed parentage the florists' Carnation is, as indeed we see in the great variety of the markings observed in the flowers of an undoubted variety which have, in a measure, become fixed by age, varying indeed on one plant, and more markedly if the flowers from several plants are compared with one another.

CONIFER SEEDS: *Constant Reader.* Abies, Picea, the rarer Pinus, Thuia, Cupressus, &c., may be sown in the late autumn in pots, boxes, or pans filled with sandy loam and peat, keeping them in a cold pit or frame, covering them with pieces of tile or slate, to exclude the light, and also mice (which are sometimes very troublesome), and to prevent the evaporation of moisture to some extent. The pots, &c., if many in number, may be piled one on top of the other, thus occupying but little space; but it will be necessary to examine them once or twice before the new year, for the purpose of ascertaining which are in need of water, and which seeds have begun to germinate, at once affording light and air to the latter. In February the pans, &c., should be placed where a frequent examination can be conveniently made, and they should be carefully watered whenever the soil approaches dryness. Another mode of proceeding is to keep the cleaned seed of Abies, Picea, and Pinus in a cool dry place over the winter, and to sow in the spring in prepared frames, or beds in the open. In this case it will be an advantage to mix a small quantity of decayed leaf-mould with the surface soil, although that would not be desirable when sowing in pans, &c., the conditions then favouring the production of mouldiness in the leaf soil, which in turn sometimes extends to the seeds. Abies excelsa and Scots Pine seeds are best raised in beds in the open air, sowing the seeds in March. It is necessary to bury the seed at various depths, according to its size, the finest in size being barely covered with the soil, whilst others, like Pinus pinea and P. edulis, should be covered with 1½ inch of soil, besides having the hard shell enclosing the seed weakened by filing it. Whether in beds, frames, or pots, &c., the soil should be made very firm before and after sowing.

CORRECTIONS.—Medea Rose (see p. 62) This was inadvertently described as of American origin, but this, we learn, is an error. It was introduced by Messrs. W. Paul & Son, of Waltham Cross. At p. 107, fig. B, for teleutospores, read Uredospores.

CUCUMBERS: *H. W. R.* The roots are attacked by eelworms. There is no known cure. Turn them out and burn them, and char the soil before using it for any kind of pot plant, or bury it deeply in your kitchen garden.

GRAPES: *An Old Grower.* The berries on the bunch you sent for our inspection are very seriously shanked, and we fear that the Vine has pushed its roots into the cold soil at the bottom of the 3-feet-deep border, or still farther afield. The malady has been aggravated this year, and perhaps in former years, by heavy cropping, and now the willing Vines have given out. The Vines having been planted in 1887, are still young, and worth the trouble of replanting, which ought to be undertaken when the leaves begin to change colour. We should advise the entire lifting of them, carefully preserving them in a moist state meanwhile, and preserving all healthy roots, never minding the mere fibres, these dying anyhow in great numbers every year. Raise the bottom of the border 1½ foot at the back, and at least 1 foot at the front, which will give a 6-inch fall in the 11 feet of width, or a trifle more than 1 in 12—quite enough, if you have a good drain at the bottom of the slope. It may not be necessary to make the entire border anew, but that will depend on the extent of the roots; and perhaps some of the longest of these may be advantageously shortened, so as to admit of a narrow border accommodating them all.

INSECTS: *Lowfold, Lake Road, Ambleside.* The insect attacking the stems of Dendrobium is Xyleborus morigerus, Blandf., described by me in *Insect Life*, vol. v., ii. The insect has been more than once before the Scientific Committee of the Royal Horticultural Society, and I have had it this year from other sources. *W. F. H. B.*

INSECT ON POPLARS: *Poplar.* One of the Hawk Moths. We cannot suggest a remedy beyond hand-picking and encouraging birds. Probably Sphinx populi, but the colour is a little different from ordinary.

INSECT ON DENDROBIUM: *C. W.* The insect feeding on Dendrobium is a kind of locust, an Orthopteron, of the family Locustidæ, allied to Conocephalus, and in all probability introduced with Orchids. The same, or a similar insect, has often been found in Orchid houses.

LARVÆ OF INSECT: *C. Beck.* Fœnus jaculator, a hymenopterous parasite on the larvæ of certain wild bees that form their nests in decaying wood.

NAMES OF FRUIT: *D. Cowan.* Your Peach is no doubt Grosse Mignonne.—*Dartnell & Co.* We cannot name your Apples, quite undeveloped.

NAMES OF PLANTS: *W. H. M.* 1, common Spruce, Picea excelsa; 2, Redwood, Taxodium distichum; 3, Abies numidica.—*A Constant Reader.* 1, Lysimachia vulgaris; 2, Campanula glomerata; 3, Echinops sphærocephalus; 4, Eryngium campestre; 5, Reseda luteola; 6, the cone without foliage is probably that of Cupressus sempervirens. —*No name.* Box packed with Asparagus. 1, Centaurea montana, white variety; 2, Hieracium aurantiacum; 3, Lysimachia vulgaris; 4, Malva moschata, white variety; 5, Alströmeria aurantiaca; 6, Melissa officinalis, var.—*B. & Sons.* Cychorium Intybus, wild Chicory.—*W. S. D.* Argemone mexicana.—*J. D., Elton.* Campanula nobilis. —*S. P. D.* 1, Adiantum; 2, Begonia echinosepala; 4, Centaurea candidissima; 5, Euonymus japonicus variegatus; 6, Campanula pyramidalis; 7, Lamium purpureum, golden-leaved form; 8, Sedum Sieboldi. —*C. H. J.* 1, Echinops sphærocephalus; 2, Stachys lanata; 3, Solidago virga aurea; 4, Justicia carnea; 5, Agrostis vulgaris; 6, Saxifraga sarmentosa.—*J. H., Osterley.* 1, the true Service, Pyrus Sorbus; 2, a variety of the common Elder, not Alder; 3, Pyrus torminalis.—*C. G.* 1, Stachys Betonica; 2, Circeia lutetiana; 3, Symphoricarpus racemosus, Snowberry; 4, Galeopsis Tetrahit; 5, Hordeum murinum.—*H. H.* A hybrid form of Tritonia which we cannot precisely identify.—*A. R.* 1, Bocconia cordata; 2, Galega officinalis alba; 3, Funkia ovata. Thank you for sending good specimens, properly packed.—*Flora.* 1, probably Origanum vulgare, no flower; 2, Eryngium alpinum; 3, Agrimonia Eupatoria; 4, Actæa spicata; 5, Genista tinctoria, double-flowered; 6, Verbascum Lychnitis.—*C. L., Carlisle.* Odontoglossum odoratum (true), and a very light-coloured form of the species, differing from the larger one known in gardens as O. gloriosum.—*J. H. B.* 1, Sedum villosum probably. Is it wild? Send leaves. 2, Valeriana officinalis; 3, Silene, we do not recognise the species; 4, Spiræa Fortunei; 5, Tussilago Farfara, variegated; 6, Echium vulgare.—*Perplexed.* 1, Spiræa ariæfolia; 2, Mahonia nepalensis; 3, Colutea arborescens; 4, Spiræa Lindleyana; 5, Spiræa Douglasi; 6, Spiræa callosia.

NARCISSUS FOR FORCING: *H. W.* Paper White Early, Grand Monarch, Double Roman, Ard Righ Daffodil; Golden Spur, Incomparabilis var. Stella. The Polyanthus varieties Jonquils, viz., single-flowered sweet-scented, Queen Anne and Campernelle.

NEW APPLE: *G. Mayes & Sons.* Send the fruits to a meeting of the Royal Horticultural Society. The next is on Tuesday, August 14. Address care of Mr. Barron, Royal Horticultural Society's Offices, 117, Victoria Street, Westminster, S.W.

ONIONS DISEASED: *E. Riley.* See article on this subject in present issue, p. 160.

ONION GRUB IN GARDEN LAND: HOW TO DESTROY: *Onion.* The first operation in clearing the land consists in taking up with a trowel every portion of the affected bulbs, putting them in a pail, and burning them forthwith. Pulling up in the usual way leaves the base of the bulb and the maggots behind. The pupæ remain in the land over the winter, and the fly comes out to attack the spring-sown Onions. It is advisable, therefore, to grow no Onions for two years. Trench the land three spits deep if it will bear it; this will bury the pupæ, or fly cases, so deep that the insect cannot ascend to the surface. A dressing of gas lime should be turned in with the first spit, and when Onions are grown again on any land in the garden, it should be heavily manured, so as to force the crop along rapidly. Top-dressings of sand or sawdust saturated with petroleum are said to save a crop from attack, if applied when the plants are a few inches high.

SEEDLING CARNATION: *C. W.* Not so fine a flower as many others in commerce. Of course it would do for cutting as you suggest.

SPOT ON GRAPES: *Henwick.* See recent numbers for full information, especially p. 44, July 14, 1894.

TAKING BUDS OF SINGLE-FLOWERED CHRYSANTHEMUMS: *X. Y. Z.* The end of the present month or first week in September is a suitable time for "taking the buds."

TOMATO DISEASED: *Wilkin.* Your Tomatos are affected with the same fungus that attacks the Potato. Spraying with Bordeaux mixture at an early stage will do much to prevent the disease. It is not of much use to do so now.

TOMATO: *W. B.* Scoop out the seeds, wash them in water in a fine hair or wire sieve, rubbing the pulp through the meshes. When sufficiently freed from pulp, spread out on paper, and dry in the shade. If the fruit is partially decayed, the separation is easier performed.

TOMATOS: *J. H. B.* The purple spots on No. 2 are consistent with health; the yellow spots on No. 1 are the result of fungus.

WOOD WOOL: *J. George.* We think there is scarcely any substance which fulfils its purpose as a packing material better than "wood wool." It is elastic, soft, odourless, durable, and cheap.

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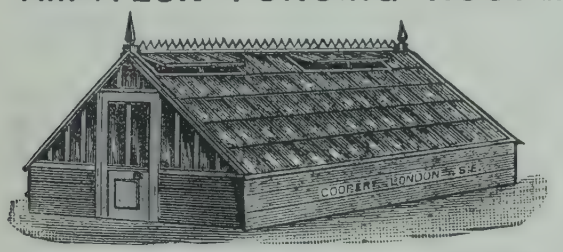
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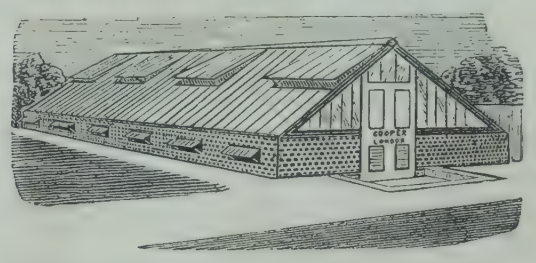
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Built for brickwork, 3ft. high, of well-seasoned red deal, roof ventilation according to size, all 21oz. glass, suitable for nurserymen, market gardeners, and those who require a cheap, strong house for forcing or growing Cucumbers, Tomatos, Melons, &c. Delivered to any Station in England.

20 × 9, £8.

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These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft, £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

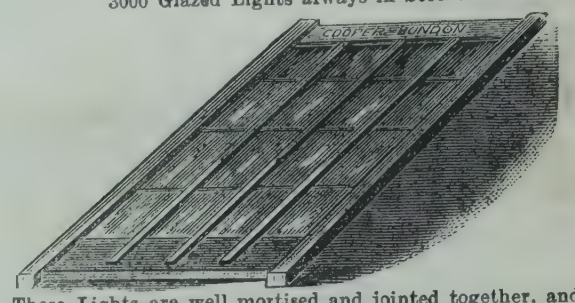
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3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

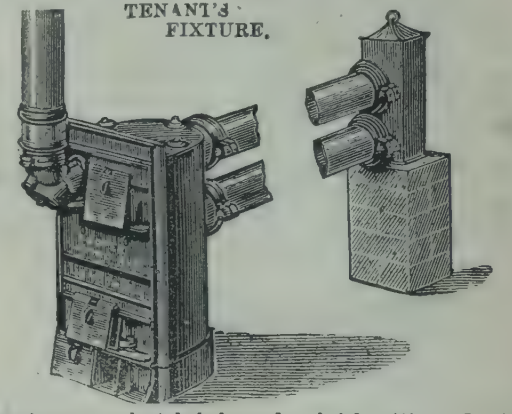
3 ft. by 2 ft., painted and glazed	...	...	...	...	5	0
4 ft. by 3 ft., ,, ,,	...	...	...	...	6	6
6 ft. by 4 ft., ,, ,,	with 21-oz. glass			...	9	0
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Special quotations for large quantities.
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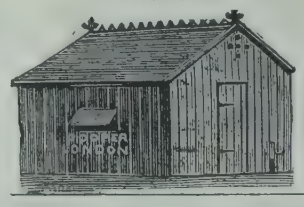
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Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

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Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20*s.*

5ft. by 4 ft.	...	...	25*s.*
6 ft. by 4 ft.	...	...	30*s.*
7 ft. by 5 ft.	...	...	36*s.*
9 ft. by 6 ft.	...	...	42*s.*

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1-lb. tins Fertiliser...	per dozen	£0	4	0
1-lb. tins Sunshade...	,,	0	6	0
Cocoa-nut Fibre Refuse	per sack	0	1	0
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Best Orchid Peat	,,	0	3	0
,, Rhododendron Peat...	,,	0	1	9
,, Brown Fibrous Peat	,,	0	2	0
,, General Peat...	,,	0	1	9
,, Loose Peat	,,	0	1	9
,, Surrey Loam	,,	0	1	9
General Potting Compost	,,	0	1	6
Fern Compost	,,	0	1	6
Bulb Compost	,,	0	1	6
Leaf Soil, well decayed	,,	0	2	0
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3 „ 12 ft. by 6 ft...		4	2	6
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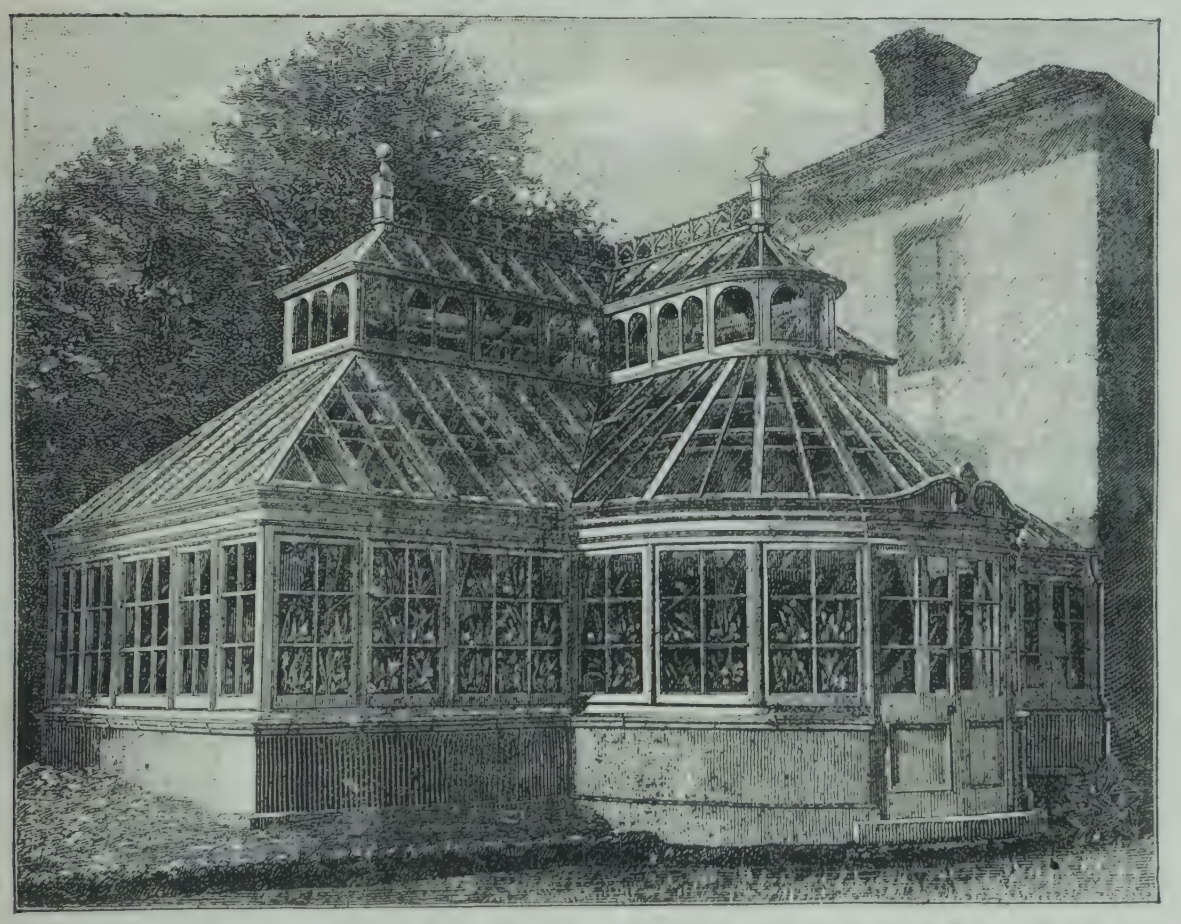
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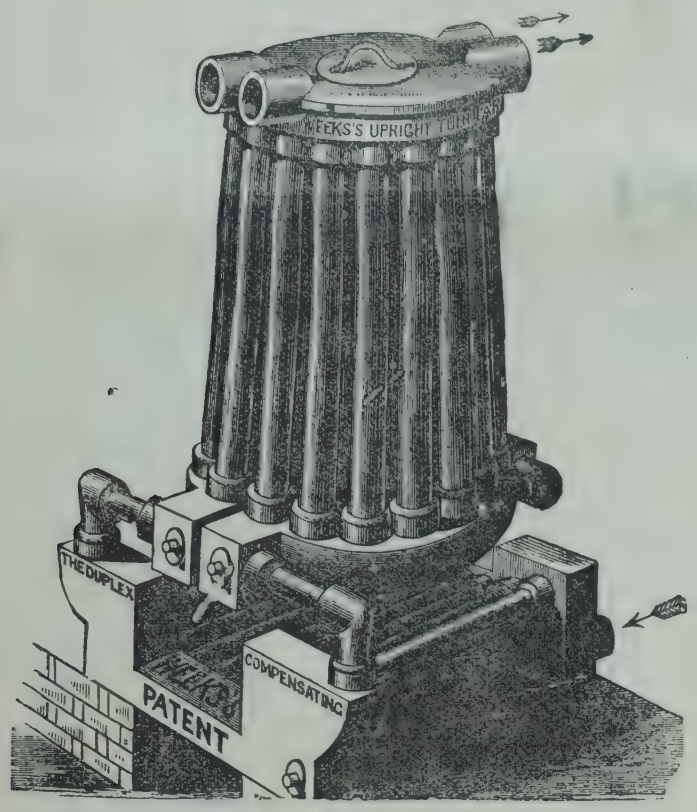
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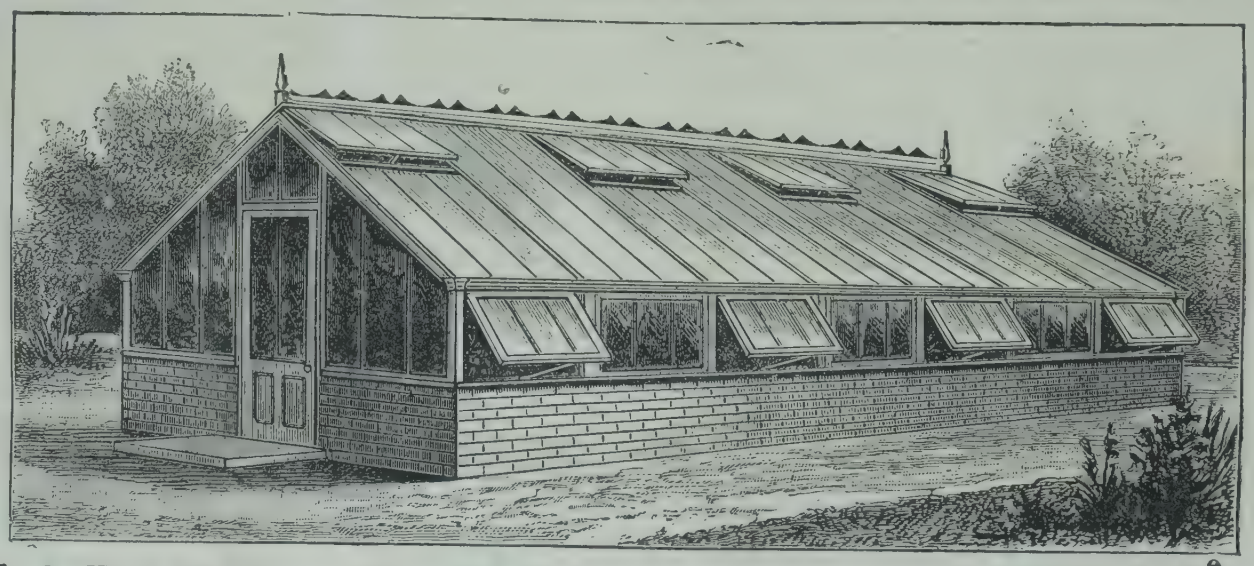
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THURSDAY, August 30	... ,,	1300 ,,

And SATURDAY, September 1, about 600 Lots.

Large consignments of named HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with White ROMAN HYACINTHS, and Paper White NARCISSUS, received direct for unreserved Sale.

These early Auctions have been specially arranged in Lots to suit the trade and other large buyers. The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists, who may desire a regular supply of Catalogues for these Sales.

Auction Rooms and Offices, 67 & 68, Cheapside, London, E.C.

Monday Next, August 20.—Special Trade Sale.

A Magnificent Importation of 30,500 LILIUM HARRISI, the contents of 108 cases, containing Bulbs from 5 to 11 inches in circumference. Direct from Bermuda, to be sold in cases as received.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on MONDAY NEXT, August 20, at 3 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.
By order of Messrs. W. L. Lewis & Co.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 24, at half past 12 o'Clock, ORCHIDS, from Messrs. W. L. Lewis & Co., including—

IMPORTED ORCHIDS. — Cypripedium bellatulum, C. niveum, Oncidium concolor, O. varicosum, Vanda Kimballiana, V. cœrulea, and others.

ESTABLISHED ORCHIDS.—Brassavola glauca, Cattleyas in variety, Catasetum Bungerothi, Angræcum sesquipedale, Cypripedium Charlesworthi, and others in variety; Dendrobes various, Disa grandiflora, Oncidiums, Lælias, Habenaria causa, and many others.

Also 50 lots of ESTABLISHED ORCHIDS for Sale without reserve (another Property), ORCHIDS in FLOWER, &c.

On view morning of Sale, and Catalogues had.

GREAT ANNUAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS beg to announce that the GREAT ANNUAL TRADE SALES of WINTER-FLOWERING HEATHS, GREENHOUSE and other PLANTS, have been fixed to take place as follows :—

MONDAY, September 10.—At the DYSON'S LANE NURSERY, UPPER EDMONTON, by order of Mr, H. B. May.

TUESDAY, September 11.—At the BURNT ASH ROAD NURSERIES, LEE, S.E., by order of Messrs B. Maller & Sons.

WEDNESDAY, September 12. — At the NURSERIES, S. WOODFORD, by order of Mr. John Fraser.

THURSDAY, September 13.—At the BRIMSDOWN NURSERIES, ENFIELD HIGHWAY, by order of Mr. John Maller.

FRIDAY, September 14.—At the LONGLANDS NURSERY, SIDCUP, by order of Messrs. Gregory & Evans.

Particulars will appear in future Advertisements.

Catalogues may be had (when ready), of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday, September 7.—Without Reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by S. G. Lutwyche, Esq., of Eden Park (who is contemplating making alterations to his Glasshouses), to sell 100 lots of choice, clean, well-grown Orchids in vigorous and robust health, without reserve. Amongst them will be found :—

Dendrobium Wardianum album
,, crassinode album
,, nobile nobilius, extra fine piece from original plant
,, hybrid Rœbelingianum, very rare
,, hybrid splendidissimum fine piece
,, nobile, with pure white sepals and petals
,, hybrid Lutwycheanum (Wardianum Lowii × splendidissimum superbum)
,, nobile Cooksonii
,, nobile Sanderæ
,, hybrid Dominianum
,, hybrid Cassiope
,, hybrid Melanodiscus
,, hybrid Owenianum
,, hybrid Melanopthalmum
Cattleya aurea, in sheath
Lælia elegans
,, anceps Fostermanni
Cattleya Lawrenceanum
,, Warnerii, dark var.
,, Schofieldiana
Lycaste plana rubroglossa
Lycaste Skinneri alba, large flowered variety
Vanda Denisoniana
,, teres
Cypripedium Charlesworthii, in flower
,, Seegerianum
,, insigne fuscatum
,, Dantheri superbum
,, Rothschildianum
,, Schrœderæ
,, Javanicum superbiens
,, Lathomianum
Masdevallia hybrid Falcata
,, hybrid Hincksiana
,, hybrid Heathii
,, Veitchii grandiflora
,, Roezlii, true

On view morning of Sale, and Catalogues had.

Wednesday Next.
GRAND IMPORTATION OF DUTCH BULBS,
Specially lotted for all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, August 22, at half-past 12 o'Clock precisely, an extensive consignment of HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and OTHER BULBS, from well-known Farms in Holland.

On view morning of Sale, and Catalogues had.

N.B.—None but good and reliable Bulbs will be offered.

Wednesday Next.
25,000 FORCING BULBS FROM FRANCE.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, August 22, 25,000 Early White ROMAN HYACINTHS, PAPER WHITE and Double ROMAN NARCISSUS, LILIUM CANDIDUM, &c., and several thousands of PEARL TUBEROSES, FREESIA REFRACTA ALBA, IRIS, PANCRATIUMS, AMARYLLIS, &c.

Wednesday Next.
Imported direct. Just to hand.
A Consignment of CATTLEYA MENDELII?
Without Reserve.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Sale Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, August 22.

On view morning of Sale, and Catalogues had.

WANTED, on Long Lease, a PIECE of GROUND suitable for Fruit Growing under Glass, 3 to 4 acres, within easy distance of London. Good loamy soil of good depth, where water can be easily laid on.—Apply to Messrs. SCOTT, SPALDING AND BELL, 15, Queen Street, Cheapside, E.C.

To Fruit and Flower Growers.

FOR SALE, price £10,500, a delightfully situated FREEHOLD PROPERTY, near Reading, comprising 10½ acres of Orchard and Nuttery; large number of new Vineries, Tomato, Cucumber, Mushroom, and other houses; a modern and well-constructed Dwelling-house, 11 rooms, bath-room with hot and cold supply; two Cottages, Stabling, Tennis Lawn, &c. The Orchard and Glasshouses pay well and are easily worked.

Address, B. C., Calcot, Reading.

LONDON, S.E.—A NURSERY for SALE. About 3 Acres: 16 Houses, 2 Lean-to Pits, 2 Span Pits, each about 100 feet long; 2 smaller houses, all well heated, &c.; also Cold Frames, &c., Dwelling-house, Stables, Sheds, &c. About 5 miles from Covent Garden. Open to consider a reasonable offer.

Apply to SHUTTLEWORTH, Limited, Peckham Rye, S.E.

Bocking Nurseries, near Braintree, Essex.
To NURSERYMEN, FLORISTS, and OTHERS.

FOR SALE, in consequence of the death of the Proprietor, the NURSERY, FLORIST, and MARKET-GARDEN BUSINESS, established over 70 years, with Freehold Dwelling House, for heated Glass-houses, several Glass-pits, Potting-shed, &c., and 3 roods and 7 perches of Garden Ground.

Also LEASEHOLD NURSERY, containing 1a. 2r. 35 p.

For further particulars, apply to EDWARD HOLMES, Solicitor, Braintree.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FLORIST'S and NURSERYMAN'S BUSINESS for DISPOSAL, situate in a lovely part of Surrey, and almost under the shadows of a Royal residence, consisting of some 16 or 18 acres of rich Land, with a warm aspect, five capital Glass-houses, thoroughly well heated, and will soon require to be increased; several Hot and Cold Frames, splendid Boiler and House, excellent Stabling, large Potting-sheds, Mushroom-house and Pits, good Lofts, and, in fact, everything necessary. Also an excellent Villa Residence of about eight rooms, Bath and every convenience. Only £2000 required for above (part Freehold), including good Horses, Vans, and Plant.—Sole representatives, W. R. HILL AND CO., 5, Adelaide Street, Charing-Cross, W.C.

Guernsey, in the best part of the Island.

TO BE SOLD, a VALUABLE FREEHOLD PROPERTY, consisting of about 40 acres, with good Residence, very extensive Glasshouses for growing Grapes, Melons, and Tomatos, all now in full bearing. Much of the long frontage enjoys fine sea views, and is ripe for building.

Price, 6,000 guineas. Apply to

T. G. WHARTON, Estate Agent, 8, Ironmonger Lane, E.C.

FOR SALE.—NURSERY, 3½ acres; seven miles from Covent Garden; four 100-feet Houses, Pits, Lights, &c., well stocked.—Particulars of—

X. Y., 6, Malta Road, Leyton, Essex.

TO BE SOLD.—BROOK LANE NURSERY, ORMSKIRK, LANCS.—This Old-established Nursery, situate 10 miles from Southport, and 12 miles from Liverpool, consists of 5¼ Acres of Freehold Land, with substantially-built Dwelling-house thereon, containing Kitchen, Scullery, 2 Entertaining-rooms, 4 Bedrooms, Bathroom, &c., and every sanitary convenience; also 3 large Greenhouses, Propagating-pit, a large number of Frames, Stable, Potting-shed, 2 Packing-sheds, &c., &c.

The Stock consists of about 50,000 choice named and Hybrid RHODODENDRONS (including many new varieties not yet sent out), many thousands of AZALEAS, choice Seedling and named varieties; a large stock of HOLLIES of the best kinds, HARDY CONIFERS, 25,000 LILIUM AURATUM; also Greenhouse RHODODENDRONS, sweet-scented and new Hybrid free-blooming kinds, and GENERAL NURSERY STOCK, all in robust health, too numerous to name here.

The Land is very eligible for Building purposes, having 330 yards frontage, with Gas, Water, and Main Sewer passing down the road by which it is for the most part surrounded.

Owing to the very advanced age of the proprietor the whole of the above premises, namely, Land, Dwelling-house, and other Buildings, with Nursery Stock (which may be taken at a valuation if preferred), to be disposed of.

Personal inspection invited, and for full particulars as to price, &c., apply to—

ISAAC DAVIES, Brook Lane Nursery, Ormskirk.

SEED and NURSERY BUSINESS for SALE. —Sound going trade. Good premises and room for a large concern as a branch establishment. Particulars on *bond fide* application, to R. H. POYNTER, Seed Merchant and Nurseryman, &c., Taunton.

TO BE SOLD, the Business of a High-class FRUITERER'S, FLORIST, and NURSERYMAN, situated in the west end of one of the most fashionable Seaside resorts on the South Coast, doing a turnover of nearly £5,000 per annum, and making a handsome profit. The Nursery consists of five houses, well stocked, and all heated, thus affording an opportunity rarely met with of acquiring a well-established and thoroughly genuine concern. Incoming about £1,800. Fullest investigation.—Apply to S. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO LET.—NURSERY and MARKET GARDEN, 8½ acres, a short distance from a County Town in North Wales. Immediate possession. To a suitable person, if without capital, arrangements can be made with the Owner. —Apply to DAVID ROBERTS AND SON, Corwen.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CUT FLOWERS.—CUT FLOWERS.

We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.

POPE AND SONS, 6, Phillips Street, Birmingham.

MAIDENHAIR FERNS.—Extra fine plants, in 48's, 5*s.* per doz.; also in 32's, 7*s.* per doz. Packing free. T. BAKER, Manager, Blandford Nurseries, Upper Teddington.

B. S. WILLIAMS AND SON'S IMPROVED MUSHROOM SPAWN, the finest in cultivation for Outdoor and Indoor Culture. Per bushel, 5*s.*; per cake, 6*d.* Per cake, free by Parcel Post, 1*s.*

Victoria and Paradise Nurseries, Upper Holloway, London, N.

FOR SALE, fine SPECIMEN AGAVE AMERICANA. Leaves fully 6 feet in length and striped with yellow. No reasonable offer refused.—For particulars apply to C. BROWN, Gardener, Neasham Hill, Neasham, Darlington, Durham.

B. MALLER AND SONS beg to offer to the Trade a very extensive and unusually well-grown stock of Ericas (hyemalis and other varieties), Epacris, Solanums, Genistas, Cyclamen, Double White Primulas, Bouvardias of sorts, Adiantum cuneatum and other Ferns; Palms in variety, Gardenias, Stephanotis, Dipladenias, Ficus elastica, Crotons, Genistas, Tea Roses (in pots), Boronias (megastigma and heterophylla), Vines in pots, &c. An inspection is invited.

TRADE CATALOGUE forwarded on application.

The ANNUAL SALE by AUCTION will be held on TUESDAY, September 11.

Burnt Ash Road Nurseries, Lee, S.E.

VIOLA CUTTINGS.—These strike easily now in a shaded cold frame. We offer 100 for 7*s.* 6*d.*, cash; 50 for 4*s.* 3*d.*; 25 for 2*s.* 6*d.* Four cuttings, two cuttings, or one cutting of each of the following 25 grand exhibition sorts: A. Grant, Ardwell Gem, Blue Cloud, Bullion, Countess of Hopetoun, Countess of Kintore, Countess of Wharncliffe, Crimson King, Duchess of Fife, Duchess of Sutherland, Evelyn, Goldfinch, H. W. Stuart, J. B. Riding, Lord Elcho, Lady Dundonald, Mrs. Grant, Mrs. Bellamy, Princess Beatrice, Rob Roy, Sylvia, Wonder, Wm. Neil, White Duchess, and Violetta. 100, in 12 best bedding varieties, 5*s.* 6*d.*; 1000, in 25 varieties, £2. All named, and carriage free.

DOBBIE AND CO., Florists to the Queen, Rothesay.

LATE STRAWBERRIES. Let us sing to the praises of three late Strawberries.

FROGMORE LATE PINE, which is absolutely the flavour of Ripley Queen Pineapple, sturdy in growth, large in size, and an abundant cropper. 7*s.* 6*d.* per 100.

OXONIAN, true, not Eleanor, which it is generally supplied for. It is simply an enormous cropper, rather sharp in taste, and the latest Strawberry on record. 5*s.* per 100.

Now comes lastly, but not leastly, that good old public servant, ELTON LATE PINE, warranted true; no other Strawberry like it for preserving.

All the New Strawberries supplied, all warranted true, and the best plants in the trade.

R. GILBERT, Burghley, Stamford.

SOLANUM CAPSICASTRUM

"CLOTH OF GOLD."

The entire Stock, from a start of one plant, which originated from seed at HARTLAND'S, Ard Cairn, Cork, is offered for Sale to the highest bidder. The leaves are the colour of GOLDEN ELDER, and the berries bright orange-scarlet.

The plant, in habit, GUARANTEED equal to the finest form seen in Covent Garden, but with this difference, that the foliage as stated is golden. It also comes more golden from seed. This I have only tested this season. At night the plants are scarlet and gold.

Apply to—

WM. BAYLOR HARTLAND,
SEEDSMAN, CORK.

NEW CRIMSON PERPETUAL-FLOWERING CARNATION
URIAH PIKE.

This beautiful Carnation, with its powerful clove scent, has been one of the greatest attractions at all the leading Shows, a proof that it is undoubtedly the finest Carnation offered to the Gardening World for many years. Notwithstanding the large quantities sent out, I still have a very large Stock of good strong healthy plants of all sizes to offer.

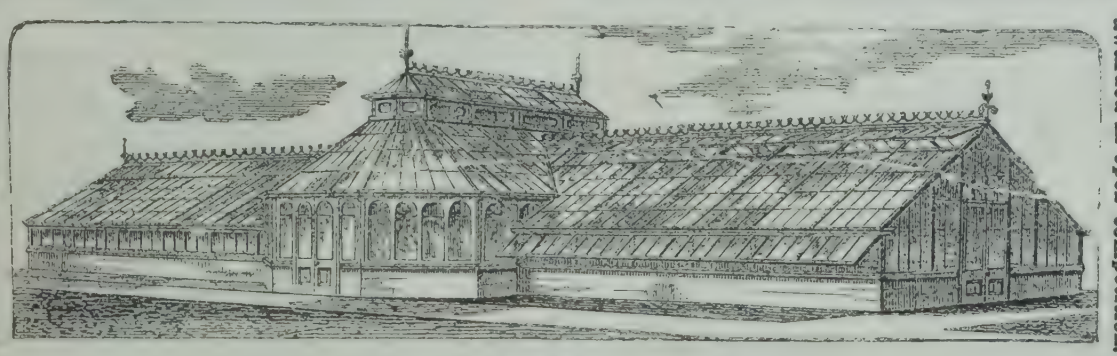
Plants in 5-inch pots, 5s. each, 50s. per dozen.
Plants in 3½-inch pots, 2s. 6d. each, 24s. per dozen.

TERMS, CASH WITH ORDER. SPECIAL QUOTATIONS TO THE TRADE.

Six First-class Certificates, besides Medals, have been awarded to—

JAMES PIKE, PARK ROAD NURSERIES, SOUTH ACTON, LONDON, W.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,
HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

ALL WHO WORK NEED

in mine or factory, warehouse or field, workroom or foundry,

some refreshing, thirst-allaying, pleasant and invigorating drink. The cheapest, best, and most popular beverage is a glass of

MASON'S NON-INTOXICATING BEER



made from **MASON'S EXTRACT OF HERBS.** Everyone likes it. Try it and save money.

A Nine-gallon Cask of Alcoholic Beer from a Brewery will cost you 10s. 6d., but Eight Gallons of Beer made from Mason's Extract of Herbs can be obtained for 6d., plus a pound or two of Sugar and a little Yeast.

IMITATED BUT NOT EQUALLED.

Of all Chemists and Stores, or a sample bottle sent free for 9 stamps. With every sample bottle we send free a beautifully coloured little story book entitled "How a Railway Accident was averted." Write for a sample to-day.

Inventors and Manufacturers: NEWBALL & MASON, NOTTINGHAM.

EXHIBITIONS.

KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE HORTICULTURAL SOCIETY.
ANNUAL SHOW of FLOWERS, FRUIT, VEGETABLES and HONEY, on August 22, 1894, in Mrs. Stone's Grounds (kindly lent for the occasion), Kingswood, near Bristol.
OVER £200 PRIZES,
Including Silver Cups, open to all Amateur Competitors.
Band of the Bristol Volunteer Royal Engineers (by kind permission of Col. Plant), and the Band of the Kingswood Reformatory. Grand Display of Fireworks, by Messrs. Crane & Co., Bristol and Warmley. Street Decorations.
Prices of Admission:—1 to 2 P.M., 2s.; 2 to 4, 1s.; 4 to 7, 6d.; after 7, for Bands and Fireworks, 3d. Children under twelve, half-price up to 7 P.M.
F. H. JULLION, St. George, A. W. COTTLE, Kingswood. } Hon. Secs.

READING HORTICULTURAL SOCIETY.
ANNUAL SHOW, AUGUST 29, 1894.
Entries close 25th inst.
WM. L. WALKER, Sec., Bulmershe Road, Reading.

BATH AUTUMN SHOW,
WEDNESDAY and THURSDAY, August 29 and 30.

Amongst the Prizes offered are for:—	1st.	2nd.	3rd.
12 Foliage and 6 Stove or Greenhouse Plants	£10	£7	£4
6 Stove or Greenhouse Plants	£4	£2 10s.	£1 10s.
6 Orchids	£2	£1	
Group of Plants, not less than 100 sq. ft. ...	£5	£3 10s.	£2
9 Fuchsias	£3	£1	£2
Collection of Fruit, 12 dishes	£3	£2	£1
8 Bunches of Grapes, 4 varieties	£4	£3	£2

And 5 other Classes for Grapes in varieties. Prizes in proportion.
Entries close Aug. 24, Friday. For Schedules, &c., apply to—
2, Northumberland Buildings, Bath. B. R. F. PEARSON, W. JEFFERY, } Secs.

SANDY (Bedfordshire) FLORAL and HORTICULTURAL SOCIETY.—Twenty-sixth Great Autumn Show (Open), THURSDAY, August 30, 1894. Plants, Flowers, Fruit, Vegetables, Dogs, Poultry, Pigeons, Rabbits, Cavies, Cats, Cage Birds, &c. Prizes, £320, including Ten Stove and Greenhouse Plants in flower (distinct): 1st £12; 2nd, £8; 3rd, £5; 4th, £3. Entries close August 25.
W. GREEN, Sec., Sandy.

National Chrysanthemum Society.
EARLY EXHIBITION of CHRYSANTHEMUMS.—Royal Aquarium, Westminster, September 4, 5, and 6, 1894. Several classes for GLADIOLI and DAHLIAS.
Schedules of Prizes can be had of—
RICHARD DEAN, Hon. Secretary and Superintendent, 42, Ranelagh Road, Ealing, London, W.

NEW STRAWBERRIES

ROYAL SOVEREIGN (1893), 8d. each; 6s. per dozen.
SENSATION (1892), 2s. per dozen; 12s. per 100.
The above from plants direct from the raiser.
A fine collection of other varieties. List free on application to B. HURST AND SON, Burbage Nurseries, near Hinckley.

CUTHBERT'S BULBS for EARLY FORCING.
ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.
R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.
Bulb Importers, Seed Merchants, &c., Southgate, N.
Established 1797.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6s. per bushel, 1s. extra for package; or, 1s. per cake, free per Parcel Post.
WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

HYACINTHS, TULIPS,
Narcissi, Lillies,
Snowdrops,
Crocuses,
Scillas,
Irises
&c.
BULBS
BEST QUALITIES AT LOWEST RATES.
DELIVERED FREE BY RAIL OR PARCEL POST.
Descriptive Catalogue No. 441
Post Free on application.
DICKSONS Bulb Growers & Importers CHESTER

New Illustrated List, 3rd Edition— 100,000— 364 Pages, Bound in Cloth, Post-free on application.

W. COOPER, LIMITED,

HORTICULTURAL PROVIDERS—*the Original Inventor of Cheap Greenhouses,*

755, OLD KENT ROAD, LONDON, S.E.

NURSERIES—HANWORTH AND FELTHAM.

The Largest Steam Horticultural Works in the World. Inspection invited.

1000 HOUSES IN STOCK to Select from.

Works cover 5 acres.

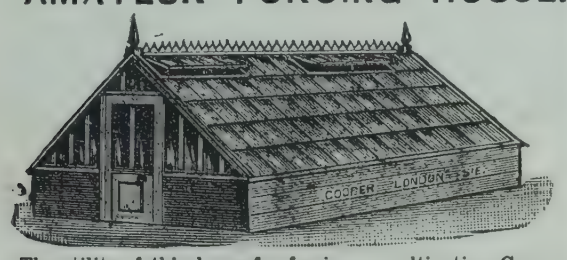
AMATEUR GREENHOUSES.



This Illustration is an exact copy of my Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with Ventilators. Irons for Opening, Staging, Glass, &c. Made in Sections, so that they can be erected by any gardener or handy man in a few hours. Simply screwed together. 7 by 5 ft., 56*s.*; 9 by 6 ft., £4; 12 by 8 ft., £6; 15 by 10 ft., £8 10*s.*; 20 by 10 ft., £12; 25 by 10 ft., £16.

Any size made. SEND FOR LIST, post-free.

AMATEUR FORCING HOUSE.



The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

HORTICULTURAL TIMBER.

WELL-SEASONED RED and YELLOW DEAL.

SASHBARS. 1½ in., 3*s.*; 2 in., 3*s.* 9*d.*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

MATCH BOARDS, ⅝, 6*s.* per square; 1-in., 10*s.* 6*d.* per square.
FLOOR BOARDS, 1-in., 9*s.* per square.
FEATHER EDGE BOARDS, ¾ by 6, 6*s.* 6*d.* per square.
DEALS, 3 by 11, Yellow, 4*d.*; 3 by 9, 3½*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d.*; 2 by 6, 1*d.*
CUTTING & FLATING, 9*d.* per 100 ft.; Deeping, 2*s.* 3*d.* dozen 12 ft.
SLATING BATTENS, ¾ by 2, 1*s.* 3*d.* per 100 ft.; ¾ by 1, 7*d.* per 100 ft.
HALF GLASS DOORS, 4 ft. 6 in. by 2 ft. 6 in., 6*s.* each, 6 ft. by 2 ft. 6 in., 7*s.*; Marginal Light, 6 ft. 6 in. by 2 ft. 6 in., 10*s.*
VENTILATORS, TOP or SIDE, 2 ft. 6 in by 2 ft., 2*s.* each.
FINIALS, MACHINE-TURNED, 12 in. high, 6*d.* each; 4*s.* 6*d.* per dozen.
TRELLIS, Planed, Extended—

Open.	*s.*	*d.*	Open.	*s.*	*d.*
12 ft. by 1½ ft.	2	0	12 ft. by 3½ ft.	4	6
12 ft. by 2 ft.	3	0	12 ft. by 4 ft.	5	6
12 ft. by 2½ ft.	3	6	12 ft. by 5 ft.	6	6
12 ft. by 4 ft.	4	0	12 ft. by 6 ft.	8	0

MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9, best Red Deal, all planned, rabbeted, &c., ready for use. Send for Specification.

The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

All Timber consigned at the Cheap Timber Rate to all parts of the country. Send for TIMBER LIST.

VIRGIN CORK, well mossed, thin and light, 14*s.* per cwt.
DAHLIA or ROSE STAKES, strong, painted green, tarred ends, 4 ft., 18*s.* per gross; 5 ft., 21*s.* per gross; 6 ft., 26*s.* per gross.
TIFFANY, the cheapest shading, 72 in. wide, 6½*d.* per yard.
TEAK ORCHID BASKETS, well and strongly made, 6 in., 10*s.* 6*d.*; 7 in., 12*s.*; 8 in., 14*s.*; 9 in., 17*s.*; 10 in., 19*s.*; 11 in., 23*s.*; 12 in., 28*s.* per dozen.

BOUQUET WIRE.

Stubs, 7 in. lengths, No.	20	22	24	26	28	30
per dozen lb. ...	4*s.*	4*s.* 6*d.*	5*s.*	6*s.*	6*s.* 6*d.*	8*s.*

Silver-plated, on ¼ lb. reels, 5*s.* per dozen.

WOOD FLOWER-STICKS.

Feet	1	1½	2	2½	3	3½	4	4½	5
Per 1,000 ...	2/2	3/9	6/-	8/-	10/-	14/-	17/-	23/-	29/-
Painted Green	6/-	8/-	14/-	17/6	20/-	25/-	32/6	40/-	55/-

WOOD LABELS—Best Make.

Inches	3	4	5	6	7	8	9	10
Per 1,000...	1/5	1/8	2/-	2/9	3/6	4/6	5/6	6/-

SPECIAL BAMBOO CANES—About 4 ft.

Best and most durable for Tomatos, Chrysanthemums, &c.

Per 100.	Per 1,000.	Per 5,000.
2*s.* 9*d.*	25*s.*	£5

RAFFIA, for Garden Tying, best quality, 1 lb., 9*d.*; 2 lb., 1*s* 4*d.*; 3 lb., 2*s.*; 7 lb., 4*s.* 3*d.*; 14 lb., 8*s.*; 28 lb., 14*s.*

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz., 100 ft.,	21-oz., 100 ft.
4ths	... 8*s* 3*d.*	... 11*s.* 3*d.*
3rds	... 9*s.* 0*d.*	... 12*s.* 3*d.*

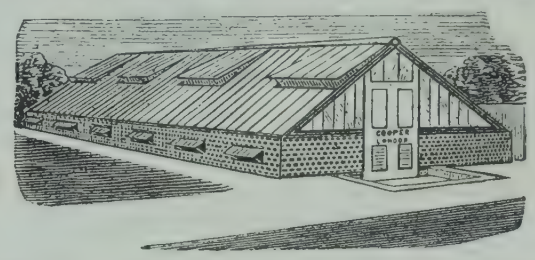
10,000 Boxes to select from.

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PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

SPAN-ROOF FORCING HOUSES



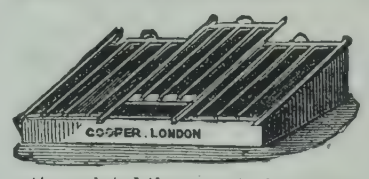
Built for brickwork, 3ft. high, of well-seasoned red deal, roof ventilation according to size, all 21oz. glass, suitable for nurserymen, market gardeners, and those who require a cheap, strong house for forcing or growing Cucumbers, Tomatos, Melons, &c. Delivered to any Station in England.

20 × 9, £8.

For Illustrations and Prices of other sizes, see

ILLUSTRATED PRICE LIST FREE.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft, £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

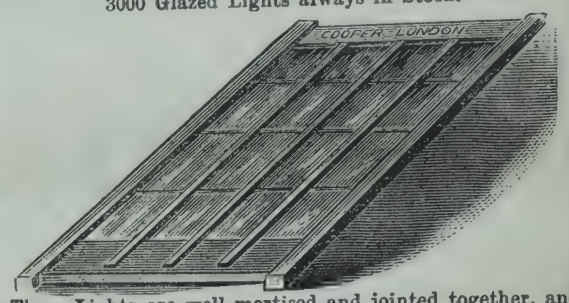
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Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 40 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	...	...	...	...	5	0
4 ft. by 3 ft., ,, ,,	...	...	...	...	6	6
6 ft. by 4 ft., ,, ,, with 21-oz. glass				...	9	0
6 ft. by 4 ft., unglazed lights ...	...	...	...	...	3	6

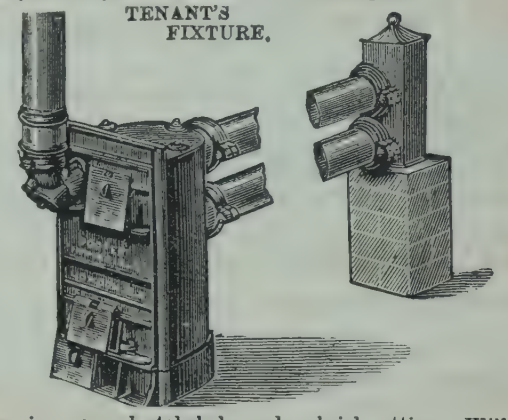
Special quotations for large quantities.

See page 278 in List.

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Most Efficient and Cheapest in Existence.

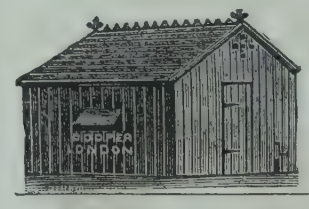
Made in six sizes: No. 1, to drive 75 ft., £1 15*s*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s*; No. 6, 500 ft., £9; of 4-in. pipes.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

POULTRY HOUSES.



Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20*s.*

5ft. by 4 ft.	...	...	25*s.*
6 ft. by 4 ft.	...	...	30*s.*
7 ft. by 5 ft.	...	...	36*s.*
9 ft. by 6 ft.	...	...	42*s.*

Send for List.

MANURES, PEAT, SAND, FERTILIZERS, &c.

1-lb. tins Fertiliser...	per dozen	£0	4	0
1-lb. tins Sunshade...	,,	0	6	0
Cocoa-nut Fibre Refuse	per sack	0	1	0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0	2	3
Best Orchid Peat	,,	0	3	0
,, Rhododendron Peat...	,,	0	1	9
,, Brown Fibrous Peat	,,	0	2	0
,, General Peat...	,,	0	1	9
,, Loose Peat	,,	0	1	9
,, Surrey Loam	,,	0	1	9
General Potting Compost	,,	0	1	6
Fern Compost	,,	0	1	6
Bulb Compost	,,	0	1	6
Leaf Soil, well decayed	,,	0	2	0
Pure Wood Charcoal	,,	0	2	6
Fertiliser for Farming and Market Gardening, in 1-cwt. sacks	per sack	0	13	0
Worm Destroyer	per ½-pt.	0	0	6
Insecticide	each	0	0	3
Tobacco Paper, 6*d.* per lb.	per cwt.	1	16	0
Wonderful New Mushroom Spawn ...	... bushel	0	2	6

All Sacks and Bags free. Send for List, post-free.

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GARAWAY & CO.

Offer best quality Bulbs.

WHITE ROMAN HYACINTHS	9/-	per 100.
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All orders over 5s. free by post or rail.

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And THE NURSERIES, HAARLEM, HOLLAND.

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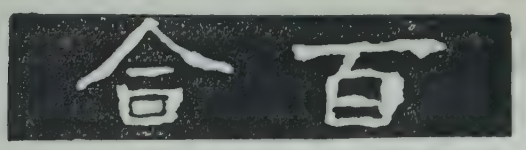
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AT CHEAPEST RATES.

LILY BULBS,	SEEDS of CLIMBING CUCUMBER,
TREES,	SHRUBS and FLOWERS,
SHRUBS,	*Cycas, Dried Leaves.*
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FORMERLY
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50,000 EUONYMUS, Green and Golden,

all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 38 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 10 in. to 40 in. at special prices.

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Extra size, 5 to 6 in. circum.	16/-	per 100;	2/3 per doz.
First ,, ...	13/-	,,	1/9 ,,
FREESIA REFRACTA ALBA, extra large	5/-	,,	1/- ,,
NARCISSUS, DOUBLE ROMAN ...	5/-	,,	1/- ,,
,, PAPER WHITE	5/-	,,	1/- ,,
,, ,, GRANDIFLORUS	7/-	,,	1/3 ,,

NARCISSI of every variety worth growing at very low prices.

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FREESIAS, refracta alba	6s. 0d.	1s. 0d.
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All Gardeners who hope to have really fine blooms this autumn will now be beginning to feed their plants. The best of all Manures for this purpose is "PEARSON'S CHEMICAL," as it is a perfect plant food, has no offensive odour, and is always perfectly identical in composition, so that its use once learned there is no further risk or trouble in applying. Some of the finest exhibition blooms shown in the Midlands have been grown by its aid alone, without any other fertiliser. In wet weather a teaspoonful to each plant may be sprinkled on the surface of the soil, but we ourselves prefer to use it as a liquid, our method being to dissolve a 6-inch potful in a 36-gal. tub, this being afterwards used at the rate of 2 gals. in each water-barrow (25 gals.). Gardeners are cordially invited to call and see our plants, and judge of the effect for themselves. Price and all information free on application.

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Price 2s. 6d. each, or 12s. 6d. the set of Six.

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LAXTON'S "ROYAL SOVEREIGN."

An earlier higher quality and Improved Sir J. Paxton
Three Medals and Five First-class Certificates awarded.

All must have the finest early Strawberry yet introduced. Fruit of the largest size, brighest glossy scarlet colour, flavour rich (quite equal to British Queen), ripens with Noble; a splendid cropper and grower, and we consider it to be the long-sought EARLY HIGH-FLAVOURED AND IMPROVED SIR J. PAXTON, a splendid forcer, and in every way worthy of its name. Handsome coloured plate, now ready, 6d. (gratis to customers).
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The best late Strawberry, and the largest and best late variety. A seedling from British Queen, but much later. Flavour grand.
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Also, strong Open Ground Runners can now be supplied at usual prices, of—
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THE
Gardeners' Chronicle.
SATURDAY, AUGUST 18, 1894.

A SUBURBAN GARDEN.

THE garden I have in view is nothing more than a parallelogram, say of 50 feet wide and long, surrounded on three sides with walls 5 feet high, and on the fourth by the wall of the house, that is to say, a suburban garden of the back-yard type a little extended. Looking out from the upper windows of my house I catch glimpses of a score or two precisely similar in size and shape, half of them running parallel with mine, and the other half belonging to the folks in the next road, whose domiciles overlook us in a straight uniform row as far as the eye can reach. Now, it is very curious to note the diversity shown in the laying out of these areas. With some they are merely gravelled or grassed to form a play-ground for the children and dogs, or diversified with a path running round a square grass-plot, with maybe a narrow bed between the path and the walls. In others, trees form a feature, Poplars, Maple, and fruit-trees of various kinds, with here and there a Hawthorn. The large majority, however, especially in the winter, are bare of all attractiveness, and even in the summer are occupied by so many dozens of Pelargoniums, Calceolarias, and so on, which, however pretty individually, become monotonous by repetition. Looking down into my own, however, I find an altogether different state of things existing, and although it does not get a tithe of the care and attention it merits, yet it is so peopled with hardy herbaceous perennials and bulbs of all sorts that at all seasons it is worth walking round. In such a limited space, winding walks were hardly practicable, and therefore I adopted straight ones. Two rock-bordered beds have also a tile edging, within which the rockwork begins, consisting merely of a single row of burrs so placed as to support the extra six inches of soil behind them, while a number of species of alpine Saxifrages, Sedums, Campanulas, Dianthus, &c., find a congenial home in these interstices, and fill up the space between them and the tiled edge, so as to form a varied perennial border of green. This in the summer is scarcely ever out of bloom, and in spring a number of Saxifraga ligulata and cotyledon threw up their yard-long rockets of a thousand starlike blossoms, which annually form a feature of peculiar beauty. In the little isolated well-drained nooks which can be thus formed, a host of charming alpine species find a congenial home, and can be easily kept within their own bounds or from the encroachment of other species which would otherwise overrun them. The beds round the walls are elevated banks some 15 or 18 inches high, fronted with burrs and level on top, accommodating at once hundreds of the smaller-growing alpines in the rocky crevices, while in the level bed next the wall, Pæonies sweet-scented and ordinary, Phloxes, Delphiniums, Japanese Anemones, Iris, &c., hold their own from year to year, and are diversified in the

spring by a host of bulbs, Scilla sibirica, bifolia, and nutans; Chionodoxa Luciliæ, Triteleia uniflora (a gem deserving to be wider spread), Narcissi, Tulips, Fritillarias, Lilies of various sorts, &c. Lily of the Valley and Solomon's Seal have the run of two of the corners, the former including varieties with striped leaves and pinkish blooms. In the flatter beds the Queen of Flowers is represented by bushes in most of the corners; but, alas! though they hold their own year after year, they are too near the London smoke to be good representatives of her floral Majesty. Lilium Brownii, once introduced, has spread and multiplied for years, blooming well every season; L. auratum dies out persistently after a few years, sometimes thriving splendidly for two or three, and then ceasing altogether to put in an appearance. Three forms of Anemone japonica, the pink and white Honorine Jobert, and the original multipetalled red, are veritable weeds, and every spring have to be thinned out ruthlessly, the creeping bulbiferous roots developing all over the place, even invading the gravel. Harpalium rigidum is even a worse offender, and would soon oust everything. Fuchsias do splendid service, both as foliage and blooming plants, the long spikes of slender blossoms being extremely pretty. Alpine Auriculas take care of themselves almost entirely, and every spring make a fine show, far and away beyond their winter promise, when they look very wobegone. In the early days of spring, however, they start growing like Cabbages, and throw up their trusses in bunches in profusion. I have said they take care of themselves "almost" entirely, because in course of time they develop long fleshy stalks, which are apt to rot in the winter; it is therefore necessary from time to time to part the plants, and bury these stalks, bringing the centre of growth flush with the soil again. The Campanulas do good service; C. turbinata hybrida fills many a chink with its broad, shallow, light blue bells, for a long period in the summer; C. pulla, C. garganica, C. persicifolia, and a number of others, creep about, and yield crowds of blossoms, white and blue, of various shades, and of equally varied shapes and habits. A dozen bulbs of the Horsfieldii Narcissus, put in some years back, are now represented by a dozen huge clumps, the result of one removal last year, when a number were given away, so greatly had it multiplied. In this connection, and with reference to the luxuriant growth of some of the other plants named, I may mention that when, as has frequently been the case, I have thinned them out, and given plants of these to my neighbours, they have, as a rule, died out with them, and in no case that I know of have they flourished in like fashion, even though in careful hands. In seeking for the cause I am led to think it is due to an extra supply of lime in my subsoil. When my garden was laid out, it was done by contract to my plans; forty loads of soil from the neighbouring fields were introduced, and the beds duly banked up in readiness for the rockwork, which I did myself.

The following spring, before I had stocked the garden with bulbs, &c., I decided to give it a good digging, and started with a strong fork on that mission. Down went the fork about a foot, when it came against a hard immovable stone. I started a bit further on with same result, and to cut a long story short, found the stone everywhere at same depth. Inspecting the fork I found it white, and thus ascertained the cause. My garden had been the spot upon which an enormous bed of mortar had been mixed for all the surrounding buildings, and the conscientious gardener who carried out my plans had simply spread the imported mould over this deposit, which I eventually found was pretty evenly distributed, some 4 or 5 inches thick. This was eventually broken up, and is of course liberally mixed with the subsoil, providing an element therein which on 20 feet of gravel is entirely absent in the gardens around. Antennaria tomentosa, introduced about that time, became such a terrible weed that a couple of barrowloads had to be removed and burnt. Now it scarcely grows at all. Lilium candidum presumably objects to lime. I cannot get it to bloom at all, though close by L. Brownii thrives as I have described. Narcissus poeticus, single and double, is not a success, most bloom buds being blind; N. incomparabilis dies out in a year or two, but N. Horsfieldii, as I have said, grows as freely as a weed. I have omitted to mention that the brick walls and an 18-inch wooden trellis on top are covered all round with Ampelopsis Veitchii; this hides in the summer both wall and trellis almost entirely, and materially redeems its prosaic appearance. Of the pleasing and interesting fernery, and of the frames, I will say nothing, except that they house a unique collection of British varieties some 400 or 500 in number, with the merits of which it is not my fault if your columns, if not your readers, are not already familiar. On the rockwork under the shadow of the Fernery is an outdoor group of the sturdier varieties, and here and there in the garden itself a congenial home has been contrived. The Parsley Fern (Allosorus crispus) has nestled for many years under the north side of a big burr in one of the triangular beds; and actually the mountain Bladder Fern (Cystopteris montana), reputed a very difficult Fern to grow, and at any rate very rarely seen, has survived a three years' struggle for existence with its neighbour, Aster alpinus, in one of the rocky northerly nooks close by it; so much at home, indeed, do even Ferns appear amid this compound of rockwork and formality, that numerous self-sown seedlings have appeared in the chinks and established themselves robustly—all this, be it remembered, in dry Essex, and within a mile of Stratford's smoke and fumes.

During the summer, and when the foliage of the bulbous plants has died down sufficiently to be removed without detriment to next year's growth, I vary the scene with a few orthodox bedding plants, inserting them carefully myself where I know there is space. In such a garden, obviously the jobbing gardener can only be employed to do the rough work of sweeping up, grass-cutting and so on. Give him a free hand, supply him with spade and fork, and good-bye to all hopes of the perennial pleasures inherent in such a heterogeneous collection as this! Neatness, however, can be secured, even though it be impracticable to dig up and sort the garden so thoroughly as is generally done at the opening of the year. In the spring all the plants are in evidence, the clumps of perennials are showing life, and the bulbs are well to the fore. At this time, therefore, a little judicious hoeing, and even digging, can be done, and tidiness maintained, but later on, digging of any sort must be tabooed, or damage is sure to be done, and repentance ensue. *Chas. T. Druery.*

New or Noteworthy Plants.

LILIUM BROWNI VAR LEUCANTHUM, *Baker.*

This is a very distinct-looking Lily, the bulbs of which were received at Kew from Western China at the same time as those of Lilium Henryi and L. Browni var. chloraster. They were collected by Dr. Henry, and forwarded through Mr. Chas. Ford, of Hong-Kong. It differs from the other varieties of L. Browni by the perianth being without any tinge of red-brown outside, not being narrowed so gradually to the base, and tinged with pale yellow in the lower half inside. In the shape of the flower it much resembles L. formosum, Franchet, which is known only from dried specimens; but this is said to have erect flowers, petioled leaves, and yellow anthers. Perhaps our plant may prove to be a new species, but at present I only venture to describe it as a variety of L. Browni.

Stem 3 to 4 feet long, stiffly erect, green, glabrous. Leaves very numerous, spreading, linear, sessile, bright green, glabrous, distinctly three-nerved, the central ones the longest, 3 to 4 inches long, under an inch broad, the upper ones growing gradually smaller till the bracts are almost ovate. Flowers three to five in a close corymb, deflexed; pedicels erecto-patent, 1½ to 3 inches long; bracts ovate, similar to the leaves in texture. Perianth funnel-shaped, 6 inches long, 1½ inch in diameter at the middle, 3 inches at throat, rather rounded to the pedicel, the segments reflexing at the tip only, milk-white, slightly tinged with green towards the base and on the keel towards the tip on the outside, tinged with pale yellow in the lower half inside; nectarial groove long and green; segments permanently much imbricated, the outer 1¼ to 1½ inch broad, the inner nearly twice as broad, with the keel outside square and grooved down the middle downwards. Filaments 4 inches long, densely pubescent in the lower half; anthers oblong, ⅓ inch long; pollen bright brown. Ovary green, cylindrical, deeply six-sulcate, above 1½ inch long; style curved, above 3½ inches long, much overtopping the stamens, densely pubescent in the lower part.

It flowered at Kew this year in the open ground in the first fortnight of August. *J. G. Baker, Herbarium, Royal Gardens, Kew.*

Orchid Notes and Gleanings.

CYCNOCHES PENTADACTYLON.

This remarkable species is now flowering very profusely in the collection of W. W. Mann, Esq., Ravenswood, Bexley. It is carrying 152 male and female flowers. The wonderful contrast in the colouring of the male and female flowers makes the plant look most striking, and one can hardly imagine that they could be produced on the same plant. Mr. Simon, the gardener, is quite an expert in the growing and flowering of this Orchid, although it is one of the most difficult in cultivation to grow and flower successfully. *John Carvill.*

Orchid Anomalies.

Professor Penzig, of Genoa, has published in the *Mémoires de la Société Nationale des Sciences Naturelles de Cherbourg* (1894) an article on "Monstrosities in Orchids," in which he reviews the principal structural deviations that occur in this order.

Cattleya labiata alba.

The above extremely rare form of Cattleya labiata is in bloom at Mr. McArthur's Nursery, 4, Maida Vale, London, W. The flower measures 7 inches across; the petals are very broad; the lamina of the lip is much undulated; and the whole flower is pure white, with the exception of a pale yellow blotch in the throat.

Cattleya Rex at Stand Hall, Whitefield, near Manchester.

Mr. Thomas Statter and his gardener are to be congratulated that at this season of the year, when Orchid flowers are, even in very large collections, somewhat scarce, they should have such an abundance of beautiful flowers in the Orchid-houses. He is the fortunate possessor of ten fine plants of Cattleya Rex, all in fine health, and every plant is now in full flower, bearing respectively from one to four flower-spikes, with from two to five fine blooms, making a

total of forty-seven. It is a species which does not vary much, but one of the plants has flowers with a lip of rich amethyst, the throat ochre-yellow with radiating lines of claret-brown, terminating with a white fringed band.

In a house devoted to Lælias on the one side and Cypripediums on the other, there are in flower Lælio-Cattleya Amesiana, a specimen with eight flowers; Lælia crispa superba, the plant which last year was awarded a First-class Certificate by the Royal Horticultural Society, is finer than ever, having three strong flower-spikes, each bearing six flowers; L. elegans Oweniana is another gem. Other varieties of L. elegans in bloom were the beautiful L. e. excellens; L. e. Luciana, which is represented by a fine specimen carrying a spike with nine well-developed flowers; L. e. prasiata, another fine plant, carrying fourteen of its lovely flowers; L. e. Bluntii is represented by a plant with a spike of five fine large flowers.

The general health and condition of the collection is admirable. High temperatures are not the rule at this place, and sturdy growths are observable on plants usually grown in very high temperatures. The Dendrobium-house never exceeds 65° when artificial means are employed to heat the structure. *I. I.*

REMARKS ON THE FRUIT CROPS OF 1894.

[*For Tabulated Summary, see p.* 119]

(*Continued from p.* 151.)

3. ENGLAND, E.

Cambridgeshire.—The fruit crop in this district has been very indifferent. Pears of some varieties are extra good: Beurré Hardy, Williams' Bon Chrétien, Hessle, Beurré d'Amanlis, are very good crops on standard trees. Strawberries were very much damaged by hail. Bush fruit is a good crop here; but near to Wisbech they are light, and old bushes are much infested with red spider. The varieties of Plums, Early Rivers and Victoria, are good crops on young trees; but other varieties are a failure. *W. C. Smythe, Upwell House, Wisbech.*

—— The crops vary very much in this parish in quantity and quality. The frosts of the nights of the 27th and 28th of May did not cause very much injury, except to Strawberries and Nuts; but what we have to contend against are red spider and the caterpillar of the winter moth. The "spider" appears even before the leaves expand, and if not persistently followed up with a suitable insecticide, the bushes look as though scorched with fire. The winter-moth caterpillar is, if possible, still more to be fought against with another insecticide, and this must be done as soon as they are seen, or an almost total loss of crop will follow; but if taken in time very good results follow. *Andrew Grant, The Vineries, Willingham.*

Essex.—On April 21st I registered 9° of frost, 22nd 11°, and 23rd 10°, which made havoc amongst fruits, reducing the Pear crop to an average one, destroying almost all Apples and Plums, and three-fourths of the Strawberries. Gooseberries are a good crop generally in this district, but Currants suffered very much through blight. Morello Cherries and Raspberries are very good. All wall fruits escaped. *James Vert, Audsley End Gardens.*

Lincolnshire.—Up to the time of the frosts in May, fruit prospects were very good, Apples, Pears, and Plums having set a heavy crop of fruits, also all small fruits; but the frosts on that date and the 20th and 21st May cleared off all fruits—Apples, Pears and Plums fell off, also all small fruit. Wall fruit trees where protected have excellent crops, quite up to our usual average, particularly Peaches, Apricots, and Plums. *David Lumsden, Bloxholm Hall.*

Suffolk.—The fruit crop in this district, with two exceptions, Apples and Strawberries, is a good and plentiful one. Apples are partial and poor in quality. All the early bloom on Strawberries was destroyed by the frosts in May, consequently the crop is thin. Apricots are above the average, and promise to be very good. The same remark applies to Pears. Peaches, Nectarines, and Plums are fairly good, but Cherries, both dessert and Morellos, are thin. All kinds of small fruits are plentiful, particularly Raspberries. I do not remember having the latter so clean and fine in quality as this season. *H. Fisher, Flixton Hall Gardens, Bungay.*

Suffolk.—Apples erratic, in many districts good, especially on bush trees and cordons. Pears are emphatically the crop of the season, the frosts of May that wrecked so many Apples in bloom doing the Pears little or no harm. Cherries have also been plentiful. Plums variable, and about an average. Gooseberries fine crop, and the bushes in good health. *D. T. Fish, Bury St. Edmunds.*

—— Caterpillars were prevalent on Apple trees, and greatly disfigured the leaves; but Apples and all other fruit trees are making healthy clean growth. The Strawberry crop has perhaps proved the most disappointing. Apricot trees are heavily laden with fruit, as are also Filbert and other Nut trees. *J. Wallis, Orwell Park, Ipswich.*

—— I never saw a more promising year for fruit than 1894. Apples, Pears, bush fruit, &c., previous to the frost of May 20 and 21, when we registered 10° and 6° respectively—All fruit in the open was destroyed, but on the walls, Pears, Plums, and Cherries escaped, and in many cases the trees were so injured that they had the appearance of having been burnt, and many of them still bear marks of the injury. I may add that I have not one bushel of Apples left in the garden. *H. Coster, Ickworth Park Gardens.*

4. MIDLAND COUNTIES.

Bedfordshire.—The early spring pointed very favourably to abundant supplies of fruit until the night of May 20, when we had 9° of frost, but the foliage having got well advanced it took but very little effect on any, except Strawberries, and they have done really better than I at first thought was likely. *R. Calvert, Froxfield Gardens, Woburn.*

—— Apples are best on young trees and early sorts, although Kings are a fairly good crop, and Bismarcks are good. Early varieties of Plums are a slight crop, but the late ones are heavy. Cherries were a full crop, but the fruits much damaged by rain; and Strawberries were badly damaged by frost and mildew. The canes of Raspberries, owing to last summer's drought, are weak, and the crop is a short one. *F. Smith, Loddington.*

Bucks.—Of orchard trees the following are bearing good crops:—Devonshire Quarrenden, Blenheim Pippin, Wellington, King of the Pippins, Old Russet, Claygate Pearman. Our best Apples are on pyramid trees worked on the Paradise stock. Pears are an unusually good crop, nearly all varieties having to be severely thinned, both on wall trees and pyramids. Three kinds bearing indifferently are—Thompson's, Pitmaston Duchess, and Marie Louise. Peaches and Nectarines are a fair average crop, but green-fly was unusually troublesome during April and May. Cherries are a good crop, so also are Plums and Apricots. Strawberries suffered from May frosts, and are not half a crop, the worst being Noble, Sir J. Paxton, and President. Oxonian and Elton Pine are good, the latter especially bearing a heavy crop of fine fruits. Cob-nuts and Filberts are plentiful and good. *Chas. Herrin, Dropmore.*

—— On the whole the fruit crop is much below the average; Apples are bad and blighted. Amongst Strawberries there were many barren plants, and those in bloom suffered from frost in May, and the Raspberry bloom set badly. The bushes of Currants are very much blighted, and the Gooseberry bushes almost devoured by the saw-fly caterpillar. The Plum trees carry good crops, but the foliage is eaten up with aphis. The Peach, Apricot, and Cherry do not succeed on our sandy land. *G. Bloxham, Brickhill Manor, Bletchley.*

Bucks.—Apples in this district a poor crop; fruit generally small, owing to the effect of fly, which has dreadfully infested many trees. Pears are very abundant, and promise to be good. On Peaches and Nectarines the red-spider is proving very troublesome in many places. Plums will be a partial crop in low-lying districts; the whole crop was destroyed by frost in May, and in some places the foliage of the trees was completely cut off. Strawberries suffered from the same effect. All kinds of Currants materially damaged by the fly. Cherries fine, and most plentiful. Raspberries first-rate. *G. T. Miles, Wycombe Abbey Gardens.*

—— Here in the wet, low district we suffered badly from the severe May frosts, and but little fruit is left. Red and Black Currants are very thin, with hardly a whole bunch to be found, while from Strawberries not a fruit has been gathered. Warrington Gooseberry withstood the frost better than others, whose fruits lay under the trees by the bushel. Of Apples barely a fruit is left, whether sheltered or not. Part of the crop of Prune Damsons escaped (in places) with some of the coarser Plums; the Victoria suffered most, several years' growth being also killed. Of Walnuts there are none; some of the trees lost all their foliage. *J. W. Shrimpton, Aston Clinton.*

—— Up to May 21 we had every prospect of a grand crop of all kinds of hardy fruit. On that morning we had 8° of frost, which destroyed all the fruit, and cut the leaves off the trees. Many of our Plum trees are so much damaged, that it will take years for them to recover. *J. Smith, Mentmore Gardens.*

Cheshire.—Fruit blossoms were very abundant, early sorts promising till the night of May 20, when the thermometer at 2 feet from the ground showed 8° of frost, followed by bright sunshine. On the 21st there were 9°, and the 22nd 7°, and the temperature at night showed from freezing point to 6° from that date till the 30th. The greater part of the fruit-blossom was destroyed with a few exceptions. Protected Nectarines, Peaches, and Apricots on walls are good crops. For many years such a severe and late frost has not been experienced in this district. *Wm. Whitaker, Crewe Hall.*

—— Pears were well advanced before the frost came, and are a good crop; but the fruits will be rather small. Apples suffered very much, not only in loss of fruit but in the severe check received to growth, and blight has attacked them badly. Strawberries never looked better than in the early part of May, but the frosts on the 19th, 20th, and 21st completely spoiled all the early fruits. With the exception of Black Currants and Gooseberries, the bush fruit crop is a very good one, but is infested with the fly. *N. F. Barnes, Eaton Hall, Chester.*

Derbyshire.—There had never been a more magnificent prospect of an abundant fruit crop than was the case here up to May 20 and 21, when, in addition to very severe frosts, we experienced a terrific easterly gale, which completely ruined Apples, Pears, Plums, and Cherries, with the exception of a very thin sprinkling of Morellos, so that of Apples we have not a single fruit left, and Pears only a few on the walls. Small fruits, with the single exception of Gooseberries, which are a grand crop, were all seriously crippled, and are very poor indeed. *B. Ashton, Glossop Hall Gardens.*

—— A very poor show of fruit all round, except Pears, which are a fair crop and healthy. No bloom on Apples, or, rather, very little, no doubt owing to the long-continued drought (on a dry subsoil) of last summer. Black Currants quite spoiled with the green-fly. Damson Plums, of which a great quantity is grown in this neighbourhood, are almost a failure. *E. Wilson, Hardwick Hall Gardens.*

Hertfordshire.—There is a fair display of fruit in this district, some of which is remarkably good. Trees of the following varieties of Pears, Marie Louise, Brockworth Park, Duchesse d'Angoulême, and Glou Morceau, are carrying capital crops. Many

*

of the small fruits were much damaged by the May frosts, Strawberries particularly; moreover, Red and Black Currants have been badly infested with green and black-fly, and their injurious effects upon the foliage have, in some places, spoilt the crops, and killed the trees. *C. E. Martin, The Hoo Gardens, Welwyn.*

Hertfordshire.—The frost of May 20 completely destroyed our Apple, Pear, and Plum crops where exposed. Pears on walls, and where protected, were above average, and required much thinning. Plums similarly situated are about half a crop. Strawberries and bush fruits suffered severely, although in the case of Currants and Gooseberries sufficient were left for a good average crop; the former are much blighted. Sweet Cherries were all destroyed, and Morellos are a poor crop. *E. Hill, Tring Park.*

—— Fruit crops were very promising till the severe frosts the latter end of May played such havoc amongst them. Nearly all the best Strawberries were cut off, and although the Peaches and Nectarines did not suffer so much here, in many cases in the neighbourhood the trees look nearly dead. Apples, Black Currants, Strawberries, and Walnuts, suffered most here. I do not think we could get a peck of Walnuts from about a dozen trees, and before the frost they were covered with them. Pears and Filberts are the most promising crops, Woodnuts are plentiful. *Thomas Nutting, Childwickbury.*

Leicestershire.—We have here quite an average crop of all kinds of fruit, with the exception of Apples and Pears on standards. Pyramidal trees of the following are carrying good crops:—Apples: The Queen, New Hawthornden, Wellington, Blenheim Orange, Newton Wonder, Prince Albert, Duchess of Oldenburgh, Domino, Stirling Castle, Frogmore Prolific, Bramley Seedling, Braddick's Nonpareil, Pike's Pearmain, Lord Lennox, and Sturmer Pippin. Pears: Beurré Superfin, B. Brown, B. Rance, B. d'Amanlis, B. d'Anjou, B. Diel, Doyenné du Comice, D. Boussoch, Souvenir du Congress, Williams' Bon Chrétien, Knight's Monarch, Louise Bonne de Jersey, Marie Louise, and Marie Louise d'Uccle. *A. Hamshere, Beaumanor Park Gardens, Loughborough.*

—— Apples flowered but sparingly, and since May 20 have been very much blighted, doubtless owing in some measure to exhaustion after the very heavy crop last season. Pears are very full of fruit, and in good health. Plums were much blighted, but are now improving. Cherries set well, and afterwards got much infested with black-fly. Peaches are promising well. Apricots very heavily laden, making two heavy crops in succession. Black Currants almost disappeared after the frost on May 20 and 21. Gooseberries were also much thinned at that time, and the largest flowers on Strawberries were killed. *W. H. Divers, Belvoir Castle Gardens.*

—— The 9° of frost of May 21 and 22 destroyed the Apple crop in this neighbourhood, and very much reduced that of Strawberries, Raspberries, and bush-fruit. Of Pears on pyramids there are none, but on walls there is a large crop of clean fruit. Peaches and Apricots are better than we have had them for some years. *D. Roberts, Prestwold Gardens, Loughborough.*

Nottinghamshire.—On May 20 we registered 9° of frost, and on the 21st 6°, completely destroying the Apple and Pear bloom, which looked very promising. Peach, Nectarine, and Apricot trees were well protected with two thicknesses of fish-nets, and Cherry bloom not being forward, they escaped. Strawberries were nearly in full bloom, and the crop was nearly destroyed. *S. A. Woods, Osberton Gardens, Worksop.*

Oxfordshire.—Apples were at one time a very promising crop, but blighted badly, especially the older standards. Pears are wonderfully good in all forms of culture. In the case of heavily laden trees many fell naturally; in addition to this it has been necessary to take off at least a third of the crop. Peaches and Nectarines are excellent crops, others healthy; frost did not hurt fruit crops here. Cherries good, but much troubled with black-fly, especially Morellos. Plums are a heavy crop on all trees; immense crops of Gooseberries, and not a caterpillar here. Red Currants blighted badly. Strawberries here, especially President and James Veitch, are very fine. *George Stanton, Park Place, Henley-on-Thames.*

Oxfordshire.—The failure of the Strawberry crop must be put down to the great heat of 1893. Walnuts failed by reason of spring frost destroying the bloom and young shoots; and the partial failure of Apples is due to the same cause. *A. Long, Wyfold Court Gardens.*

—— Of Apples I don't think we shall gather one bushel. Pears escaped on the walls in some places, and some standards or orchard trees have a fair crop. Plums are a fair crop on walls, but there is none on standards. I gathered a fruit of Alexander Peach from a south wall on July 11th. Strawberries were all killed. *W. M. Geddes, Shirburn Castle.*

—— Apples are a partial crop, but good in quality; our best are on young standard trees four years planted. Those fruiting the most freely are Alfriston, Stirling Castle, Lord Suffield, Warner's King, Ecklinville, Tower of Glamis, Mère de Ménage, Beauty of Kent, and Lane's Prince Albert among culinary varieties; and Irish Kerry, Keddleston, Sturmer and Blenheim Pippin among dessert fruits. The best Pears are Beurré Diel, B. Bachelier, Easter Beurré, Duchesse d'Angoulême, Conseiller de la Cour, and Glou Morceau. *A. G. Nichols, Nuneham Park Gardens, Abingdon.*

Shropshire.—Such Apples as King of the Pippins, Stirling Castle, and a few of the older sorts are carrying full crops; but, taking Apples as a whole, they are decidedly under average. Strawberries are a grand crop in every way. *James Louden, The Quinta, Chirk.*

Staffordshire.—The frost (May 20 and 21) no doubt did much damage, still I am of opinion that the superabundant bloom being so great a tax upon the trees, and the want of moisture in the subsoil, were more directly the causes of the failure of the Apple and Pear crops. In some gardens near here Plums had dropped wholesale before the frost. Strawberries badly injured by frost. Apricots and small fruits more protected by foliage escaped. *Arthur Coombes, Himley, Dudley.*

Warwickshire.—Apples are a complete failure, owing to the May frosts; on the contrary, trees of Pears on walls and espaliers are heavily cropped, and Plums and Damsons are a thin crop in orchards, and on walls a heavy one. Peaches are a full crop, and promise to be of fine quality. Apricots are again an extraordinary crop, and the trees are clean and healthy. *J. Rodger, Charlecote Park Gardens.*

—— The only real failure among fruit crops this year is with Strawberries; the severe frosts in May utterly ruined the prospects, which were then good. In a few instances plantations are almost uninjured, and have yielded excellent crops of very fine fruits; such exceptions are, however, extremely rare. Apples set a very heavy crop, but most of the fruit dropped in a young state through injury by frost. Pears, on the other hand, were quite uninjured, and are plentiful and good in every way. Plums were at one time a very heavy crop, but severe attacks of green and white aphides so weakened the trees that they resorted to Nature's remedy of casting their fruit to restore the balance. *H. Dunkin, Castle Gardens, Warwick.*

(To be continued.)

THE ROSARY.

CLEMATIS AND ROSES.

We seldom see other beautiful flowering plants growing together with Roses, except it be more or less of an accidental arrangement over some cottage wall or door. When we admit at once how harmonious the two are, is it not strange we fail to copy the same as far as possible? In scarcely any form of Rose culture, except that where a few grand exhibition blooms are needed, will the Clematis be out of place. A few old and strong-growing Roses, rambling at will over an outhouse here, have been exceedingly pretty all through the early part of summer. Even now there are several expanded blooms, and more to follow. But what forms the chief feature of present attraction is undoubtedly a grand specimen of Clematis Jackmanii. Again, a rough pergola in a neighbour's garden is beautifully covered with various Clematises and Honeysuckles. Roses were the feature a short time back, but would make a sorry show now in comparison to the gorgeous Clematis. I will quote one more example in favour of these mixture. A bed of pegged-down Roses surrounding a large Cydonia japonica is also planted with a few Clematis. Early in spring the deep scarlet of this Japanese Quince is very effective, and at a time when little else is showy. The Roses soon follow, and are in their turn succeeded by the Clematis, which not only converts them into a beautiful bed, but also rambles among the Cydonia and around the taller and stouter growths of the Roses.

Nothing could be more simple to grow than these flowers, and few harm one another less. Each spring the Roses are pruned, and pegged down after a fairly good mulching. By this time we can see where the Clematises are, and so avoid any undue injury. For that matter, we need have little fear if the Jackmanii section or type are used, these being more or less herbaceous perennials, and blooming upon the present season's growth. A few of the roughest shoots are pulled out of the Cydonia at the same time, when it only remains for each to come on in due season, and we secure three distinct and pleasing changes with no more trouble. We do not find them harm one another when accidentally placed or allowed to grow together, and yet so many fear to form these delightful mixtures. *P.*

WILD BIRDS.

I cannot put my hand on the schedule of the Wild Birds' Protection Act just now, but so far as my memory carries me, the owl is catalogued only as an owl. Does that include the whole family, from the noble eagle down to the lesser or common barn owl? Why I select the owl in the first instance is, that this district is getting pested with the brown field-mouse, as well as the shrew-mice. Every bank is honeycombed with their runs. The destruction last season was great, but to all appearance it will be more so this season. Those who have watched the barn-owl in the twilight of a summer evening, as it silently glides in search of its legitimate prey, rats and mice, and those who have visited their nests and counted the numbers carried there, especially during the breeding season, would be convinced of its value. It is no uncommon thing to find from twenty to thirty brought in during the night, including rats, mice, sparrows, robins, to say nothing about what the owl needed for its own consumption. Useful as these birds are, there are few land birds that suffer more on account of their beauty. Bird-stuffers especially destroy scores of them, as they always command a ready sale when stuffed and put into glass cases; their wings are much used for fans, fire-screens, and are worn in ladies' hats and bonnets. Formerly these birds were much cared for in Sussex and Kent. Holes were always made in the barns, granaries, and often in the roofing of old farmhouses for the ingress and egress of barn-owls.

Rooks.—These birds have the credit of destroying a large percentage of corn. If any patches are to be found in the fields, the farmers always say it is the rooks, but if they were to watch them minutely, and open the crop of those that fall to the gun (which is often the case), they would find chiefly wireworm, grubs, and maggots, showing at once that they do an enormous amount of good when procurable they feed almost entirely on worms. Anyone can easily learn for himself that worms destroy the fertility of the soil, if he tries to grow plants in mould formed

entirely of worm-casts. Rooks do an enormous amount of good also by eating the grubs of the cockchafer, this has been proved frequently; where rooks are colonised, there the chafer is rare, they seem to detect their whereabouts by the sound of their "teeth" at work on the grass roots, and then pecking a hole with wonderful rapidity they drag out the grub.

The Starling.—This valuable bird is not in the schedule. I look on starlings as among the best friends I have, more particularly in districts where rooks are not colonised and seldom seen. The presence of the starling is not appreciated near Cherry orchards during the time of ripening; but apart from that, they do an incredible amount of good. They feed almost entirely on worms and grubs, particularly the grub of the Daddy-longlegs (Tipula oleracea). Grass often suffers considerably from these grubs; the yellow cabbage-butterfly and grubs also do not escape the starlings when they have young. In meadows that are infested with the cockchafer, you will see a whole pack cleaning them off by the myriad.

It is delightful to watch the tactics of these birds in a meadow, and note how curiously they feed, the hind ones continually flying to the front, by which means they can observe the holes of the insects in the ground, and hear the gnawing of others, from which their sharp-pointed beaks quickly draw forth the occupant.

The Kestrel.—This is another bird of great service for destroying mice, young rats, and nearly all large insects, such as cockchafers, &c., but this useful species is getting rare, for no sooner does it appear, than every endeavour is made to trap and shoot it. If they do have a young partridge, pheasant, or chicken occasionally, they well compensate for it. I reflect that the majority of these and many others would not possibly have had existence had it not been for the searching eye for vermin, and I trust the former-named bird, and the latter, will find more friends in the future than in the past, for without them we shall be in a sore plight in a short time. *A. Evans, Lythe Hill.*

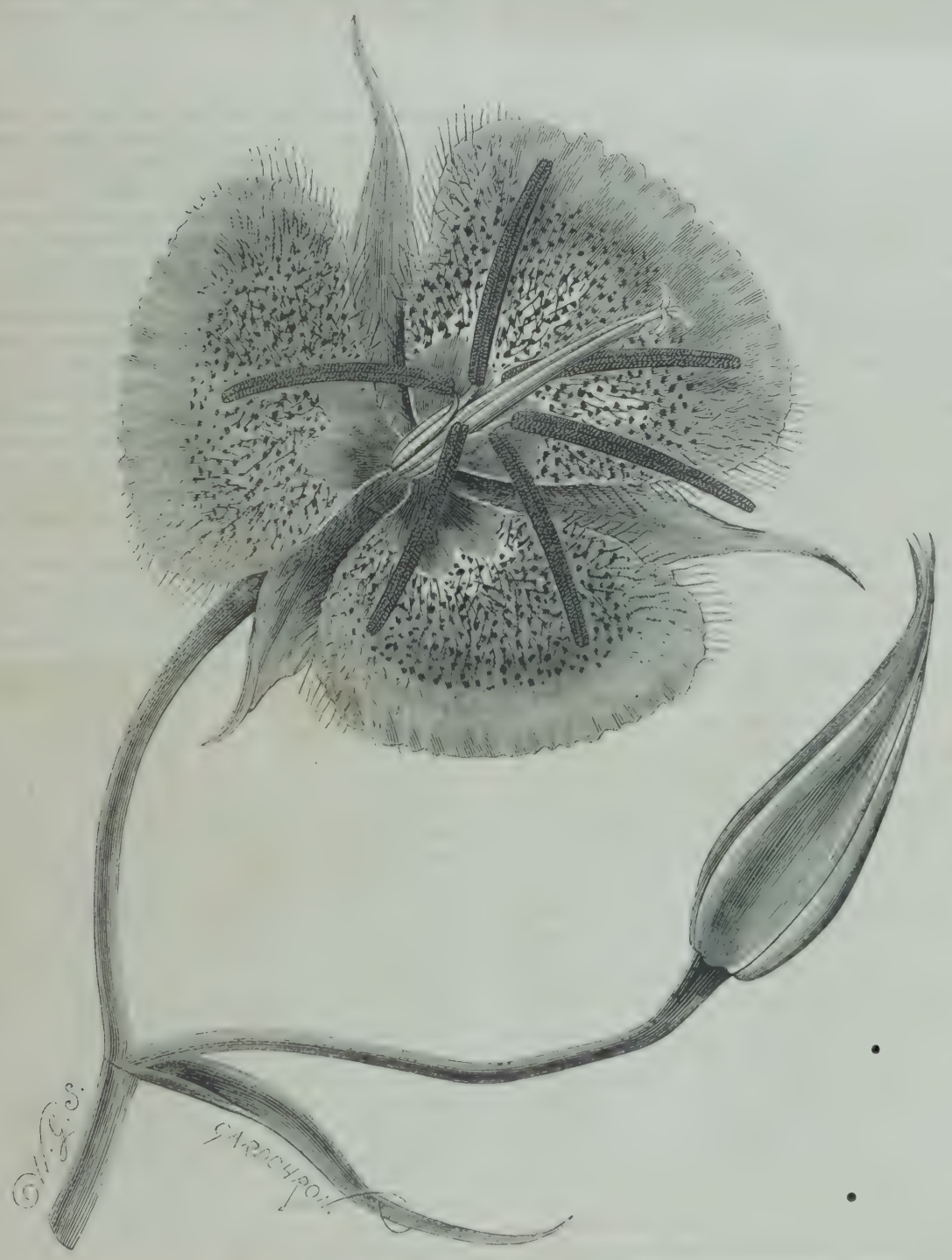


FIG. 27.—CALOCHORTUS WEEDII: FLOWERS YELLOW.

CALOCHORTUS WEEDII.*

THIS is a yellow-flowered Californian species, lately exhibited before the Royal Horticultural Society by Messrs. Wallace & Co. of Colchester, to whom we are indebted for the opportunity of figuring the plant. The rich yellow self-colour affords a contrast to the many-hued flowers of other species. It has also been called C. citrinus. Mr. Baker considers the present plant to be a variety of C. luteus, differing in the circumstance that the petals are not spotted, whilst their whole surface, not a part only, is covered with long brownish hairs. The flowers are described as "saturate aurantiaca," but as shown the colour was pure yellow (flava).

* C. Weedii, Wood, *Proc. Acad. Phil.*, 1869, p. 189; C. luteus, Douglas, var. Weedii, Baker, in *Journ. Linn. Soc.*, vol. xiv., p. 309.

TREES AND SHRUBS.

SPIRÆA BUMALDA.

THIS is a very dwarf shrub, not more than 18 to 23 inches in height. The flowers, which are rosy-pink, are produced in great profusion, and last a considerable time. Planted in open spots in mixed shrubberies at a suitable distance from the edge of the border, or if used as a flowering plant for groundwork amongst neatly-kept ornamental shrubs, the effect is very pleasing. Cuttings of young shoots may be rooted under a close handlight, and will soon grow into nice-sized plants. [The variety of this species called Anthony Waterer is much better.—ED.]

SPIRÆA CALLOSA ALBA

also grows to about the same in height, but the flowers are pure white, making it a suitable companion to the above-named. The flowers of both are produced with large flat heads, and might be used in several ways with good effect.

SPIRÆA NOBLEANA

is a much taller and stronger-growing shrub, and when planted in a suitable spot, produces a very fine effect. The flowers, which are produced at the ends of the shoots in large-branched heads, are of a rosy-red colour, and the plant may be said to be one of the best of its kind.

RHUS COTINUS (COB-WEB OR WIG TREE).

We have a nice shrub of this now smothered with its purplish feathery inflorescence, which is now a striking feature in the shrubberies. It is growing in a somewhat poor light shallow soil. To see this shrub in its full beauty, it should stand well clear of its neighbours, and never be allowed to get over-crowded. *H. Markham, Merewort[illegible] Cast[illegible].*

FRUIT-WINES.

THERE has recently been published, in a large volume of 462 pages, the report of the thirteenth meeting, at Breslau, of the German pomologists and fruit growers, and of the German Pomological Society. Two reports, devoted to the present condition of the wine-making industry in Germany, are of considerable interest. After many experiments, it is now possible to make, with proper materials, a good, pure, palatable beverage. There are a great many kinds of barms or yeasts (Saccharomyces), but not all give a good result. The Saccharomyces apiculatus, which is formed in the fruit-juice, is not sufficient to ferment the juice thoroughly. Therefore it was necessary to find varieties of barm which would answer the purpose better. Experiments showed that there are better barms, and moreover, that if the juice ferments by means of these in a few days, the above-named apiculate barm is not formed. The experiments proved further that the different species of barm have biological peculiarities, viz., that different varieties impart varying flavours to the beverage. So it is possible to give to the same juice a different bouquet or flavour, according to the kind of yeast with which it is fermented. The next problem was to raise pure specimens of the different varieties of barm, and to test these in the juice. That was done, and now fruit-juices are fermented by barm obtained from Grape-wine. To suppress the original apiculate barm, which is chiefly formed in the fruit-juice during the first few days, whilst the quantity of alcohol is still small, a small quantity of ammonia tartrate (20 grammes per hectolitre) is added to the juice (1 gramme = 15 grains, 1 hectolitre = 22 gals.). Besides this, the quantity of

barm added to the juice is of great importance. The same quantity of Gooseberry juice during twenty-four hours gives the following results :—

Quantity of Barm.	Quantity of Carbonic Acid.	Quantity of Barm.	Quantity of Carbonic Acid.
	Grammes.		Grammes.
Spontaneous fermentation ...	16·20	Spontaneous fermentation ...	17·00
25 cub. cent. barm	24·00	25 cub. cent. barm	25·30
50 ,, ,,	30·40	50 ,, ,,	34 50
75 ,, ,,	35·80	75 ,, ,,	40·90
100 ,, ,,	42·00	100 ,, ,,	44·80
125 ,, ,,	50·90	125 ,, ,,	53·50
150 ,, ,,	58·00	150 ,, ,,	60·00
200 ,, ,,	64·20	200 ,, ,,	66·60
250 ,,	68·50	250 ,, ,,	73·20
300 ,, ,,	78·20	300 ,, ,,	81·70

As soon as the juice has 5 or 6 per cent. of alcohol, the greatest difficulty is surmounted. Experiments have shown that it is very advantageous to add to the juice at the beginning 2 per cent. of alcohol, or still better 10 to 15 per cent. of Grape wine. Then the fermentation by pure barm raised from Grape wine goes on very well, whilst spontaneous fermentation ceases, because the original apiculate barm is killed. As the juice of fruits, especially that of Gooseberries and Currants, contains a great quantity of acid, it is necessary to dilute it with water. Now the experiments proved that, the more water is given, the worse grows the barm. The following table demonstrates this :—

Juice of Gooseberry with—	Amount of Carbonic Acid after 70 days without Barm.	Amount with Barm.
	Grammes.	Grammes.
6 per cent. acid	174·0	297·3
8 ,, ,,	161·3	279·5
10 ,, ,,	137·1	262·9
12 ,, ,,	104·2	237·0
14 ,, ,,	94·8	193·9
16 ,, ,,	90·2	184·7
18 ,, ,,	80·8	168·9
20 ,, ,,	74·0	153·3

But if the concentration of the juice increases in proportion to the quantity of acid, this promotes fermentation, as the following table explains :—

Concentration of the Juice.	Acidity.	After Fermentation.	
		Total Amount of Carbonic Acid.	Total Amount of Alcohol.
	Percent.	Grammes.	Per cent.
36 parts juice ... ... 64 parts dilution of sugar and water	4	154·1	7·30
48 parts juice ... ... 52 parts sugar and water	5·1	173 3	8 40
68 parts juice ... ... 32 parts sugar and water	6·5	193 9	9·45
72 parts juice ... ... 28 parts sugar and water	8·1	213 1	10·34

For practical purposes these results are of much importance. The juice is fermented by pure cultivated barm and by the proportion of water which is necessary to reduce the acidity. Afterwards the remainder of the water is added. From all these experiments, Mr. Nathan, Inspector at Rottweil, deduces the following rules for the making of wine. Of the first fruits which are obtainable, 3 to 4 kilogrammes (1 kilo. = 2¼ lb.) are thoroughly washed in cold water, pressed, and the juice mixed with fresh pure cultivated barm. Fermentation is allowed to begin in a glass bottle of 3 to 4 litres (1 litre = 1½ pint). Some days afterwards 2 to 3 litres of fresh juice are mixed with the fermenting juice, and the mixture enclosed in different glass bottles. This process is repeated several times, till a sufficient quantity of barm is obtained. Then begins the wine-making proper. The fruit is pressed or crushed, the whole mass together; with the skins of the fruit is mixed half the quantity of barm, and it is then placed in large vats with sieve-bottoms. Some days afterwards the juice is pressed out, and mixed with the second half of the barm. Now begins a very active fermentation. Some three or four days afterwards the must is brought in another barrel, and mixed with the necessary quantity of water, sugar, and ammonia tartrate. The succeeding crop of fruit is brought in the first barrel, where is still a good proportion of the barm. Shortly after the first must is fermented, the wine is put into another barrel, and this in an underground cellar. The remaining barm is used for the succeeding crops. Presently such a large quantity of barm is raised that it is sufficient for a great deal of juice. The first crops are the white Currants, then follow the red ones, and after these the American Gooseberries. By this method it is possible to complete the whole wine-making four weeks after beginning in the underground cellar. The barm from the last barrels is used for the fermentation of the Apple-juice. It is necessary to bring the wine, as soon as all sugar is fermented, from the warmer fermentation cellar into the cooler underground chamber, where the clearing process begins.

The best Gooseberry for wine production is the American Mountain Gooseberry (a variety of the common Gooseberry). A plantation, three years old, gives per hectare (1 hectare=2½ acres) 8254 kilogrammes berries, that yield, by a mixture of 2·7 litres water with 1 litre juice, 234 hectolitres wine per hectare. This species is no new one, but known here in Germany, as was remarked at the Congress, over twenty years ago. It is proof against disease. The importance of the fruit and berry wine industry is considerable in Germany. Besides the cider, the Currant wine production is increasing immensely and the latter is now often given by physicians in a great many hospitals instead of the much more expensive Tokay wine. *U. D.*

NURSERY NOTES.

MESSRS. PAUL AND SON.

The Roses in the Cheshunt Nursery were for the most part in full flower recently, and there is a fine promise of an autumn display this year, the plants being in vigorous health, and full of plump buds. Roses are as enjoyable in autumn as in summer, the flowers often better in colour, because less affected by bursts of a long-continued hot sun.

It is needless to write that every variety in every class of any merit at all is grown. To enter into details about old varieties is unnecessary, and therefore the remarks are confined almost exclusively to new kinds, either raised by the firm, or by other rosarians. Of those specially identified with Messrs. Paul & Son, the most famous is Carmine Pillar. The name is not altogether happy, though fairly descriptive. It is a Rose that will no doubt be grown largely in the future, as we have none too many really fine climbers. The growth is remarkably robust, some plants over 10 feet high, being earlier in the season, wreathed with the large, rich carmine crimson-coloured flowers, which last well for a single Rose. They are also sweetly scented, and the plant when in bloom is splendid. Flowers of it have been shown on many occasions by the firm, but one cannot judge from these of the effect produced by a plant in the open. Charles Gater is a very promising hybrid-perpetual variety, given an Award of Merit by the Royal Horticultural Society in 1891. The plant is a strong grower, with broad robust leafage, and the brilliant scarlet flowers are well-formed and very sweetly scented. It will make a thoroughly good garden Rose. Another raised by the firm is Paul's Early Blush, which is possibly a sport from Heinrich Schultheis, but much lighter in colour. The fragrant flowers appear very early in the season, and are produced far into the autumn, the light silvery pink colour being very pleasing. We should think that it will be grown largely for market, because of its earliness and adaptability for forcing. Caroline Testout is in all probability a seedling from La France. It is one of the finest of recent new flowers, the growth of the plant very strong, and the flowers full, fragrant, and delicate salmon-pink in colour.

A very promising variety of the H.P. class is T. B. Haywood, a welcome dark Rose, the flowers best described as scarlet-crimson shaded black, a superb depth of colour, in addition to which they are of full form and very sweet; the plant, too, of strong sturdy growth. Duke of Fife, a deep-coloured Etienne Levet, will be in time a distinct gain, the flowers very rich in colour, crimson, touched with maroon. Violet Queen is promising, and is very distinct, the flowers of excellent form, and rich crimson colour, touched with quite a violet tone. Captain Haywood, the late Henry Bennett's last Rose, is a brilliant flower for colour, bright carmine scarlet, the growth of the plant strong and free.

Perhaps the finest Rose raised of recent years by Messrs. Paul & Son is the Bourbon Mrs. Paul; it is superb everywhere in this Nursery, being good as standards and in other forms, whilst it may be also treated as a climber. One standard of it had, not long since, twenty-five flowers of perfect form open at one time, showing that it is at once free and vigorous. The flowers are of quite Camellia-like form, the stout petals composing a full handsome bloom, bluish-white, touched with a delicate peach shade, of the fine Bourbon character, sweet, and continuing long in beauty; it is in every way a thoroughly fine garden Rose. La Fraicheur is a charming hybrid Tea Rose, but, unfortunately, is a very poor grower, this being of course a great drawback; but the plant is worth growing to get even a few flowers, as they are so fresh and clear in colour—a lovely bright shade of rose, quite distinct from anything else in cultivation.

The Teas were of much interest, the plants flowering remarkably well, amongst the newer kinds Beauté Inconstante being very distinct in colour, variable, and most pleasing when of an orange-red shade, the plant being strong in growth. This, we think, will be much grown in the future, the flowers, so variable in colour, passing sometimes to white, yet not commonplace, reminding one of L'Idéale more than any other kind. Elise Fougier is a fine true Tea, the flowers very pretty in form and colour, being not unlike those of Niphetos, and delicate lemon in shade. Bridesmaid has been written of lately; it is a sport from Catherine Mermet, but deeper in colour, and does not lose its distinctive shade so quickly as that variety, whilst the growth is more vigorous. Naman Cochet is a Rose that will in time, we think, get popular. It blooms abundantly, and the flowers are of pretty colour, salmon-pink, touched with yellow.

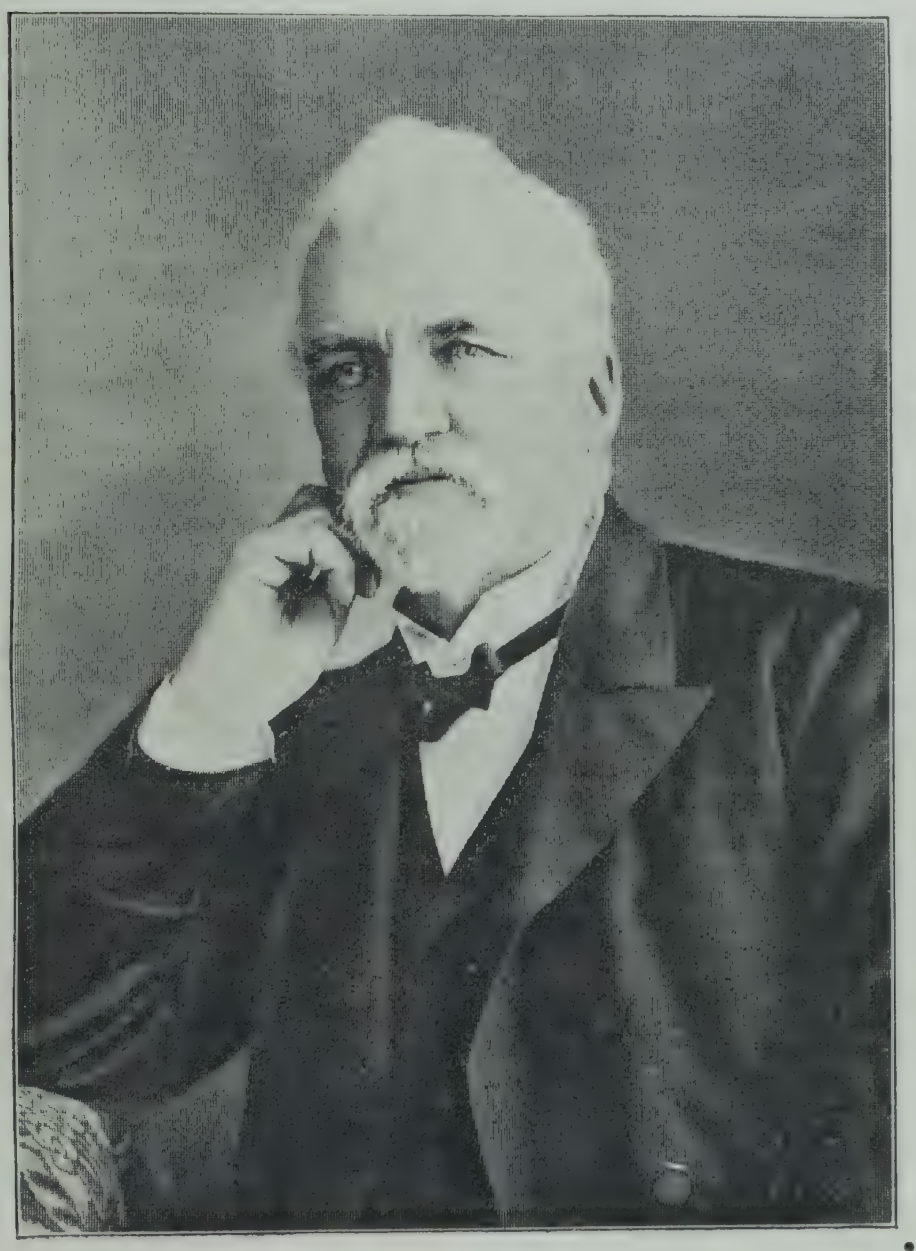
Amongst hybrid perpetuals, Marchioness of Londonderry must not be omitted. It is a very handsome Rose, sweet, and with stout petals, ivory-white, tinted with delicate pink in the full, firm centre. The flowers are produced freely on the stout, vigorous shoots, and either for the garden or exhibition it will prove valuable. We do not care greatly for the colour, because rather a dirty-white, but it is free, vigorous, and in other ways distinct and attractive.

A few more Hybrid Teas may be mentioned, one of the brightest being Marquis of Salisbury, which is at once apparent by its dark purplish leaf, dwarf growth, and brilliant crimson flowers, which are as bright as anything amongst Roses. It is a free, brilliant, and useful variety, likely to be much grown in the future. Augustine Guinoisseau is now fairly well known. It will never make an exhibition Rose, but is very beautiful in the autumn, the compact, strong-growing plants bearing a wealth of very fragrant flowers, white-tinted pink in the centre, and popularly called the White La France. Kaiserin Augusta Victoria is a hybrid Tea, like a fine form of The Bride, and will probably supersede that variety. The flowers are large and long, the colour a very soft lemon shade. Grand Duc de Luxembourg is the counterpart of Viscountess Folkestone, except in the colour of the loose, delightful, informal flowers, which are rose. It is a strong grower, free, and a variety

that will be popular for beds. Of Viscountess Folkestone it is not necessary to say more than that no Rose is more beautiful. One cannot get tired of its lovely flowers. A new Rose of great beauty, and recently given an Award of Merit, is a seedling raised by Mr. A. H. Gray, of Bath, and called Alister Stella Gray. It blooms like a Noisette, in clusters, and both early and late; the flowers very pretty in the bud, the centre of a lovely Apricot shade, passing to white when fully expanded. It will be found valuable for cutting, the long pretty buds being of great use for button-holes, and whether under glass or in the open it is very fine, the growth robust, quite of climbing character, and the flowers produced with much freedom.

Besides the beautiful climbing single Rose, Carmine Pillar, already described, several Noisettes or hybrid forms, very much like true Teas, are of note, as this Nursery is rich in such types. Gustave Regis is one of the best known. It has exquisite buds, long-pointed, and yellow-orange in the centre, the colour getting lighter as the flowers expand. Madame Pernet Ducher is delicately scented and coloured; and then we have such kinds as the Climbing La France, and Oakmont, an American climbing Rose, the flowers brilliant rose in colour, and very pretty. It is reputed excellent for under glass in winter. A new hybrid, with much of the China character about it, is Frances Bloxam, a charming pillar Rose, flowering freely in summer and autumn, the colour salmon-rose, a distinct and clear shade.

As those who visit exhibitions well know, Messrs. Paul have a fine collection of garden Roses, such as Janet's Pride, the Sweet Briar variety shown by them so well at the last Temple show; the flowers are semi-double, touched with crimson, and striped with a brighter shade. It will make a good hedge Rose. The Polyantha varieties were in full bloom. Two splendid plants of the Prairie Rose, Rosa setigera, were very beautiful on stout stakes, over which the growth had rambled; an abundance of flowers were produced, displaying various shades of rose—a fine garden Rose, such as one would like to see more of. Also in flower was a Rose called Rasanlich, from which the otto of Roses is procured in Bulgaria, a double, very sweet-scented form. All the Rugosas are grown; one, the American form, with very large crimson fragrant flowers. One might, however, write a volume on the fine old garden Roses grown in this Nursery. *Visitor.*



CHARLES MOORE, OF SYDNEY.

CHARLES MOORE.

There must be some occult co-relation between the name of Moore and the study of botany and horticulture. There was David Moore of Glasnevin, and he was succeeded by his son "Fred," who presides over the garden in a fashion worthy of his lineage. There was Thomas Moore of Chelsea, and of the *Gardeners' Chronicle*, of Fern repute, but an indefatigable worker in most branches of horticulture. There is Spencer Le Marchant Moore, well known in botanical circles; and afar off, but often brought to mind, is Charles Moore, of the Sydney Botanic Garden. Of him and his work we had occasion to speak when chronicling the awards of the Veitch medals, but we were not able at the time to present his portrait with those of the other medallists. We are now, however, in a position to do this. We may refer to our previous notice for some details as to the career of Mr. Charles Moore, who is a brother of the late Dr. David Moore of Glasnevin. It must suffice here to recall the fact that Mr. Moore has had the direction of the Sydney Botanic Garden for forty-six years, and is now the only public servant in any of the Australian colonies appointed by the Imperial Government. Mr. Moore was recommended for the post in 1847 by the late Dr. Lindley, Editor of this Journal, to Earl Grey. Mr. Moore is, we are glad to know, in the enjoyment of good health, and visitors to the Sydney Garden return to sound the praises of the Garden and its energetic director. The recently-published *Handbook of the Flora of New South Wales* will serve to keep Mr. Moore in touch with the botanists of this side of the world, and add to the chaplet of honour which, as we have seen, is connected with the name of Moore.

COLONIAL NOTES.

QU'APPELLE, NORTH-WEST PROVINCE, CANADA.

The very pretty Sage Brush is to be met with in a greater or less degree all over the seemingly interminable prairie of the North-west Territory of Canada. You may meet with it round about the edges of the bluffs intermingled with other subjects, such as the red and black Cherry, the Saskatoon, and different varieties of Willow, and you will come across it in large or small patches right away in the open, where no other shrub or tree are within sight, though the line of vision may extend for miles in any direction, and the further south the more abundant does this said Sage shrub become. Thousands of travellers by the Canadian Pacific Railway will doubtless have noticed its greenish-grey-silvery and seemingly dust-covered foliage. The plant (a species of Artemisia) does not appear to be particular as to soil, though it is more profuse where light, sandy, or stony soils obtain. The plant bears close-set clusters of small cup-shaped yellow flowers, which smell like honey. The flowers are succeeded by berries [?], which at first are pale green, but when ripe, the seed, which is exceedingly hard, is enclosed within a pure white pulpy substance, the skin of which is smooth and bright. The berry [?], when fully ripe, is about the size of a very fine Black Currant. I do not remember having seen this shrub in the Old Country. Though generally supposed to be a mere shrub, the *New York Sun* says so high an authority as the *Encyclopædia Britannica* refers to it as growing in "treeless valleys and slopes." It will astonish most persons to know that it sometimes grows to such proportions as to provide a section of country with trees of its own wood, producing groves of thick-trunked and comparatively tall trees, instead of mere weeds. Professor Elwood Mead, the State engineer of Wyoming, while exploring the northern end of central parts of that State last summer, came upon a district where the Sage Brush thrived thus gigantically. Many of the Sage trees that he saw were 18 feet high, with trunks at least a foot in diameter. This was in the Big Horn Basin, east of the National Yellowstone Park, and north-east of the Wind River Indian Reservation, where the No Wood River joins the Big Horn. Prairie chicks and bluff partridges feed upon the young leaves and berries of the Sage Brush. *T. S. J.* [We are at a loss to know what is meant. Ed.].

New South Wales.

Australian Sandarach.—In the *Agricultural Gazette* of New South Wales for May, Mr. Maiden calls attention to this product, which is not utilised in

Australia, though Algerian Sandarach is imported in considerable quantities at a high price. Australian Sandarach, it appears, is identical, chemically and physically, with the African product, and is yielded by various species of "Cypress Pines," or Callitris, of which twelve species exist in Australia, C. verrucosa and C. calcarata being the most important from an economic point of view. The collection of the resin is one of those minor industries which could be undertaken by a family of children. Sandarach is used medicinally, but chiefly as a varnish. The "pounce" used for drying ink before the introduction of blotting-paper was made of this substance. The price varies according to quality, from 41*s.* to 56*s.*, and even to 125*s.* per cwt.

Brisbane.

Rice Growing for Market.—A recent bulletin of the Department of Agriculture, Brisbane, Queensland, gives an excellent summary of the history of Rice, together with methods of cultivation and of preparation of the grain.

Jamaica.

Mr. Jenman continues in the *Bulletin of the Botanic Department, Jamaica,* his synoptical list of the Ferns of this island, which doubtless he will reprint later on in some more accessible form.

St. Kitts.

Mr. C. A. Barber has published, in the form of a supplement to the *Leeward Islands Gazette,* a paper on the "Cultivation of Sugar-cane," with especial reference to the diseases which attack it. Of these the most important is the rind fungus, determined by Mr. Massee to be Trichosphæria sacchari, whose mischievous nature was first pointed out by Mr. Hart, of Trinidad. The disease is now universally distributed in countries where the cane is grown. Mr. Barber concludes that the fungus has been in the West Indies for many years. The fungus is the greatest enemy, and the moth-borer is its greatest ally. The fungus rots the cane, and the caterpillar of the moth-borer opens the door for it. The general remedial principles are therefore, says Mr. Barber, (1) to destroy the moth-borer, (2) to render the cane capable of resisting the fungus, (3) to replace the diseased canes by healthy ones. Mr. Barber proceeds at some length to indicate the means of carrying out these measures.

Antigua.

In connection with this cane disease, Mr. Watts, in the previously-named publication, details the measures taken in Antigua to circumvent the dread disease. The Bourbon cane has been shown to be specially liable to be attacked, and hence Mr. Watts and others are now experimenting with other varieties, in the hope of finding one equally productive, but less liable to disease.

Mr. Tillson has issued his report on the condition of the Botanical Station, Antigua. The rainfall for the year amounted to 41·23 inches, the greatest amount in any one month being in September, when 7·84 inches fell; the smallest quantity was in February, when 1·74 inches were measured. In the wet season rain falls on as many as twenty days in the month. In the dry season rain falls on from three to six days. Much activity in the introduction and cultivation of useful plants has been manifested.

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

DENDROBIUMS.—The season is now approaching when many plants of the deciduous section of Dendrobium will be completing their growth, and when this has been fully made it is necessary to remove the plants to a cooler and drier atmosphere, where they may receive the benefit of full sunshine, so as to fully consolidate and thoroughly bring the newly-made growths to maturity. But I do not advise their removal from their growing quarters immediately the terminal leaf at the extremity of the bulbs is completed, for it is better where practicable to select a position on one side of this house, where more light and air can be admitted, and less moisture given them. They should also be gradually exposed to the sun earlier in the morning, and the blinds pulled up before the usual time in the afternoon. Should showery weather continue there is no necessity for using the shading at every outburst of sunshine, as these plants will stand a considerable amount of solar light at this period. It is, however, a great mistake to entirely withhold water so soon as the growths are made up, because at this stage, if the plants receive a check through keeping them too dry, they frequently make fresh breaks, and the plants are considerably weakened. I have lately visited several collections, and have seen much injury from such treatment. In order to retain a vigorous and healthy constitution, everything appertaining to the drying and the resting of these plants must be gradual. At the present time those few plants that have completed their growth are sending out freely from the earlier made roots a quantity of young rootlets; these should be encouraged, for upon them no doubt depends very greatly the quality of the future blooms. Until they have made considerable progress, therefore, water must be carefully applied, and when they have obtained a firm hold of the compost, or around the sides of the pot, place the plants where little or no shading is used, such as is afforded by an ordinary greenhouse or vinery, taking care to select a position where they will be free from draught or cold winds. When fully exposed to clear sunshine, the leaves soon turn yellow, but although unsightly, they should not be pulled or cut off, but allowed to fall away naturally. Careful judgment should be exercised in watering the plants when at rest; it is only the grower who studiously attends to their requirements in this respect who knows when they are really dry and when not, because oftentimes, after a hot sunny day, the sphagnum on the surface appears dry, while underneath it is the reverse, and if the plants are watered again the following day, the roots are kept in a constantly saturated condition. Therefore, when once a thorough watering has been given, the plants should receive no more until the whole compost has become dry. Up to the time of writing we have removed a few of each of the following varieties:—D. Wardianum, D. nobile, D. crassinode, D splendidissimum grandiflorum × D. lituiflorum, D. heterocarpum, D. crystallinum, and D. Aspasia ×; also several hybrids of D. Ainsworthii × and D. Findleyanum parentage, viz., D. melanodiscus ×, D. chrysodiscus ×, &c. There are still many plants of the deciduous species, also those of the evergreen section that have not yet completed their growth, which should receive encouragement, regularly supplying them with heat and moisture until they are so far matured that they may be gradually dried and hardened off. Another heat-loving species is D. chrysanthum, and it is of easy cultivation, and a free flowering plant. It also makes one of the best basket plants that can be grown. Suspended from the roof the numerous wax-like golden flowers are seen to the best advantage. This well-known Dendrobium has no particular season of flowering, but will bloom either spring, summer, or autumn, according to the treatment afforded it. A large specimen here has just flowered, and will at once be subjected to the ordinary resting treatment.

MORMODES, CYCNOCHES, CATASETUMS, ETC.—The different species of Mormodes, Cycnoches, and Catasetum being deciduous, will also require a season of rest, and immediately each plant has completed its growth, it should be removed to the Mexican house, where they may receive all the sunlight obtainable. This is an important point towards success, and unless the pseudobulbs are thoroughly ripened by the sun, it is next to impossible to prevent their deterioration. Could we but get sufficient bright sunshine when the bulbs are approaching maturity, we should be better able to give the plants an increased supply of water; the plants would then be able to take up sufficient nourishment to sustain them throughout the resting season. It is best, however, to give just enough water to keep the compost moist, but later on as the leaves commence to turn yellow and fall off, water must be nearly discontinued. Bletia hyacinthina, like the above-mentioned species also requires a rest. At the present time our plants are standing out-of-doors fully exposed to the sun but sheltered from the north and east winds, where they will remain until cold nights arrive.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

THE MORELLO CHERRY.—As soon as the trees on walls have been cleared of fruit, cut out all the superfluous shoots and those which have fruited this season, tying in as many shoots as may be necessary for securing a crop of fruit next year. Bush and standard trees may be treated similarly, cutting out some of the weaker shoots and those which have fruited, but the operation may be less severe than in the case of wall trees. Dip the tips of any shoots infested with black aphis in tobacco liquor or other insecticide, and in bad cases syringe well the whole of the tree with soap-suds after it has been nailed, which will be more effectual if some tobacco liquor or petroleum is added.

STRAWBERRIES.—It is good practice to make provision for obtaining early runners next season by planting out at this time from fifty to one hundred plants, according to the number of runners that will be required; the flower-stems should be removed as soon as they show themselves in the spring, and strong runners will be ready for layering soon after the middle of June. Fifty plants can be depended upon to produce from 400 to 500 runners by the time mentioned. If such method is adopted, it will be unnecessary to draw from the fruiting plantations, which for many reasons is an advantage. Where Onions are ripe enough to be cleared off the land, no more suitable ground can be got for them, and it will only require to be cleaned by hoeing and raking. The plants should be put out at a distance of 3 feet from row to row, and 15 to 18 inches apart in the row, the latter distance being preferable if the plants are strong. Go over the plantations again for runners, and repeat this as often as they may require it. In some land the plants begin to die off when they are one year old, and any gaps caused in this way should be made good with the strongest of the layered plants, or, better still, from the plants prepared for forcing. We make it a practice to pot a few extra for this purpose. If the forced plants of Vicomtesse H. de Thury were planted out they will have set some fruit by this time, and some litter should be placed under them, or Grass trimmings which do not contain seeds are even more suitable, and this season are easy to obtain.

APPLES AND PEARS.—In gardens where blackbirds and thrushes abound, and where they attack the softer-fruited kinds of Apples and Pears, much attention will now be demanded from the gardener to protect the crop, unless some steps are taken to trap or in other ways lessen their number. We trap large numbers in the netting over the Gooseberry quarter. After gathering all the finest fruits, sufficient are left as bait for them; the net being lifted up at one end to allow the birds to enter, is well secured at the other parts. The net is also made to project at one end for a few feet, and about the size of a sack, thus making a double trap, by which they are the more easily caught. If the trees are too large to be netted over, any particularly fine specimens may be effectually protected from the blue-headed tom-tit by placing a collar of stout paper over the base of the fruit, and the aperture made to pass the stalk through, closing by pinning it up, and placing small nets under the fruits to protect them in the event of their falling.

NUTS.—Cobs and Filberts are exceedingly plentiful this season, but if the squirrels be unchecked they will quickly clear off all the finest nuts, so that a sharp look out must now be kept for them, and resort had to the gun in the event of their finding them out.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

ZONAL PELARGONIUMS.—Plants which have been grown for autumn display will under favourable conditions have filled their pots with roots, and with a view to sustaining the essential vigour of the plants, recourse must be had to feeding, which may be done by liquids or solids, preferably the latter in a season such as the present. Give them a top-dressing with a reliable artificial manure, say Clay's Fertiliser, or Thomson's Vine and Plant Manure, either of which may be applied, at the rate of a dessert spoonful to a 5-inch pot of rich loam, which, when well mixed, will be a safe and efficient tonic. Freely expose the plants to the sun, that a hard and well-ripened condition be the result, and when the weather permits, remove the lights from the frames in which they are growing. The double and semi-

double forms should be more numerous than the single varieties, as the former are so much more useful in a cut state. Amongst the best of these are Aglaia, Charles Lalande, F. V. Raspail, Germania, Toulouse, Circe, and Triomphe de France. Single-flowered varieties may include Agnes, Duchess of Portland, Hecla, Jubilee, Etna, Puritan, and Clara Palethorpe. The show and fancy varieties should now be cut back somewhat closely, keeping the roots dry until such time as satisfactory growths have formed, when they may be shaken out and repotted into rich loamy soil, into which has been well mixed a good proportion of sand. Stand them near the glass in pits, and moisten the foliage twice daily.

FUCHSIAS.—Prolong the flowering season of partly exhausted plants by a regular application of farmyard-drainings, where this can be done without giving offence; but in other cases a less pungent fertiliser should be substituted. Young stock for late autumn service needing potting should be attended to at once, that the wood can be sufficiently ripened before cold weather sets in. A little pinching of the shoots, in order to obtain a pleasing shape, may be done, but anything approaching formality should be strictly avoided.

AURICULAS.—The show varieties should now be overhauled, potting those which require it into fibry loam and sand, with a slight addition of dried cow-dung; the soil, which should be fairly dry, must be pressed firmly about the roots, removing all offsets, which may afterwards be placed singly into thumb-pots, or three in a 3-inch pot, to avoid handling again at a future date. The frame or pit into which they are to be placed should be thoroughly cleaned, the woodwork and glass with soft-soap, rain-water, and a little paraffin, and the walls should be coated over with lime, into which has been added a little paraffin.

TREE CARNATIONS.—Remove all flower-buds as they appear, pinching off at the same time a portion of the growths. Encourage young stock for flowering next season by repotting any that require it, and attend to watering. In hot weather the plants may be syringed over in the afternoon and evening.

THE WARM FERN HOUSE.—Early removal of the decayed fronds will be necessary in maintaining a fresh and clean appearance. The potting of any particular sort may still be carried out, but the season is too far advanced for this work to be done generally with advantage. A fresh batch of pots and pans of the various Selaginellas should be put in the warmer end of the house, until fully established; the annual autumn overhauling may well be deferred for some time. Begonias of the Rex type usually outgrow their quarters, and should be removed and smaller plants substituted; the large leaves will, however, prove useful, for if treated as advised in a previous issue, they will readily form plants. Panicums, Fittonias, Sonerilas, and such subjects should also be replaced by younger stock, the varied colours of these latter contrasting well with the fresh green colour of the Ferns. A few Caladiums may also be introduced; and another subject having a good effect in the house, though it does not last so long as some others, is the Globe Amaranth.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

ROSES.—Continue to bud these at every favourable opportunity, and if there should come dry weather, afford them plenty of water. Cuttings of China and Teas may be put in as soon as the growths become sufficiently firm. Where it is wished to have a supply of autumn blooms, the plants should be pinched back and every encouragement given to induce fresh growths, which must be kept free from insects by frequent syringing, both with clear water and with insecticides. Beds of Roses will need constant attention in regard to keeping removed all dead blooms, and all superfluous shoots. Should the surface-soil become caked, it should be lightly forked over, and then given a good soaking of manure-water.

CREEPERS.—Plants of Tropæolum canariense, T. Ball of Fire, Cobœa scandens, Nasturtiums, Lathyrus, &c., will need attention every few days. Thin out the shoots a little, and give a tie in places where wind may prove disastrous to them.

SHRUBS.—Many of the deciduous shrubs, such as Cratægus, Chestnuts, Lilacs, Maples, and Prunus, may now be budded. When it is wished to bud trees of any size with another variety, as may be the case with Cratægus, which have been unsatisfactory, they should be cut well back during the previous season, and young growths encouraged, the best placed of which may be chosen for operating on. In selecting the buds, let that portion of the young growths next to the older wood be chosen, provided the buds are plump, and not injured by frost. Care must be taken to ascertain that the bark may be easily lifted before commencing operations.

VERBENAS.—Beds of these will require to be gone over and the seed pods removed, if it is desired to obtain the best results, and they should be kept well-thinned by having a portion of the weaker shoots removed to let plenty of sun and air in amongst the plants, which will do much to prevent mildew; a pest certain to attack them when they are allowed to become weakly through over-crowding. Cuttings taken now, will soon root if placed in a cold frame with a very slight bottom heat, and these will form a good stock to propagate from in the spring.

AZALEA MOLLIS, ETC.—Beds of these which were cut by severe frosts in the spring, and were therefore late in making growths, should be given a good soaking of manure-water as soon as the weather permits. Plants of the Ghent section which should ere now have had all the seed-pods removed may be treated similarly, also any plants which, having been forced, were afterwards planted out in the reserve garden. Seedlings in boxes should be pricked-off as soon as they can be conveniently handled, and kept close for a few days to enable them to obtain a fresh root-hold.

SPRING BEDDING PLANTS.—Where spring bedding is employed, the various plants which have, as previously advised, been planted out in the reserve garden, or on a north border, must be looked over, and if necessary the stock may be increased either by cuttings or division. Alyssum and Iberis of the different varieties may be propagated by cuttings of the young growths, choosing those of the firmest texture, which if a frame or handlight be not available, may be dibbled firmly into a bed composed of rather light soil on a north border, where they will soon root, if ordinary attention be given as regards water, &c. When they have taken root the tops should be pinched out, to induce bushy growth. Saxifrages are also useful for this purpose, the common umbrosa, granulata, and several others being amongst the best; these may still be propagated by carefully dividing the growths with roots attached, which should then be planted out as advised. Aubrietias and Arabis may also be propagated by division, which, if carefully done, will ensure a few roots being attached to each particle.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

KEEPING GRAPES.—Ripe fruit will require considerable attention and protection at this season from flies, wasps, and other enemies. Muslin bags will keep off flies and wasps, but they encourage mould and decay in the berries, and are not to be recommended. Wasps are not so troublesome this season as they were last, and unless a sudden invasion of them should take place, it is better not to use netting or any other covering over the ventilators, or to stop the free circulation of fresh air in any way. Keep plenty of Tomato plants growing in pots, and place them about the vineries. Look carefully over the bunches, and remove all decayed berries. During damp weather give a little fire-heat about every other day, with abundance of air, leaving the top ventilators of the house open all night. If there are not many bunches left on the Vines, the better plan is to remove them as soon as possible, and they will keep in good condition for some time if cut with a good portion of wood and foliage, and placed in bottles of water in the fruit or Grape-room. Attention may then be given to the thorough cleaning of Vines that are infested in any way with insect pests; and before the season is far advanced the Grape-room should be well cleaned throughout, and white-washing, painting, &c., attended to. One of these useful rooms should be in every garden where there are many Grapes grown, as very little expense is required in fitting them with strong wood and iron racks, fixed against the wall about 18 inches apart. I find the ordinary claret bottle with a wide mouth the most useful for holding the Grapes; they hold a good supply of water, and will admit a strong Vine shoot well into the bottle, which is an advantage. Abundant ventilation should be provided back and front, and these ventilators should be covered with perforated zinc or small-mesh wire netting, to keep out wasps and flies. A flow-and-return 4-inch hot-water pipe should run round the room, for reducing excessive moisture when required. The most convenient situation for this room is that adjoining the fruit-room, and a good position for both is against the north wall, and as near the vineries as possible.

APRICOTS.—Apricots in glass sheds or houses, or those growing in pots, that have carried heavy crops of fruit will need careful attention to root-watering, and as soon as the crop is all gathered, a thorough washing of the trees with the hose-pipe or garden-engine should be given to clean them from insect pests. In cold districts where the outside crops of these useful fruits are uncertain, the glass-shed system should be adopted. These glass-sheds rest on one side on a low wall, and the other on iron pillars and are left quite open. The trees are planted against the open side, the roots running into an outside border, and the trees are trained to a trellis under the glass. It is quite an old plan, but it is just what the trees and fruit require, protection from rough weather, with abundance of air at all times. Afford care to young trees, tieing and training them as soon as they require it, and see that the early ties are not too tight; it is often the forerunner of canker and decay in the trees. Where new plantations are in contemplation, sheds should be built and new borders made during the autumn months, so that the trees may be planted at the fall of the leaf, which is a great advantage.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

CAULIFLOWERS.—It is now time to commence the sowing of these, which are to stand over the winter under frames or other protection. No variety succeeds better than Early London. The small early kinds of Cauliflowers are more satisfactory when sown in heat in January; they come in quite as early as if sown in autumn, and but few of them head in prematurely, whereas if sown now a large percentage of them are liable to do so. Where the garden lies very low, and is subject to much fog and damp, I would prefer sowing all varieties in heat in January to doing so now. Where autumn sowings are likely to succeed, an open sunny position away from shade of any kind must be chosen for the seed-bed, and after digging or forking the ground, which should be well broken up, sow the seed thinly in shallow drills 6 inches apart, after which cover the beds over, and protect from birds.

LETTUCES.—Sowings should be made forthwith of such hardy kinds as Black-seeded Bath, Hick's Hardy Cos, All the Year Round, and Stanstead Park Cabbage varieties. An open position should be chosen, and if the ground be at all pasty, add dry soil about the seeds. Transplant in quantity from the previous sowings, so as to have plenty to lift and place in frames later on.

BASIL.—Sow now in boxes or pans for a supply of green leaves during winter, using a light free soil, and avoid crowding the seeds. Place for the present in a cold frame, and when the young plants appear, attend carefully to the watering.

CHERVIL.—If green Chervil is in much request, it is advisable to sow now on a warm border, subsequently planting a portion of the thinnings in a cold frame to furnish leaves in the winter, when that outside may be frozen or covered with snow. A light soil, not over rich, is most suited to its requirements, and the drills should be about 6 inches apart. If a few seeds are scattered at the foot of a south or west wall, they will afford plants which will be useful in the spring.

GENERAL WORK.—The planting out of Broccoli and Borecoles should now be brought to a close as speedily as possible, and every part of the garden should be cropped to its utmost capacity; there should not be any vacant land now. Runner Beans that have reached the top of the sticks should be topped, and when gathering, care should be taken that none are left to become old, or they will grow on, forming seed at the expense of others that are forming. The frequent showers of late have made it difficult to ply the hoe, and weeds are again in the ascendant; where any are advanced, hand-weeding should be resorted to without delay, so that seeding may be positively prevented.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

WEDNESDAY, Aug. 22 — Shrewsbury Great Floral Fête (two days). Kingswood, St. George's, and West Gloucestershire Horticultural Society, at Kingswood, near Bristol.

SALES.

MONDAY, Aug. 20 — Special Trade Sale of Dutch Bulbs and Lilium Harrisi at Protheroe & Morris' Rooms at 12.

THURSDAY, Aug. 23 — Special Trade Sale of Dutch Bulbs at Protheroe & Morris' Rooms at 12.

FRIDAY, Aug. 24 — Orchids at Protheroe & Morris' Rooms at 12.30,

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—61°·4.

The British Association.

The Oxford meeting has been a great success. Lord Salisbury's judicial address gave satisfaction to most folk. His reminder of the extent of our ignorance was wholesome, though the sting was partly removed at the very same meeting by two evidences of progress, the announcement of the discovery of a probably new element, and by the exhibition of the prothallia of a Lycopodium. An address like Lord Salisbury's would not have been possible a quarter of a century ago, when Bishop Wilberforce uttered futile fulminations on matters he did not understand, and indulged in personalities for which he was well and deservedly trounced by Professor Huxley. Since then the principle of evolution has triumphed all along the line, and in spite of the acknowledged deficiencies in our knowledge Lord Salisbury could but bless what his forbears condemned as false. Section D, Biology, was presided over by Professor Bayley Balfour, who, after alluding to the death of Professor Romanes, and to the changed conditions under which botany is now studied, devoted the greater part of his address to the subject of Forestry. We greatly rejoice at this as a sign that some day we may expect the Association and the University to recognise the claims of cultural science, including the principles of Agriculture, Horticulture, and Forestry, and their application to practice far more fully than they do now. Prof. Balfour sketched the present state of forestry in this country, and enforced the necessity for placing its study on a proper footing. The establishment of teaching stations in state-forests is one of the essentials for forestry in Great Britain, because the true solution for the Forestry question is to be found in the diffusion of accurate knowledge of forest science. Prof. Balfour went on to show that the practical aspects of Botany were not sufficiently considered now-a-days, that whilst chemistry and physics were turned to utilitarian purposes, botanists confined their attention too exclusively to matters of pure science—"To botanists we must look in the first instance for the propagation of the scientific knowledge upon which this large industry must rest. They must be the apostles of forestry. And Forestry in turn will react upon their treatment of Botany. Botany cannot thrive in a purely introspective atmosphere. It can only live by keeping in touch with the national life, and the path by which it may at the present time best do this is offered by forestry." If to forestry be added gardening, market-gardening, and agriculture, including vegetable pathology, we fully concur with the Professor.

The part which Horticulture plays in promoting the welfare of the nation in many ways is only partially appreciated by the public, owing to the notion, fostered unintentionally by flower-shows, that gardening is an amusement only. The scientific aspects of horticulture were thoroughly appreciated by the late Charles Darwin, who found countless instances among cultivated plants to support his views of progressive development and of retrogression, and yet up till now we do not remember that the subject has ever been taken up by the Association.

Among the foreign botanical members present at the meeting, we note the names of Professor Douglas H. Campbell of the University of California, Errera of Brussels, Focke of Bremen (Hybrids), Kny, Pfeffer and Pringsheim of Berlin, Riley (late Government Entomologist, U.S.A.), and Strassburger, the latter of whom we are delighted to see received the academic distinction of D.C.L. from the University. The botanists were mostly housed in Magdalen College, in close proximity to the Botanic Garden and Library; but the way in which their meeting-place was changed from day to day was anything but pleasant.

Some botanical papers of much interest were read, and Professor Strassburger exhibited the prothallia of a Lycopodium, which possessed great attraction for the members from its intrinsic interest and the rarity of its occurrence; but on the whole the character of the papers amply bore out the President's remarks. Miss Benson's paper extending the researches of Treub by showing that the ovules of some of the Amentiferæ are fertilised through the chalaza instead of through the micropyle, is, of course, most interesting and suggestive to botanists; but the facts are too new and too isolated at present to enable us to take them, as some have already done, as the basis of a scheme of classification. To found a classification on such a small number of ascertained facts is to court failure. In the meantime, what will the outsider make out of the title of this paper, "On the Phylogenetic Position of the Chalazogamic Amentiferæ?"

To-day, Thursday, parties of the Association are to visit Windsor and Reading, at which latter place they are to visit the establishment of Messrs. Sutton.

Magnolia Watsoni.*—This is a comparatively new Japanese, deciduous Magnolia, named by Sir Joseph Hooker in compliment to Mr. Watson of Kew. It forms a small tree, which produces leaves and flowers at the same time. The margins of the leaves are edged with a narrow yellow band. The flowers are cream-coloured, the filaments of the stamens crimson. For the rest, our illustration (fig. 29) gives a good idea of the plant, for a full botanical description of which we refer to t. 7157 of the *Botanical Magazine*. Mr. W. G. Smith's drawing was taken from a plant exhibited in the course of this summer at the Royal Horticultural Society by Messrs. James Veitch & Sons.

Monthly Meeting at Ghent.—At the August meeting of the Chambre Syndicale des Horticulteurs Belges and la Société Royale d'Agriculture et de Botanique of Ghent the following awards were made:—Certificates of Merit for Ceratolobus concolor, for Zalacca nitida (*à l'unanimité*), and for a hybrid Cypripedium (insigne Chantini × Lawrencianum), all three staged by M. Em. De Cock. Other Certificates were awarded for Alocasia Watsonii (*par rappel*) and for a seedling Croton, both from M. Ch. Petrick; also for Cypripedium Charlesworthi (*par acclamation*), from M. Ed. Pynaert; for Begonia striata, from M. Aug. Toeffaert; for a Cochin-Chinese species of Cycas, from la Société Horticole of Ghent; and for Dracæna indivisa, variegata, from M. Millet-Richard. M. Jules Hye was awarded a Botanical Certificate for a species of Catasetum. Certificates of Merit for cultivation and blooming were awarded to Philodendrum Corsinianum (*à l'unanimité*), shown by the Ghent Société Horticole; Agave albicans, from M. C. Bedinghaus; Aralia elegantissima, from M. E. De Smet-Duvivier; Eucharis amazonica (*à l'unanimité*), from the Ghent Société Horticole; and for Miltonia Morelliana, Odontoglossum brevifolium, and Vanda Wallichi, all three from M. J. Hye; also for Curculigo recurvata, fol. var, from the Société Horticole of Ghent. An Honourable Mention was awarded to M. Trangot Sweczick, for his collection of cut flowers of double-blooming tuberous Begonias.

* Magnolia Watsoni, J. D. Hooker in *Bot. Mag.* (1891), t. 7157.

Bananas and Plantains.—A very complete and exhaustive paper on these plants forms the August number of the *Kew Bulletin*. It is in reality a monograph of the genus Musa, though entitled "A Summary of Information relating to Bananas and Plantains, with Descriptions of the Species and principal Varieties of Musa grown for Ornament." The history, botany, geographical distribution, cultivation, marketing, the diseases to which they are subject, the uses to which they may be put, the chemical composition, are all dealt with at some length. Advantage has been taken of the publications of Baker and others as to the botany, of Professor Church's researches as to the chemistry, and, as it would seem, of everything of importance that has been published upon the subject. Numerous illustrations are supplied, but one defect remains to be noted—there is neither a general summary of contents nor an index. Both these might be supplied in the next number of the *Bulletin*.

Mr. G. Woodgate.—This well-known gardener, who served the late Lord and Lady Wolverton at Coombe Warren House, Kingston, for fifteen years, has just been appointed Head Gardener to Sir Oswald Mosley, Bart., Rolleston Hall, Burton-on-Trent. Mr. Woodgate, who was for eight years Secretary to the Kingston Chrysanthemum Society, retired from office last spring because of the contingency that has now arisen. His term has been one of peculiar prosperity to the Society, as during that time subscribers have greatly increased.

Mr. Weathers has established at Silver Hall Nursery, Isleworth, an Orchid exchange or medium, through which duplicate Orchids of all kinds may be exchanged, bought, or sold.

Horticultural Shows.—We have received reports of shows held at Headington (Oxfordshire), Nuneham Courtney (Oxfordshire), Carshalton (Surrey), and others.

Gratifying Recognition of Services.—Dr. and Mrs. Izod have presented to Mr. George Holden, who has been in charge of the gardens at their residence, The Lammas, Esher, Surrey, over ten years, a handsome silver drinking cup, on which his initials and the date of the presentation are engraved, together with the monograms of the donors. When handing the gift over, Dr. Izod expressed the hope that Mr. Holden might continue in his service as long as he was spared to require a gardener. Not only is Mr. Holden appreciated for his devotion to the interests of those whom he serves, but the way in which he discharges the duties of Secretary to the Esher Cottage Garden Society is watched with interest by Dr. and Mrs. Izod. He has been in that office six years, and the Society bids fair to become a firmly-rooted local institution.

Royal Purveyors of Implements and Cutlery.—The Standard Manufacturing Company, St. Alkmund's Churchyard, Derby, who are makers of horticultural, agricultural and arboricultural implements and cutlery, &c., have been appointed as purveyors of horticultural implements and appliances to Her Majesty the Queen.



FIG. 29.—MAGNOLIA WATSONI: FLOWERS CREAM-COLOURED, WITH A CRIMSON CENTRE. (SEE P. 188.)

Widdringtonia Whytei.—We are indebted to Mr. Medley Wood, of the Natal Botanic Gardens, for specimens in the seedling stage of the interesting Widdringtonia Whytei, recently described in the *Transactions of the Linnean Society*. The tree is a Conifer, inhabiting the mountains of Nyassaland in East Central Africa, and is closely allied to similar forms in South Africa and Natal, and more remotely to Australian forms. The leaves in the specimen before us are in four vertical ranks, but spirally rather than decussately arranged. Each leaf is about 2 centimetres long, spreading horizontally, greyish-green, linear apiculate, with the midrib on the under surface prominent between two glaucous stomatic bands. Upper surface convex, green, midrib prominent at the base only.

Patriotism. — The *Bulletin d'Arboriculture* pokes a little fun at us as a nation, on account of our insular conceit. Here is the story told by our Belgian friend. "Who was the first man?" asked an English teacher of his pupil. To which the answer came immediately, "The Duke of Wellington." "Oh!" said the tutor, "have you never heard of Adam?" "Certainly," was the reply, "but he was a foreigner!"

Scottish Horticultural Association.—The following specimens were exhibited by Mr. Chapman, Easter Duddingston Lodge, at the meeting of the above Society held in Edinburgh on Wednesday, the 8th inst.:—Sprays of Rose Crimson Rambler, cut from the original plant introduced from Japan in the year 1879; well-flowered specimens of Ligustrum sinense, Olearia Haastii, Mutisia decurrens, Desfontainea spinosa, Spiræa japonica, S. Lindleyana, and Podophyllum Emodi in fruit.

"Willows and their Cultivation."—This is the title of a paper in the *Journal of the Royal Agricultural Society* for June last, by Mr. E. J Baillie, of Chester. In this paper the author deals with the botanical characteristics and classification of Willows, their trade uses, method of cultivation, and other matters to which we must recur when our columns are less crowded.

Mr. Michael Barker, who till now has been Assistant-Superintendent of the Harvard Botanic Garden, Cambridge, Mass., writes us that he has been appointed Superintendent of the Cornell University Experimental Gardens, Ithaca, N.Y.

Seedless Fruits. — We are familiar with "Currants," those seedless Corinth Grapes which form so large a constituent of our Christmas puddings. We know also of Sultanas, of Black Monukkas, of stoneless Berberries, of Bananas, of Poires sans pepins, and other cases where the fruit swells, but wherein the ovules are either not formed, or remain unfertilised. What is it then that causes the ovary to ripen into the fruit in such cases? The answer, according to M. Muller, is that the swelling up of the ovary is due to the stimulus set up by the germination of the pollen-tubes on the stigma, even in cases where, from whatever cause, the ovule itself, or rather the germ cell within it, is not and cannot be fertilised. There is, according to M. Muller, whose paper in some Swiss publication is analysed in the *Annales Agronomiques*, July 25, a particular variety of Grape known as "Aspirant," the ovules of which can never be fertilised, as they are always monstrous and contain no germ cell (oosphere). If access of pollen be prevented the ovaries of these Grapes do not swell, but if the pollen is allowed to come in contact with the stigma, the ovary ripens even though it has no contents. The action of the pollen on the ovary thus receives another illustration.

Stock-taking: July. — The failure of the American Legislature to pass the Wilson Tariff Bill into law has had a markedly depressing effect on the output and purchase of British and Irish manufactures, and the quantity and value of the imports during the past month have shown "sympathy" by curtailment. "'Tis true, 'tis pity, and pity 'tis 'tis true." No forcing of markets is possible with war in the East and party and labour strife in the West. We can only hope for peace, strive after and deserve success. From the "summary" table of the imports of foreign and colonial produce during July, we find the deficit amounting to £1,447,638; but there is still a balance in our favour for the seven months of £11,913,069, as compared with the same period last year. Noticing an increase in the value of hemp imports, we are reminded that Queensland to the new industry of silk production has added that of hemp, samples of which sent on to Dundee for trial have been most satisfactorily reported upon. China being at present in evidence, we may note that the import of tea from that old land does not increase, but 12 per cent. of the huge annual total of Tea of all descriptions came from the Celestial Empire, the remainder reaches this market from British Possessions, grown by British capitalists. Surely the disease of the Coffee plant in Ceylon was a blessing in disguise. The following figures are extracted from the monthly summary in the "Returns":—

Imports—July.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	33,293,191	31,845,553	—1,447,638
(A.) Articles of food and drink—duty free	13,499,803	12,267,448	—1,232,355
(B.) Articles of food and drink, dutiable	2,029,041	2,020,405	—8,636
Raw materials for textile manufactures	3,385,030	2,772,042	—612,988
Raw materials for sundry industries and manufactures	4,282,287	4,063,668	—218,619
(A.) Miscellaneous articles	1,127,084	1,078,003	—49,081
(B.)—Parcel Post ...	38,503	49,602	+11,096

Very interesting are the figures relating to the imports of fruits, &c., during the past month it would be of value could we get an approximate idea of the Continental supplies during the autumn and winter; Mr. Gardner, of the Board of Agriculture, might interest himself in this. Our usual excerpt is as follows:—

Imports—July.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	114,939	55,362	—59,607
Cherries ... ... ,,	53,188	99,917	+46,729
Plums ... ... ,,	355,725	165,134	—190,591
Pears ... ... ,,	229,821	154,082	—75,739
Grapes ... ... ,,	34,054	6,500	—27,554
Unenumerated ... ,,	219,240	301,771	+82,531
Onions ... ... ,,	297,253	283,286	+13,967
Potatos ... ... cwt.	253,309	570,773	+317,464
Vegetables, raw, unenumerated ... ... value	£ 146,549	£ 156,172	£ +9,623

We have now to place on record the falling off in our

Exports.

But before doing so, we call attention to a serious oversight by our merchants. At the commencement of the Tariff War between Russia and Germany we noted the possible opening for British manufactures in the Russian market presented by the "falling-out" of the two nations. The suggestion was unnoticed, the quarrel has been settled; and it will be years before we can make up for lost ground. Our Consuls on the spot have just now drawn attention to the facts of the case. Coming to the exports for July there is a deficiency of some £1,252,838 as compared with July, 1893, and a loss in value of £2,147,303 for the seven months of 1894 as compared with the same period last year. The comparison is a fair one for the month, for there were the same number of working days in each case. The falling off in the American business is the principal cause of the decline. It was recently noticed here that in Honduras the shrewd agriculturist with some capital might find a paying field for his enterprise and skill. It may here be stated, that there is a new opening for the viticulturist much nearer home—Andalusia. An Australian agricultural expert has been touring through the province, and finds there everything necessary for successful culture—good and cheap land and labour, a fine climate, a market close at hand. A large amount of English money is now advantageously "placed" in Spain—perhaps the area of operations may be extended as suggested by our Australian friend. [Since the above has been in type, an arrangement has been arrived at between the American Senate and House of Representatives, which permits of a new tariff arrangement coming into force. Ed.]

Royal Scottish Arboricultural Society.—We have received a report of the Annual Meeting of this Society, held in Edinburgh on the 6th, and of the subsequent excursions, but are unable to publish same until our next issue.

The British Pteridological Society.—On Monday, August 6, the annual meeting of this society was held at the Institute, Bowness, Windermere. Prior to the formal business of the meeting, some interesting exhibits were displayed of fronds of new varieties found or raised by the members. Amongst those of special interest were several exhibited by Dr. F. W. Stansfield, the President, one evoking much admiration, consisting as it did of a frond from Col. Jones' wonderful plumoso-densum Polystichum, well known at all prominent exhibitions, in which the delicately-cut foliage is profusely sprinkled with a pure white variegation, forming a singularly beautiful combination. Another distinct advance was evidenced in an improved A. F.-f. Kalothrix, named A. F.-f. K. foliosum, of which the parent has hitherto been deemed the acme of perfection in its way. Some fine examples of the pulcherrimum section of shield Ferns also far eclipsed their progenitors, so that abundant evidence was forthcoming of progress, and that in the right direction. In this connection it was remarked that the old catalogues extant describing the varieties of thirty years ago, when British Ferns first became popular, scarcely contain 1 per cent. of forms now recognised as first class, so great has been the improvement and consequent weeding-out which has taken place in the interim. Mr. W. H. Phillips exhibited a large number of fronds, representing Irish finds, and many of great beauty, and some singularly similar to marked, and for a long time unique, plants found in the South of England. The whole of the officers were re-elected, and votes of thanks duly passed. The President then gave an address, in which he dwelt mainly upon the vexed question of nomenclature. This, he said, has hitherto been effected in three ways, viz, the descriptive, the commemorative, and the nondescript, the first involving a description of the main varietal characteristics in Latin; the second simply giving the name of locality where found, or finder, such as Cambricum, Axminsterense, or Smithiesii; and the third involving many absurdities, such as complimentary personal names having no reference to the finder, or merely would-be descriptive ones, which are simply misleading. Of these three he strongly advocated the first as being the most rational, adding the finder's name in English where the variety was not sufficiently distinct to justify further specialising. These views found general acceptance, and it was felt that any approach to the floral method of naming, *i.e.*, to give purely complimentary personal names, would be distinctly wrong and absurd. Mr. Chas. T. Druery then followed with a paper on "Selective Culture of British Ferns," in which, while giving illustrations of happily combined forms by crossing, and indicating his ideas of the lines to be pursued to improve existing good types, and eliminate inferior ones, he impressed upon the members the great importance of this latter process, since there is no question that British Ferns have largely suffered in popularity, and the difficulties of nomenclature are greatly enhanced by cultivators growing on a legion of inferior forms, which simply swamp the better ones. Mr. W. H. Phillips, Belfast, then read a paper on "Fern Hunting in Ireland," which he illustrated by the collection of

fronds above alluded to, in an interesting fashion. Some new plants were then produced for naming—one a new and extremely fine form of Blechnum Spicant, shown by Mr. Forster, and named plumoso-cruentum, being quite a new departure in the species. A very curious small Athyrium, named grandidens Mrs. Wilson, was also much appreciated; this was found in Troutbeck. Finally, it was resolved that the annual meeting of 1895 should be held at Kendal. The next day a trip was made by the majority of members present to the lovely district of Langdale, under the shadow of whose gloomy Pikes several pleasant hours were spent in Fern hunting. One or two good things were bagged, among them a very neatly crested form of L. montana, a beautifully variegated form of some species, and a singularly distinct lineal variety of Pteris aquilina, of which species a grand "revolvens" form had previously been found by Mr. Druery in the very heart of Windermere town itself. Fern lovers are requested to communicate with the Secretary, Mr. G. Whitwell, Serpentine Cottage, Kendal; or with Mr. C. T. Druery, Fernholme, Forest Gate, with a view to its extension.

Publications Received.—*The Wild Garden.* By W. Robinson; illustrated by Alfred Parsons. (John Murray.)—*Talks about the Soil in its relation to Plants and Business*, by Charles Barnard.—*Talks about the Weather in its relation to Plants and Animals*, by Charles Barnard.—*Talks about our Useful Plants*, by the same. The three books just mentioned are published by Funk & Wagnall's Company, 44, Fleet Street, and will require further notice on another occasion.—*Pflanzen Teratologie, zweiter Band*, von Dr. O. Penzig, Genoa. This important work also necessitates detailed notice later on.

PLANT PORTRAITS.

Apple, Tolman's Sweet, *Canadian Horticulturist*, July, chiefly useful as food for stock.

Clematis, Madame van Houtte, and 2, Lady Caroline Nevill, *Revue de l'Horticulture Belge*, August.

Cypripedium Leysenianum C. barbatum Crossianum ♀ × C. bellatulum ♂, *Revue de l'Horticulture Belge*, August.

Cypripedium Peteri, *Reich. Wiener Illustrirte Zeitung*, June.

Deutzia discolor, var. purpurascens, *Garden and Forest*, July 18.

Peach, Early Alexander, *Bulletin d'Arboriculture, &c.*, July.

BELGIUM.

ANTWERP EXHIBITION.

Our Belgian contemporaries are loud in their praises of the special exhibition got together a short time since as a compliment to their Majesties the King and Queen of the Belgians. The "salon royal" was decorated with ornamental and flowering plants, objects of art, &c., according to the plans of M. Guillaume de Bosschère, and the effect was admirable, as is indeed shown in some photographs before us, some of which we may hereafter reproduce. Belgian amateurs and nurserymen freely lent their Palms, Tree Ferns, and Orchids, &c., and left the designer, M. de Bosschère, to group them as he pleased. No awards were made, and not even the name of the exhibitor was displayed on the groups, so that the horrid ticket nuisance was non-existent. It will be remembered that this was not a commercial display, but a tribute of the horticulturists of the kingdom to their King and Queen. Unfortunately, the terrible catastrophe of the death of M. Carnot prevented the King from being present. The initiative of this unique and splendidly-successful exhibition is due to our colleague, M. Charles de Bosschère, to whom the horticultural press pay handsome and well-merited tribute. When we can get a flower show on like conditions, we, too, may be able to produce something better than the muddled, crowded, label-bespattered stages we call a flower-show.

TOURNAI.

A great horticultural exhibition is to be held at Tournai from September 9 to 12 next. There are 171 classes in the schedule. Foreign competitors are invited, but should make known their wishes before the 25th inst. All communications should be addressed to the secretary, 4, Rue Catrice, Tournai, Belgium.

NEW TENNIS MARKER.

Messrs. W. Reid & Leys, of Aberdeen, send us a photograph of a new tennis marker, which is intended to supersede the ordinary machine in which whiting is used. The drum at the top is made of steel, and is filled with sawdust, which is conveyed down the square shaft. At the bottom is a steel spindle, into which flat plates of steel are inserted.



Fig. 30.—A new tennis-marker.

The revolution of these plates causes the sawdust to be ejected in a continuous stream of uniform width. When the court is being marked, a line is laid down, and the machine run along the line, as shown in the illustration, fig. 30.

HOME CORRESPONDENCE.

Morello Cherries.—That very heavy crops can be produced on standard trees is pretty well known, although perhaps more in the southern parts of the kingdom than higher up; even on the stiff cold Middlesex clay, where sweet Cherries indifferently thrive, and Apples and Pears soon canker, the Morello Cherry does well, and is most enduring, cropping abundantly every year. This Cherry is equally at home on the Surrey sands, and I have often seen wonderful crops on trees that were both proper standards, and others that, originally planted against a wall, have grown almost wild, but all the same have yearly borne immense crops. It is therefore difficult to understand why the Morello Cherry should be so comparatively scarce and difficult to obtain in the markets. But whilst open-grown trees will thus produce fine crops, those on north walls give by far the finest fruits, indeed there is no stone-fruit that so profitably and fully utilises north walls as do Morellos. One of the finest crops of the fruit I have ever seen was but a few days since at Mr. J. P. Currie's fine Hampshire residence, Minley Manor, near Farnborough, where the whole of an inside wall of a kitchen garden on its north aspect is clothed with trees. Here on the sandy peat of the district the Morello makes no luxuriant growth, but every year it fruits abundantly. At the present moment there must be half a ton of fruit at least on these trees, perhaps more. The fruit is very fine, almost all black, passing sweet, and most attractive. The crop is an ideal one, and Mr. Tubb, the gardener, is entitled to all credit for its production. Aphis has given a lot of trouble, but the fruit has well weathered the storm, and his reward is a grand crop of fruit. *A. D.*

Prizes and Points of Merit.—The Carshalton District Horticultural Society is very fortunate in having for a warm supporter so thorough a horticulturist as is Mr. A. H. Smee, of Hackbridge. Always ready to receive hints leading to some breaking away from the dull monotony which characterises horticultural shows generally, he last year adopted the suggestion to have one competitive class in which the sum of money given in prizes was £5, furnished by himself, and this amount to be distributed according to the relative merits of the exhibits. The class was one for nine kinds of vegetables, open to all classes in the district, and was repeated this year at the recent show. There were to be five prizes, and there were six collections, but one was quite out of the competition. The other five, after the most careful pointing, in order to secure the most impartial results, showed exceeding evenness, for the first obtained 57, the next 56, the third 55, the fourth 54, and the fifth 53½. These were the results after the points were "totted up." It was thus seen, so general was the quality—and only by quality were the exhibits to be judged—that only 3½ points of merit divided the first from the fifth. Now under ordinary conditions the sum of £5 would, in such a class, have been offered in four prizes of £2, £1 10*s.*, £1, and 10*s.* respectively, showing a difference in money value of four times between the first and fourth, although in this case the difference in merits of the collections was three points only in infinitesimal difference—£5 between five competitors, thus: 22*s*, 21*s.*, 20*s*, 19*s.*, 18*s.* It is often urged as an objection to this plan, that competition would be much less keen if generally adopted. Here at Carshalton, in any case, the competition in the second year was quite as good as is usually the case when prizes are far more arbitrarily divided. *A. D.*

How not to lose scattered plants or bulbs.—To all bulbs and plants which have to be taken up in winter, and which are not planted on separate beds, we put a blank label—point upwards. If a plant has died down, and the ordinary label is not very remarkable or distinct, the presence of a pointed label cannot be overlooked. Even if it is knocked down and lying on the ground, the fact that the wrong end is dirty would strike the most careless observer. A twig or stick is both easily overlooked and liable to be misunderstood even if seen, and it is not necessary to use finished and planed labels for this purpose, they can be roughly cut from ordinary wood laths, such as are used by plasterers. *Thos. Fletcher, Grappenhall, Cheshire.*

Aralia Nymphæfolia?—During the past week a singular seedling plant, grown to the height of about 2 feet, in a small pot, stood beside the new promenade at Olympia. It was labelled Aralia Nymphæfolia. It had a bold stiff upright stem, carrying leaves in whorls at intermittent distances from its base upwards, with a crown of the same ending in a very prominent leader head. It had, to all intent, the appearance of a Tree Ivy, the leaves greatly resembling those of Hedera coriacea, though more variable in shape. Besides which, both the stem and leaves had the same warm, light green tint, so characteristic of the Ivy. As the plant is a

novelty amidst decorative kinds, it would be interesting to learn if the name affixed was a correct one, or was it really Aralia arborea, a native of Jamaica? *William Earley.*

BERBERIS MAHONIA.—Mr. Divers doubtless means by this appellation, Berberis, or Mahonia aquifolia, which is just now, as invariably every autumn, laden with clusters of greyish-black berries. That the juice of these berries can be easily converted into wine there can be no doubt. Mr. Fenn of Sulhampstead, who still makes wine, employs the juice for colouring purposes, for which it is one of the best possible of ingredients. Possibly those who partake freely of port and claret get through a lot of the Berberis juice during the year. I once had preserve in the form of jelly made from the berries, and very nice it was, but because so devoid of pulp, and almost exclusively juice, the product needed very much boiling; also because of the strong acidity of the berries, very much sugar is needed. The berries are eagerly eaten by birds, and preferred by them to even Black Currants and Morello Cherries. *A. D.*

THE CAPABILITIES OF NARCISSUS QUEEN OF SPAIN AS A GARDEN PLANT.—As proving the qualities of Narcissus Queen of Spain as a plant that is likely to have a permanent place in our gardens, I may mention that in the autumn of 1890 I planted, not over carefully, one bulb of this variety, received from Messrs. Barr. The bulb has not been disturbed until to-day, when I lifted it for division and transplanting. The clump was now made up of nine bulbs of a flowering size, and this spring I pulled at one time from it five fully developed blooms. This bulb belonged to the type Johnstoni, but from an experience of growing a large quantity of the variety Queen of Spain this year, I believe it is equally free as the type. Those who are in quest of unique and handsome things in Daffodils should procure a few of this variety for indoor or outdoor cultivation. *William Crawford, M.D, Uddingston, August* 1.

A HANDSOME CONIFER.—I send you a photograph of Cupressus Lawsoni gracilis aurea, growing in the gardens here. I have never seen it elsewhere, nor is it in any catalogue that I have seen. The original plant was raised by Mr. Davis, of the Hillsborough Nursery, co. Down, and was purchased by Lord Annesley many years ago. It is quite distinct from C. Lawsoni lutea, being of a much more graceful habit; it has slender pendulous branches of a clear yellow when young, changing to a soft greenish-yellow when matured; it is also of a more spreading habit than C. lutea, and a very much more rapid grower. I think it will prove a most desirable acquisition to pleasure grounds and pinetums, as it is perfectly hardy, and has never received the least damage from frost, not even in the late severe winter, which has been the worst I have ever known here; we had 15° of frost in January, and when I read of the losses in other gardens I think we got off very well, as we had nothing killed absolutely, but the early Rhododendrons were so scorched that they dropped their leaves and buds in some places, and the Phormium tenax, which we grow largely, was quite browned to the ground, so that all the leaves had to be cut off. Pittosporum eugenioides, too, suffered badly, while P. Mayi is quite uninjured. *T. Ryan, The Gardens, Castlewellan, co. Down.* [With this came a photgraph which confirmed our correspondent's remarks, but the reproduction of which did not prove satisfactory. Ed.]

TRELLIS GOOSEBERRIES.—In hardy fruit culture it is difficult to find any more interesting example, perhaps, than is seen in the two long wire trellises in the kitchen gardens at Claremont, and which are so fully and admirably covered with trained Gooseberry bushes. These trellises are each about 36 yards long, and are 3 feet apart, and nearly 4 feet in height. With rare exceptions the entire space is fully covered with the trained bushes; these are planted about 3 feet apart, each one having four or five main shoots or branches, which are trained erect. The variety is great, and the crop a splendid one throughout. The method specially suits the choicer dessert varieties, and picking may be not only performed with ease, but the ripest of the fruits are most easily selected. Then, as is the case at Claremont, the whole of the Gooseberries are easily protected by one long wide length of netting, whilst netting thrown over in the spring serves materially to protect the bloom and young fruits from frost. It is comparatively easy to lift one end of the net, and pass down between the trellises to gather the fruits. The method is very simple, and should be far more widely adopted. Failures of crop are rare, and the fruits are both fine and clean. The first cost of the wiring, which is of course stout, and fixed as for fencing, to firmly set iron uprights, is worth consideration; but Oak posts and stout wire fixed to these by holdfasts would answer quite as well, and no doubt prove to be much cheaper, if eventually not so enduring. *A. Dean.*

RESTIO SUBVERTICILLATUS.—Very few of the members of this genus are under cultivation, although the number of described species is by no means few. The plant under notice is but little known, but is of a very graceful habit. It is a native of the Cape, and has received several synonyms from different authorities. This year about sixty new growths made their appearance, and have developed into the plume-like stems attaining a length of 7 feet; as the number of these growths upon the plant is now more than a hundred the dimensions will be readily conceived to be large. Here it is grown in a cool greenhouse, where the temperature during the past winter occasionally fell to or below 40°. A tub, 3 feet in diameter, contains the above plant, but planted out it also does extremely well. A compost of good loam with plenty of broken bricks or crocks and sand to form a good drainage should be used. *R. L. Harrow, Royal Botanic Garden, Edinburgh.* [The plant is occasionally met with under the erroneous name of Willdenovia teres. Ed.]

A NOBLE TREE.—There was to be seen recently in great beauty a very fine and rare tree at Claremont, Esher, the residence of H.R.H. the Duchess of Albany. It stands on grass just in front of the gardener's (Mr. Barrell) cottage, and is amongst trees altogether a remarkable object. This is Pterocarya caucasica, a native of the Caucasus, and of the Juglans or Walnut family. This tree has a very massive stem, and breaks off low down into several huge branches, spreading its great head over a diameter of about 90 feet. These branches are so heavy as to necessitate the fixing below each of a stout wooden support. The leafage is long and divided, much resembling that of the Ailanthus, whilst the fruits, which are now being carried in great abundance, are small and winged, and hang in long racemes or spikes in the most pleasing form, their pale green hue admirably contrasting with the darker-coloured foliage. As the diameter of the tree would indicate, the head is a very noble one, and of good height. It is rare, and yet a matter for surprise that a tree that presents such very attractive features should not be much more widely planted. The soil at Claremont is fairly deep, but sandy, and is doubtless naturally well drained. For a large lawn it would be very difficult just now to find a nobler ornament than is this fine Pterocarya at Claremont. *A. D.* [See *Gardeners' Chronicle*, October 6, 1888, p. 380. Ed.]

MUSHROOMS UNDER YEW TREES.—I have two large Yew trees in my garden, and the crop of Mushrooms within the influence of their drip is remarkable every year. It never fails even in the driest season, though the soil is especially dry and well drained, apart from the influence of the tree roots. The area on which the Mushrooms grow is partly a flat bed, carpeted with Wood Anemones and hardy Cyclamens, partly barren neglected ground. I may be told that the dark favours their growth, but I have many equally dark corners where no Mushrooms grow; and I can connect their presence with no condition except the shade of the Yews, beneath which they grow even in gravel walks. Has any correspondent observed a similar liking for Yew shade, and has anyone found Mushrooms grown under Yews wholesome? *C. W. Dod, Edge Hall, Malpas.*

NOVEL MINIATURE RAFTS FOR WATER-LOVING PLANTS.—At Bayfordbury, the seat of Mr. R. Baker, there is always something new in gardening to be seen. The "Squire," as he is best known, is an ardent lover of plants, whether it be Conifers or the humble alpines and perennials, and his bog garden is particularly good and interesting. Long ago, like Mr. Wilson at Weybridge, he made large rafts for bog plants, but the new ones are simpler and seemingly more effective. They are made thus:—Two long strips of cork bark, say 3 feet by 1 foot, of concave form, are nailed together, and filled with suitable earth, looking like a shallow trug-basket without handles. They are then floated, and according to the depth to which they are to be partially submerged, two or more cross-pieces of bark are nailed at the bottom of the small raft, so that the earth in it is more or less waterlogged. On such-like small rafts in the large Rose garden basin, Pinguiculas, which I have always found difficult to grow, thrive admirably. Both the English Droseras, Soldanellas, Nierembergia rivularis, Anagallis Fenella, and the Ivy-leaved Campanula are also thriving, and I have no doubt Sarracenias and many other plants would do equally well. The effect of the plant-covered islets floating about is charming. *George Paul.*

PHOTOGRAPHS OF TROPICAL SCENES.—In the *Gardeners' Chronicle* of this week one of your correspondents writes that there is a great want of original photographs taken in tropical countries. My third son has gone to tropical Mexico, and he describes the scenery and the views as something surpassing anything he has seen before in any part of the world. In the same letter he quotes the disappointment he has experienced when opening the paper from the Ilford Co., when he found that the outside and in many instances the second sheet of the paper on both sides of the packet was entirely ruined, and therefore he has had great trouble to get any views printed. It will be a very important thing for some of your readers who may be well up in taking photographs in hot climates to be able to send information which will enable us to find a paper that will stand the hot climate. In the meantime I have asked to have the plates sent home, to enable us to print them here, but my son is situated at Las Palmas, on the Grijalva river, which is over 60 miles from the Post-office. *Thos. Christy.*

THORNTON'S "TEMPLE OF FLORA" (p. 154).—My copy of Thornton's *Temple of Flora* is dated 1812, and has only the coloured plates named by Mr. Hemsley, excepting the white Lily and yellow Pitcher-plant; the engravers differ also from the earlier copies. It has the Linnæus bust and Cupid plates uncoloured, and by way of preface, poems addressed to Dr. Thornton by Dr. Shaw Pratt and others. *George Paul.*

JAPANESE PLUMS.

Mr. L. H. Bailey, the Professor of Horticulture at the Cornell University, Ithaca, New York, has just published a very interesting notice on the Japanese Plums, from which we extract the following summary:—

"1. Twenty-four years ago a Plum was introduced into California from Japan which proved to belong to a species heretofore unknown in America. It was first fruited by the late John Kelsey, of Berkeley, California, and after whom it was named. It began to attract wide attention about ten years ago.

2. This Plum belongs to the species Prunus triflora, which is supposed to be native to China, but which is unknown in a wild state. Subsequent importations have been made from Japan, and at the present time about thirty varieties are more or less known and disseminated.

3. These Japanese Plums are distinguished from the common Domestica Plums by their generally more pointed or heart-shaped fruit, which has a deep groove or suture upon one side, by a longer-keeping flesh and generally a less winged pit. In other botanical features they differ in commonly bearing three or more winter buds at a joint, instead of one, in the light-coloured rough bark, flowers usually in twos or threes, leaves long-obovate or elliptic and finely serrate. They are closely allied in botanical characters to some types of native Plums.

4. The nomenclature of the varieties is much confused, largely because the Japanese names are used for groups or classes, and not for specific varieties; and there is no uniformity even in the generic application of these names. It is essential to an exact understanding of this fruit, therefore, that the Japanese class names be discarded in this country.

5. While importations from Japan have been made freely, there are probably many more good varieties in that country which have not reached America; but we must look for most permanent progress in the future from American offspring.

6. The Japanese Plums differ amongst themselves greatly in hardiness. The Kelsey is adapted only to the States south of Virginia and to the warmer parts of the Pacific coast, but other varieties are fully hardy in parts of Connecticut, Ontario, New York, and Iowa.

7. The varieties now known to be hardy in the Plum regions of New York are Burbank, Abundance, Willard, Ogon, Satsuma, Chabot, Yosebe and Berger; and others give promise of being as hardy as these.

8. The period of ripening of the various kinds extends over a long season, running, in New York, from the middle of July to the middle of September. The same variety does not always appear to ripen at the same period in successive years. This is especially true of the Kelsey, which sometimes varies through a period of three months. In New York, the earliest market variety which has been tested appears to be Willard, followed closely by Ogon, then Abundance and Berckmans, and Burbank still later. Kelsey is generally the latest of all the varieties.

9. Most of the Japanese Plums keep for several days, and some of them even for two weeks, after they are ripe. Satsuma is one of the best keepers known in the north.

10. The larger part of the varieties are red with deep yellow flesh, and the Satsuma, and a few varieties less known, have deep red flesh. There are only four well known yellow varieties. There are eight freestones, as follows: Ogon, Willard, Kelsey, Berger, Maru, Munson, Normand, Yosebe.

11. The varieties which can be most confidently recommended at the present time are Abundance, Burbank, Willard, Kerr, Berckmans, Maru, Red Nagate, Chabot, Satsuma, and perhaps Ogon. Kelsey is recommended for the south.

12. The chief weaknesses of the Japanese Plums are too early bloom of some varieties and liability to the fruit-rot fungus. Amongst their advantages are partial immunity from black-knot and leaf-blight and often a partial freedom from Curculio injury.

13. Altogether, the Japanese Plums constitute the most important type of fruit introduced into North America during the last quarter of a century, and they should receive careful tests in all parts of the country. *L. H. Bailey.*"

FORESTRY.

THINNING TIMBER TREES.

I have lately perused an interesting article in your columns, on the important subject of thinning plantations. While agreeing generally with views so temperately expressed, I must take exception to some of the arguments your correspondent has advanced in support of a theory which I have not seen propounded before. After referring to the physiology of plants, and asserting that a small quantity of foliage is only required to keep a plantation in a healthy growing condition, and to produce trunks of useful dimensions, the writer says:—"This may, however, be explained in this way:—(1), that the almost entire absence of large limbs and branches, and which in some cases would amount to one-fifth the total bulk of the tree, renders the amount of sap, and consequently of leaves required, proportionately less, the nutriment being mainly elaborated in the building-up of the trunk; (2), both branches and leaves are produced much closer, and in consequence have a greater amount of surface exposed to light and sunshine when the trees are grown thickly together than when allowed plenty of room; and (3), the root-spread is narrower, and the bark thinner the closer the trees are grown." Now I cannot see any good reason, in these propositions, in favour of close-grown plantations, because the inference obviously is where there is a web of roots and rootlets below which have robbed the soil of plant-food, and a small top or amount of foliage overhead, the sources of nutriment do not exist. There may be as much drawn from the earth and atmosphere as will support and keep alive the elongated tree, but as an old forester remarked to me on one occasion, "Once a fishing-rod, aye a fishing-rod." Nor has it ever occurred to me, in a long experience, that the leafage of such bonnet-topped trees, and their attenuated stems, presented a greater surface to light and sunshine when grown closely together. On the contrary, a thicket is always dark. It is, I apprehend, in quest of light and air such trees become unduly drawn up. As regards the self-planted forests of America, &c., I fancy they are very much the same as the woods of our own country which grow spontaneously, that is, they invariably produce the best and heaviest timber where the plants have abundance of light and air. I have seen and cut down a good many naturally-grown Firs in Inverness-shire, and invariably found those which grew in clumps, which possibly had never been thinned, contained very few cubic feet of timber compared to those which stood alone or at a distance from each other. While thus differing in some degree from the premises laid down by your correspondent, I must confess that I am entirely at one with him in his summary and conclusion, viz., "It is only, however, by long and careful study and attention to different trees at different stages of their growth that any idea can be formed of the amount of branches and foliage required for preparing the sap that will be necessary for the profitable yearly increase of the trunk until maturity is arrived at." *L.*

SOCIETIES.

ROYAL HORTICULTURAL.

August 14.—The usual meeting of the Society's Committees was held in the Drill Hall, James Street, Westminster, where there was a number of interesting exhibits. Flowers in season were well shown, and there were exhibits of scented Pelargoniums and of Crotons that were unusual. Before the Fruit Committee there were several fine collections of fruit, and a few vegetables.

Floral Committee.

Present: William Marshall, Esq., in the chair; and Messrs. H. Herbst, H. B. May, C. T. Druery, R. Dean, Geo. Stevens, F. Bause, Wm. Bain, H. Cannell, Chas. Godfrey, C. E. Shea, H. J. Jones, Jas. Walker, E. Beckett, H. Turner, Geo. Paul, Geo. Gordon, J. Jennings, and W. Watson.

Messrs. Jno. Laing & Sons, Forest Hill, London, S.E., staged a capital collection of hardy flowers in extensive variety. Pentstemons were of splendid quality, and Montbretias, Hydrangea paniculata, Helianthuses in variety, Delphiniums, Hollyhocks, &c., were all noticeable and bright (Silver Flora Medal).

The best exhibit of Crotons that has been shown in the Hall for a considerable time was that from Mr. J. F. McLeod, gr. to J. P. Morgan, Esq., Dover House, Roehampton. It consisted of fifty-seven varieties. All the plants were of size adapted best for table decoration, the largest of them being in 8-inch pots. In regard to colour the plants were rich, and all the specimens were well-clothed with foliage to the base of the plant. The broad-leaved Thompsonii, Mortii, Evansianus, Andreanus, Baron James de Rothschild, were grand, and amongst the finer-leaved kinds—which were shown in much larger quantity than the broad ones—especially noticeable were gracillimus, Lord Chelmsford, Hammondii, superbus, picturatus, and Chelsonii. Twisted varieties were splendidly represented by Golden Ring, a capital golden yellow variety; Prince of Wales, Cronstadtii, angustifolius, &c. Quite new varieties were Mr. Bause, a broad-leaved form with green and yellow variegation and coloured veins, and Mrs. Bause, which has narrower leaves, and the young ones are quite yellow, but older leaves are tricoloured (Silver-gilt Flora Medal).

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., had a group of seedling varieties of tuberous Begonias, and cut flowers of same. Some of them were interesting, and of merit (Silver Banksian Medal).

Mr. Geo. Wythes, gr. to the Duke of Northumberland, showed a remarkably splendid group of Campanula pyramidalis and C. p. compacta—a variety Certificated in 1892 as being dwarfer and bearing larger flowers than the type. The collection included both white and coloured varieties, and exceptionally well-grown plants (Silver-gilt Banksian Medal).

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, had a fine collection of exotic Ferns, including many rare specimens. Pteris serrulata gracilis multiceps, a very elegant variety with crested fronds, was recommended a First-class Certificate; Pteris biaurata argentea, a handsome Fern with silver ribs, received a like honour, as did also Adiantum Hemaleyanum, a free-growing, rather tall, elegant Maidenhair; whilst to Adiantum amabile plumosum, a compact, densely-fronded, pale-coloured plant, an Award of Merit was given. Davallias, Gymnogrammas, Alsophilas, and others, were well represented (Silver Flora Medal).

Messrs. Paul & Son, Cheshunt, showed plants in flower of Clematis Madame Edward André, a first-rate little Clematis, and a Polyantha Rose, named Allister Stella Gray.

Messrs. Webb & Brand, The Nurseries, Saffron Walden, exhibited some fine flowers of Hollyhocks (Vote of Thanks).

From Mr. Mortimer, Farnham, Surrey, were exhibited seven varieties of Coleus, most of them very pretty.

An interesting exhibit of scented Pelargoniums in great variety was from Lady Henry Grosvenor, Bulwick Gardens, Wansford, gr., Mr. T. F. Dranfield. The varieties were very numerous, and included P. quercifolium, modestum ternifolium, Radula, pinnatum, jatrophæfolium, Blandfordianum delectum, citriodorum crispum medium, filicifolium, tomentosum, acerifolium, incisum, Hoareanum, multibracteatum, and several seedlings, several of which would be very desirable (Bronze Banksian Medal).

Messrs. Robert Veitch & Son, Exeter, received an Award of Merit for Platycodon Mariesii album, and the same firm exhibited Godetia compacta, Lady Albemarle, and a plant of Hedysarum multijugum.

A fine group of Cannas in flower was sent from the Royal Horticultural Society's Gardens at Chiswick, and amongst about thirty varieties the following were the most distinguished:—President Carnot (Vilmorin), deep crimson; Antoine Barton (Paul), yellow ground, spotted with scarlet; Doyen Jean Sisley (Lemoine), a very deep-coloured variety; Felix Crousse (Vilmorin); Comte de Estoile (Paul), yellow, with small spots; Quasimodo (Vilmorin), scarlet, marked with yellow; Madame de l'Aigle (Paul), orange-scarlet, with fine yellow margins; Lohengrin (Vilmorin), salmon-pink; Paul Bert (Herbst), glowing crimson; L'Avenir (Veitch), rather narrow petals of bright scarlet; The Garden (Vilmorin), yellow, with minute spotting—one of the very best; Alphonse Bouvier (Lemoine), broad, and dark crimson; and Miss Sarah Hill (Paul), intense red.

Sir Trevor Lawrence, Burford Lodge, Dorking (gr. Mr. W. Bain), exhibited a number of spikes of Crinum Makoyanum (Moorei), and of C. Powellii, the former with white flowers, and the latter rose-coloured, both being hardy. Also a number of plants of Legion of Honour Marigold (Bronze Banksian Medal).

Mr. Walters, The Gardens, Eastwell Park, Ashford, had cut flowers of Gloxinias, and of hybrid Streptocarpus (Bronze Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited a group of well-grown Cockscombs in twelve different shades of colour, which excited much surprise; also a pretty lot of Godetias in variety, Gaillardias, Dianthus, Scabious, Marigolds, Antirrhinums, &c., These latter exhibited endless varieties of colour and marking. Twelve blooms of the Comet Aster were shown, and a plant of Begonia striata with flowers splashed or striped with white (Silver Banksian Medal).

Messrs. F. Sander & Co., St. Albans, showed a foliage Begonia, with leaves of brownish-red, and green veining. The plant, as shown, was dwarf and highly ornamental (First-class Certificate).

Rubus phœnicolasius (Japanese Wineberry) shown by Messrs. Kelway & Sons, Langport, obtained a First-class Certificate. The fruits are not unlike ordinary Raspberries.

Florists' Flowers

figured somewhat largely on this occasion. Foremost was a very fine collection of Gladioli from Messrs. Kelway & Son, including several new hybrids of a novel purple colour, and to one of these, named Vigilant, an Award of Merit was given; the colour was crimson, flushed with purple, giving it quite a purple glow. One unnamed seedling was of a shining bright purple, very novel and distinct. The same award was made to Kenneth Kelway, brilliant orange-crimson, pencilled on the edges with lines of crimson, very stout, and of fine form. Ladas, bright crimson, with slight dark lines on the edge of the segments, was very fine also. In addition was a group of seedling hybrids of the Lemoinei section, having distinct shades of colour, and the lower segments partly purple and

sulphur. To one of these, Xenia, an Award of Merit was made, the segments lilac-pink, darker on the petal edges. Other promising varieties were Satanita, Ideala, Medea, Conqueror, and Nemesis. Awards of Merit were also obtained by a variety named Dodo, and another called Utopia. A general collection of spikes of the ordinary type were staged. An Award of Merit was also given to a pretty Delphinium named Sarah (Silver Flora Medal).

Mr. John Walker, Thame, had a large collection of show Dahlias; among them the new Mrs. Mortimer, shaded pale yellow, distinctly tipped with white, was very fine.

From Mr. A. Spurling, Blackheath Park, came a collection of seedling Carnations, including Paradox, a rich scarlet self of the finest form (Award of Merit); also J. D. Pawle, pale yellow; A. Lobb, pale yellow, heavily flaked with bluish slate; and Mary Wood, yellow, striped with red.

Mr. J. Douglas, Bookham, Surrey, had a collection of very fine seedlings, including Ellen Terry, a very fine white (Award of Merit); Waterwitch, delicate blush, extra fine (Award of Merit); Florrie Henwood, a yellow-ground Picotee, with edging of purple; Duke of Orleans, pale yellow; Miss Audrey Campbell, soft yellow; Haye's Scarlet, pale bright scarlet; and Mrs. Arthur Tate, yellow ground, flaked and edged with pale red.

Messrs. Dobbie & Co., nurserymen, Rothesay, had a large collection of bunches of Carnations, including Duchess of Teck, delicate rose, with pale edge; and also single Cactus Dahlias (Bronze Banksian Medal).

Mr. H. B. May, Dyson's Lane Nursery, Edmonton, had Carnation Mrs. S. Segar, salmon-rose, large, and somewhat rough; Canary Bird, a pleasing pale yellow variety of excellent character, having a fimbriated edge; and Wm. Robinson, large scarlet.

Messrs. Paul & Son, Old Nurseries, Cheshunt, had a fine collection of Herbaceous Phloxes; among them was Iris, nearly a blue, a very novel and distinct variety (Award of Merit); and a similar collection came from Messrs. James Veitch & Sons, King's Road, Chelsea.

Messrs. J. Cheal & Sons, nurserymen, Crawley, had a large collection of Pompon, single, and Cactus Dahlias; among the latter were the pure white Mrs. Peart, the rich dark Matchless, and Crawley Gem (Award of Merit), a brilliant scarlet Cactus type (Silver Flora Medal).

Messrs. Webb & Brand, nurserymen, Saffron Walden, sent some new Hollyhocks, viz., Alethea Smith, wine-crimson; and Cicely Acland, pale pinkish-rose, both flowers of great promise.

Orchid Committee.

Present: Dr. Maxwell T. Masters, F.R.S., in the chair; and Messrs. Jas. O'Brien (Sec.), H. M. Pollett, H. Ballantine, T. W. Bond, H. J. Chapman, Ed. Hill, J. Douglas, W. H. White, W. H. Protheroe, and Walter Cobb.

The adjudged best plant in the show and the only one to which a First-class Certificate was awarded, was the fine hybrid Lælio-Cattleya × Broomfieldiensis (L. pumila præstans × C. aurea chrysotoxa), sent by M. Wells, Esq., Broomfield, Sale, Manchester (gr., Mr. Hinds). The plant exhibited was an improvement on any of the dwarfer hybrids, its large flower having white sepals tinged with lilac; petals of the form of those of Cattleya labiata and of a clear bright rose colour, and gorgeously coloured broad crimped labellum—violet purple with orange base bearing some distinct red-brown markings.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a fine group of rare cut Orchids, comprising six very fine and distinct forms of Lælio-Cattleya × elegans, Lælia crispa superba, L. c. × Amesiana, Cattleya Gaskelliana alba, C. Rex, and Cypripedium × Excelsior (Award of Merit). (Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, staged a very interesting group of Orchids, in which the varieties of Cypripedium Charlesworthii were the prominent feature. Of these there were over sixty plants, all fine in quality, the large dorsal sepals differing in a most remarkable degree from almost entirely clear rose-purple to nearly white. With them were some good plants of Saccolabium cœleste, one of them having five spikes; Lælia elegans, Vanda Sanderiana, Cypripediums, &c. (Silver Flora Medal).

Messrs. W. L. Lewis & Co., Chase Side, Southgate, also staged a group of Orchids, in which the pretty Cattleya Ashtoniana (Harrisoniæ × Warscewiczii was the most remarkable; it had a spike of three large rose-pink flowers, the broad labellums being crimson in front and yellow at the base—a decided acquisition (Award of Merit). In Messrs. Lewis's group also were a fine pan of Habenaria carnea, and another of its white variety, H. c. nivosa, Cypripedium Hodgsoni, C. × (callosum × lævigatum), Anguloa Ruckerii, Cypripedium bellatulum, &c. (Vote of Thanks).

Messrs. F. Sander & Co., St. Albans, showed a selection of rare Orchids, among which were Cattleya hybrida Mrs. M. Wells (C. × Prince of Wales × C. labiata Warnerii), likely to prove a fine thing when it gets strong; Bletia Watsoni and (? B. catenulata), with large rose-coloured flowers, to which an Award of Merit was given, subject to its name being verified; fifteen plants of the free-growing Oncidium Jonesianum, Sander's var.; Dendrobium Phalænopsis Schroderianum, D. bigibbum, Calanthe hybrida Laucheana, a pretty white and sky-blue variety; Masdevallia × Stella, Miltonia vexillaria superba, and many hybrid Cypripediums, &c., as well as examples of Cœlogyne, Swaniana, Galeandra Lagoensis, and Mormodes pardina unicolor (Vote of Thanks).

W. R. Lee, Esq., Beech Lawn, Audenshaw, Manchester, showed the fine Cypripedium × W. R. Lee (superbiens × Elliottianum). The form of this fine hybrid is similar to that of C. × Morganiæ, but the white chocolate-spotted petals are nearly twice as broad as in that variety. The fine whitish upper sepal has many narrow purple lines, and the lip is tinged with dull rose (Award of Merit).

Messrs. J. Veitch & Son, Royal Exotic Nursery, Chelsea, showed the fine Cypripedium × Morganiæ Langleyense; Lælia Stella (elegans Wolstenholmiæ × crispa; Cattleya Atalanta (Leopoldii ♀, Warscewiczii ♂), a very beautiful thing, with soft pink sepals and petals, and carmine-crimson lip.

Messrs. Linden, L'Horticulture Internationale, Parc Leopold, Brussels, showed two grand forms of Lælia elegans, most brilliant and rich in colour, viz., L. × e. Treyerani and L. × e. lilacina, and a small plant of the new Cypripedium × Denisianum described in the *Gardeners' Chronicle* last week.

Walter Cobb, Esq., Dulcote, Tunbridge Wells, showed Lælio-Cattleya × elegans Dulcotensis, a grand dark crimson variety of fine form (Award of Merit).

C. L. N. Ingram, Esq, Elstead House, Godalming, showed the equally good Lælio-Cattleya × elegans præstans, Reich. f. (Award of Merit).

Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. G. Cragg), showed Stanhopea inodora, Epidendrum Brassavolæ and E. fragrans, to each of which a Botanical Certificate was awarded.

The Director of the Royal Gardens, Kew, sent the extraordinary Disa nervosa with a fine head of pink, the three outer segments forming the chief of the flower, which was attractive on account of their peculiar arrangement.

H. Hollis, Esq., Beechcroft, Edgbaston (gr. Mr. R. Swain), sent a grand form of Cattleya Warscewiczii.

Messrs. B. S. Williams & Son, Upper Holloway, N., showed Brassia verrucosa grandiflora, Cattleya × Blesensis, Cypripedium × Adonis, Dendrobium mutabile (Botanical Certificate), Lælia monophylla, L. xanthina, Oncidium litum, Pachystoma Thomsoni, Odontoglossum Krameri, Phaius Humblotii, &c.

W. C. Clark, Esq., Orleans House, Sefton Park, Liverpool (gr., Mr. Jones), showed Cypripedium × Mabelianum, a very pretty hybrid approaching the fine thing showed by Mr. Lee.

A. H. Smee, Esq., The Grange, Hackbridge (gr., Mr. Cummins), showed Oncidium macranthum Smeeanum, of a very light yellow; and a pretty species of Stanhopea. R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. Chapman), showed Cypripedium tessellatum porphyreum (Award of Merit), Cypripedium Godefroyæ leucochilum, C. l. aureum (Award of Merit), and C. Godefroyæ, Cambridge Lodge variety, a fine thing marbled over the whole surface with purple (Award of Merit).

Messrs. Condon & Raphael, Hazelwood, King's Langley, Herts, showed a small group of Dendrobium formosum giganteum (Cultural Commendation); and Messrs. Heath & Son, Cheltenham, sent a spike of the rare Arachnanthe moschifera, with large flowers of singular form and very pungently fragrant. The sepals and petals were greenish, heavily barred chocolate, the curiously-formed lip rose at the apex, and the very thick column flesh coloured (Botanical Certificate).

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. George Bunyard, H. J. Pearson, G. W. Cummins, Jos. Cheal, George Taber, J. Wright, W. Iggulden, A. Dean, W. Bates, George Wythes, James Hudson, George Norman, W. H. Divers, and Rev. W. Wilks.

Mr. George Wythes, gr. to the Duke of Northumberland, at Syon House, Brentford, exhibited a collection of fruit, which included of Apples, Lady Sudeley, Early Julya, and Irish Peach, and excellent Lord Napier Nectarines, as well as Condor, Early York, and Stirling Castle Peaches. Some very nice French Beans were also shown, described as being a selection from Ne Plus Ultra, and sown on June 17.

Mr. J. Miller, gr. to Lord Foley at Ruxley Lodge, Esher, staged a very creditable collection of fruit which included six dishes of good Apricots, in the following varieties:—Bredon, Hemskirk, Kaisha, Beaugé, Moor Park, and another. Nectarines, Downton, Elruge, and Pitmaston Orange; Bellegarde Peaches, Warrington and May Duke Gooseberries; a dish of Morello Cherries was exceptionally fine (Silver Banksian Medal).

Twelve fine Pine-apples (Ripley Queen) were sent by Mr. J. Fitt, gr. to Earl Cowper, Panshanger, Herts (Silver Banksian Medal).

Mr. J. Crawford, Coddington Hall Gardens, Newark, received a Cultural Commendation for a small but capital collection of fruit, comprising Figs, Brown Turkey and Negro Largo; Hale's Early Peach, and very fine La Versailles Red Currants.

Mr Owen Thomas sent from the Royal Gardens, Frogmore, a good number of fruits of "Frogmore Selected" Tomato, with the bine. This variety was certificated in April last as a capital early forcing variety. It is of dwarf habit, a capital cropper, and produces good well-shaped heavy fruits (Cultural Commendation). Three good-looking Melons, named Frogmore Orange, The Duchess, and Royal George, were also sent by Mr. O. Thomas.

Mr. Fulford, gr. at Bickley Hall, showed a dish of good Laxton's Noble Strawberry, obtained from plants that had been forced early and planted out during first week in May (Cultural Commendation).

Messrs. James Veitch & Sons, Chelsea, again exhibited a collection of Gooseberries, including about twenty-five dishes.

Also about sixteen dishes of Plums. Early transparent Gage and Oullin's Golden and Early Orleans were very fine, and others were also good. Pears were shown in four varieties, Desportes, Jargonelle, Beurré Giffard, Fondante de Bihorel. There were also included about twenty-five dishes of Apples, chiefly early varieties. A cordon Pear that had been lifted from the open showed the splendid crop that is expected this year (Silver Knightian Medal).

Messrs. Geo. Bunyard & Co., Maidstone, exhibited about fifty dishes of Apples and Pears. Lady Sudeley Apple from orchard house was very fine, and Cardinal, Lord Grosvenor, Bunyard's Grenadier, Lord Suffield, Beauty of Bath, Gold Medal, Mr. Gladstone, Emperor Napoleon, Duchess of Oldenburg, and Bielighеimer, were all noticeable and good. The last-named German Apple is very distinct from the unusual tint of milky-red the fruits possess. Amongst Pears, Souvenir du Congrès, Beurré Giffard, and others were good (Silver Knightian Medal).

Messrs. Sutton of Reading obtained a First-class Certificate for their Sutton's Dessert Tomato, and another for Sutton's Golden Nugget. The former is a small red fruit, and the latter a small yellow one. The flavour of both is more acceptable than ordinary varieties eaten in a raw state, being sweeter. Both varieties have been tested at Chiswick.

Messrs. Veitch, Exeter, sent a specimen of their new climbing French Bean, and of their Dwarf French Bean, Wonder of the West; also their Flying Dutchman Tomato, a good variety of the Perfection type.

Messrs. H. Cannell & Sons, Swanley, also sent Tomatos of the same type, named The King.

From Mr. F. Nicholas, The Gardens, Upleatham, R.S.O., came a dish of Hales' Early Peach from the open wall (Vote of Thanks).

Another Tomato, called Jones' Improved Perfection, came from Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

Messrs. W. W. Johnson & Son, Boston, had bine and pots of a Pea known as "Unrivalled"; and Mr. C. T. Holden, Rhyl, North Wales, sent some Apples, and some sprays of same, as well as shoots loaded with unripe Plums (Vote of Thanks).

Sir Trevor Lawrence (gr., Mr. Bain) sent some capital heads of a giant Cabbage-Lettuce.

Lecture on Fruit Culture in France.

In the afternoon a lecture on the above subject by Mons. C. Baltet was read by Mr. J. Weathers, Assistant Secretary.

The subject had been so exhaustively dealt with by M. Baltet that extracts only could be read, and these dealt with the Apple, Pear, and Plum only.

The whole of the paper will be printed in the Society's *Journal*, and will prove very valuable as giving an authentic and exhaustive account of the various details connected with the French system of fruit culture, as well as the art of preserving any surplus crop by means of drying.

VIOLA CONFERENCE AT BIRMINGHAM.

August 4.—This took place as announced, on the above date, in the Edgbaston Botanic Gardens, Birmingham, and commenced at 2 P.M. by an exhibition of seedling Violas from the leading raisers of this popular flower, contributions coming from the Rev. A. D. Mayor, Tamworth; and Messrs. J. Smellie, Busby, Glasgow; Dobbie & Co., Rothesay; Geo. Steel, Etal, N.B.; J. D. Stewart, and S. McKee, Belfast; G. McLeod, Chingford; A. J. Rowberry, Woodford; J. A. King, Lennoxtown, Glasgow; H. Jordan, Leicester; M. Cuthbertson, Rothesay, &c. In addition, Messrs. Dobbie & Co. set up a collection of over 100 sprays of leading varieties, alphabetically arranged for ready reference and comparison, a considerable number of seedlings having been staged.

The Awards.—A committee of experts examined them, and awarded the following Certificates of Merit:—Lizzie Thornley (J. Smellie), pure white with well-defined broad edging of pale rosy-purple; Olivetta (J. A. Rowberry), one of the miniature type, of exquisite shape, small, stout, a bright lilac-blue self; Rose Queen (McLeod), white, flushed with delicate pink, very pretty; Charm (McKee), delicate lavender, with silvery-white edge, good shape; Gem (Dobbie & Co.), pale yellow upper and deeper yellow lower petals; Ethel Hancock (D. B. Crane), white, with a golden spot forming the eye, very novel; and to two unnamed seedlings shown by Mr. J. A. King, viz., one creamy-white, with a flaked margin of blue; and another having a pale ground, with flakes of claret-purple, referred to the raiser to name.

Some bright-coloured seedling fancy Pansies came from Mr. J. Smellie, and Certificates of Merit were awarded to Mahogany, a bright shade of this, with large purple blotches; and John Smellie, rich dark and fiery maroon lower petals, and deep golden upper handsomely margined. A Certificate of Merit was also awarded to Mr. William Sydenham, Tamworth, for a new umbrella design in metal for exhibiting Violas and Pansies for house decoration.

The Conference.—The awards made, the Conference was then formally opened by the election of Mr. William Cuthbertson (Messrs. Dobbie & Co.) to the chair, who was supported by the leading Viola growers about the country, amateur and professional. Professor Hillhouse, the Secretary to the Edgbaston Botanical Gardens, was present, and gave the Conference a hearty welcome to Birmingham. Letters were read from several raisers and growers regretting their inability to be present, and making various suggestions as to points of quality, classification, &c.

Violas for Bedding.—Mr. W. Dean then read a paper on the "Large-flowered Varieties as Bedding Plants," remarking on the uses to which the Viola can be put in gardens, whether employed alone or in association with other plants. They were most valuable in spring when planted in autumn, and the varieties could be used with great advantage in summer in cool moist districts. What the Viola required to flourish was good tenacious soil with manure below, while top-dressings were most useful. He did not approve of artificial manures. As to the best bedding varieties, among the whites he preferred Countess of Hopeton, Sylvia, and Marchioness of Tweedale; and among the new whites he had formed a high opinion of Beautiful Snow and Cream of the Whites. Of lilac and mauve shades the best were Bessie Clark, Duchess of Sutherland, and Quaker Maid. Of blue and mauve, True Blue, Lilacina or Mauve Gem, and Mrs. Turner. He excluded Archie Grant, though a very effective bedder, because it has a hybrid character; and Holyrood, equally useful, came under the same category. Of deep yellows, Bullion Wonder and Ardwell Gem, and of primrose varieties, Primrose and Bridesmaid were the best bedders. In purple-coloured varieties they were not so strong, and he had to admit that the old Cliveden Purple, produced so many years ago by the late Mr. John Fleming when at Cliveden, could scarcely be surpassed. Then there were Crimson King and Ravenswood. Purple Violas needed to be bright in colour, and especially flowers approaching pink. He had W. Niel in his mind when stating this. Of clouded and striped flowers, with others difficult to correctly classify, he thought Countess of Kintore and Dorothy Tennant decidedly the best bedders. Another section was that formed of the bordered flowers, such as Skylark, Duchess of Fife, and Goldfinch, and Acushla might be added.

In conclusion, he was very anxious the true Viola character should be maintained—the dwarf, compact, persistent habit, with freedom and particularly fragrance, a property possessed by the Violetta section in a remarkable degree. Finally, as self-colours are so much esteemed for bedding, he preferred the rayless Violas for the purpose. Several of the delegates spoke in favour of habit of growth as of the first importance, and Mr. McLeod spoke highly of Beautiful Snow as a bedder, and which was described as a Countess of Hopeton, destitute of rays. It was said that Blue Gown seems to be the best of the blue bedders.

Mr. H. A. Needs, who, living near Woking, has to deal with a light, sandy soil, said that in that district the use of artificial manure was absolutely necessary for Violas, and he could keep his plants strong and healthy only by using superphosphates, sulphate of ammonia, and sulphate of iron; these he used dissolved in water and applied to the roots, or dusted over the foliage in the form of powder.

Best Varieties for Bedding.—The chairman suggested that it would be well for the Conference to make a selection of the best varieties for bedding, two, or at most three, of each section, and the following were decided upon, well-known varieties having the preference:—White, Countess of Hopeton, Sylvia, and Marchioness of Tweeddale; deep yellow, Bullion and Lord Elcho; pale yellow, Ardwell Gem and Lemon Queen; dark blue or violet, Archie Grant and True Blue; pale blue or mauve, Bluegown and Bessie Clark; blush and rose, W. Niel and Blush Queen; edged flowers, Duchess of Fife and Blue Cloud; fancy or blotched, Countess of Kintore, The Mearns, and Princess Beatrice; purple, Acme and Crimson King. Mauve Gem or Lilacina was also mentioned as a good pale blue bedder.

Violas for Exhibition.—Mr. W. Cuthbertson followed with a paper on Violas for exhibition, remarking the best were those which could be formed into neat and effective bunches or sprays, and thus those best suited for exhibition are those best adapted for cutting for house decoration, and under this heading are several indispensable bedders. Two distinct forms of the bedding Viola were illustrated by Lemon Queen and Ardwell Gem, and of the two he preferred the latter; at the same time he held that to make the Viola to conform to the rules affecting the show Pansy would be to spoil it. For freedom, gracefulness, and real beauty Ardwell Gem stood supreme, and what is intrinsically beautiful will always commend itself to florists; every florist will reject forms without grace and balance, to use an expression understood among them. To exhibition varieties size—not too large, form, substance, and colour were all essential. His ideals of substance were represented by Countess of Wharncliffe among whites, Prince of Orange among yellows, Archie Grant among the darks, and H. W. Stewart among the striped. The one defect in the Duchess of Fife group is want of substance, but substance will by-and-bye be found in flowers of this type. His list of leading exhibition varieties was: Of whites, Countess of Hopetoun, Countess of Wharncliffe, Blush Queen, Gipsy Queen, and Sylvia; of yellows, Mary Gilbert, Bullion, George Muirhead, Ardwell Gem, and Lemon Queen; of lilac-blue or purple, Duchess of Sutherland, Archie Grant, and W. Niel; of striped, bordered, or edged, Duchess of Fife, Goldfinch, Blue Cloud, Countess of Kintore, Iona, Princess Beatrice, Mr. W. Bellamy, Dawn of Day, Columbine, and York and Lancaster.

Miniature Violas.—Mr. G. Steel followed with a paper on the "Miniature or Violetta type of Viola," contending that some classification is necessary, as Sylvias, Violettas, and Miniatures are all confused. He thought what was required is a line drawn between the large-flowered and Miniature types, and the Miniature type should be characterised by form, colour, fragrance and size. The enforcement of these points led to a good deal of discussion, and the following resolution was unanimously passed: "That in the opinion of this conference the varieties known as Violetta or Miniature should not exceed 1½ inches in the diameter of their flowers; and that the varieties known as the Sylvia type should henceforth be classed among the ordinary large-flowered Violas; and that these two types only should be recognised. Also that the conference adopt Mr. Geo. Steel's suggestions as to the properties of the Violetta or Miniature section." Cordial votes of thanks were passed to the Council of the Egbaston Botanical Gardens, Mr. W. Dean for acting as Secretary, and to Mr. W. Cuthbertson for presiding.

WELLS HORTICULTURAL.

August 6.—The committee of the Wells Horticultural Society held its annual summer exhibition in the grounds of The Cedars, the beautiful residence of C. C. Tudway, Esq.

Plants were not shown in great numbers, but those exhibited bore evidence of cultural skill on the part of the cultivators. Mr. Fewtrell, gr. to C. C. Tudway, Esq., had the best exotic Ferns, showing large pieces of Nephrolepis exaltata, Cyathea medullaris, and Adiantum concinnum. Mr. Williams, gr. to J. F. Hall, Esq., Sharkham, Wells, being a very close 2nd, with good plants of Adiantum cuneatum, A. concinnum, A. affine, and A. Farleyense. Mr. Mackenzie, gr. to A. F. Somerville, Esq., Wells, was 1st for half-a-dozen plants of tuberous Begonias, showing large fresh well-flowered plants; Messrs. Mogford & Co., Wells, being a close 2nd. Fairly good specimen stove and greenhouse plants were exhibited, and table plants were shown well.

Groups of plants arranged for effect in a semi-circular space of 10 feet by 5 feet, were a feature at this as in previous shows. The plants in the 1st prize group, put up by Mr. Williams, were well chosen and arranged with good taste. A well-coloured Croton elegantissimus showed to advantage, and in front and on either side of this plants of Francoa ramosa (Bridal Wreath), Dracænas, Cattleyas, Canna Alphonse Bernand, small Crotons, Grasses (Eulalias, &c.). Maiden-hair Fern, Caladium Argyrites, and such-like plants were tastefully intermixed and disposed of, the whole being fringed with plants of Isolepis gracilis. Mr. Mackenzie was a good 2nd, but his group was a little too formal in arrangement.

Cut flowers were not extensively shown. Mr. Young, gr. to W. T. Hodgkinson, Esq., Wells, and Mr. Williams had the best stands of twelve varieties of Roses, and Messrs. Mogford & Co. and Mr. Williams contributed the best stands of twelve bunches of Carnations, in not less than six varieties, relieved with their own foliage.

Dressed vases and baskets were shown, in two classes, one confined to garden flowers, and the other to wild flowers and grasses, which made a really fine display, the arrangements being very light and telling in effect.

Fruit was not shown in great quantity, but the quality was good. Mr. Fewtrell was 1st for two bunches of Black Grapes, staging handsome well-coloured bunches of Black Hamburgh; Mr. Mackenzie being a good 2nd. Mr. King, gr. to the Dean of Wells, was 1st in the corresponding class for White Grapes, with well-shaped and ripened bunches of Foster's Seedling; Mr. Mackenzie, 2nd.

Mr. King staged the best nine Peaches, putting up medium-sized, even fruits of Prince of Wales, but not very well coloured. Melons, Nectarines, and Pears were weak classes.

Vegetables: Mr. Williams staged the best collection of eight kinds of vegetables, being a good all-round lot of leading sorts, including good Carrots, Onions, Peas, Beans, Cauliflowers, and Tomatos. Mr. Young was 1st in a good competition for twelve Tomatos, showing even and highly coloured fruits of Ham Green Favourite.

Non-competing exhibits: Messrs. Keynes, Williams & Co., Salisbury, contributed stands of Roses, which commanded a good deal of attention from visitors, as did also Messrs. Jarman's contribution of vegetables, &c., from Chard. Messrs. Mogford & Co., Wells, arranged a fine bank of miscellaneous plants across the end of one of the tents, which was much admired and added greatly to the attraction of the show, as also did a good stand of Eckford's Sweet Peas put up by Mr. Warden, Clarendon Park Gardens, Salisbury.

NEWBURY HORTICULTURAL.

August 6.—The annual show was held as usual on August Bank Holiday, and was well attended. The competition in the open plant classes was very good, but the number of exhibits in the fruit, and especially the vegetables, was below the average, and particularly so in the classes for cottagers.

For six flowering plants Mr. J. F. Mould of Pewsey was 1st, with excellent Ericas, Allamandas, Statice profusa, and Clerodendron Balfouri.

For six foliage plants, Mr. Howard, gr. to Mrs. Myers, Benham Park, was 1st, with fine plants of Alocasia Thibautiana and A. macrorhiza variegata, Anthurium crystallinum, Areca lutescens, and Cycas revoluta. Mr. C. Ross, gr. at Welford Park, was 2nd.

In the open class for ten Ferns, there were three entries, but the plants were much too crowded to see the individual beauty of them. Mr. Howard was 1st, and Mr. Ross, 2nd.

The chief interest was centred in the groups for effect, the space allotted being 12 feet by 8 feet. Here Mr. Howard was again 1st, with a good arrangement, and Mr. Ross was a good 2nd.

For Gloxinias, Mr. Abery, Tilehurst Nurseries, was 1st; and in Tuberous Begonias, Mr. T. Surman, gr. to M. Best, Esq., Donnington Grove, was a good 1st. For table plants Mr. Ross was 1st.

Mr. Surman was to the fore in the class for Coleus, and in the open class for Fuchsias Mr. Mara was placed 1st.

In the cut flower classes were prizes for table decoration, offered to ladies only. Mrs. Phippen, of Reading, was a good 1st, and also for a bridal bouquet and buttonholes. For cut flowers in twelve varieties, Mr. Howard was 1st. In the class for seventy-two Roses, eighteen varieties, Messrs. Cooling were 1st, and Mr. R. C. Norris, gr. to J. Porter, Esq., 2nd.

In the open class for eight dishes of fruit, distinct, there was but one entry, Mr. Howard being awarded 1st for a good collection.

Among the vegetables, the chief competition was in Messrs. Sutton's classes. For the six varieties there were six entries, Mr. Lye of Sydmonton Court being well to the fore with a fine lot, and well staged.

In the class for four varieties of Potatos there were nine entries, Mr. Howard being 1st. For Messrs. Carter's prizes, Mr. Lye was 1st.

The Society has a good secretary in the person of Mr. Councillor Hannington, and has issued a schedule for a Chrysanthemum show to be held in November.

THE ABBEY FLOWER SHOW, LEICESTER.

August 7.—That a one-day flower show at Leicester should result in a sum of £797 being taken is establishing a record, and this is what happened on the above date. The show was held in the fine public park, under the management of Mr. John Burn, who, as Secretary, acts with great energy and success.

Groups of plants arranged for effect were somewhat packed, though the material was good. It is the method followed there, and perhaps it is necessitated by the size of the tents.

The best six stove and greenhouse plants came from Mr. Bolton, gr. to W. Bilsom, Esq., Barkby, and consisted of Bougainvillea glabra, Allamanda grandiflora, Stephanotis floribunda, Croton Johannis, C. majesticus, and one other. Mr. J. Smith, gr. to Mrs. S. Bennett, Stoney Gate, Leicester, was 2nd.

Begonias of the tuberous-rooted section made a good feature, large and freely-grown plants, well bloomed. Mr. J. Wright gained the 1st prizes with six double as well as six single, Mr. Bolton being 2nd in one class, and Mr. J. Gibson in the other. Fuchsias were represented by tolerably good specimens.

Zonal Pelargoniums, both double and single, shown in sixes, made attractive masses of colour in association with handsome-leaved Coleus and exotic Ferns, the latter being represented by good, clean, well-grown examples.

Leicester folk appear to be most attracted by the cut flowers, and as many of the flowering community are keen florists, it is no wonder that the high quality of the Roses, Carnations, and Picotees, and others proved so attractive.

The best thirty-six blooms of Roses were staged by Messrs. James Cocker & Sons, Sunnypark Nurseries, Aberdeen; Messrs. Harkness & Son, Rose Nurseries, Bedale, taking the 2nd prize; the blooms in both cases being large, full, and very bright. In the class for twenty-four varieties, Messrs. D. & W. Croll, Dundee, took the 1st prize with some excellent blooms; Messrs. Cocker & Sons having 2nd place; with twelve Teas and Noisettes, Messrs. Cocker & Son were again 1st; Messrs. D. & W. Croll being 2nd. In the class for twelve blooms of one variety, Mr. J. Stretton came 1st, with very fine examples of Her Majesty; Mr. J. Wright coming 2nd, with A. K. Williams, very bright. Tuberous-rooted Begonias, double and single, as shown at Leicester, were allowed to lie too flat upon the boxes to be very effective, but the single varieties were very good.

Carnations and Picotees were numerous and very good, the lateness of the season considered, and there was a very keen competition in all the classes. With twelve blooms of bizarres and flakes Messrs. Thomson & Co., nurserymen, Birmingham, were 1st, and Mr. Simonite 2nd; and Messrs. Thomson & Co. were 1st with twelve Picotees; Mr. R. Makepeace, a well-known Leicester amateur, being 2nd in both cases with excellent blooms.

With twelve yellow, self, or fancy varieties, Messrs. Thomson and Simonite were again 1st and 2nd, the blooms being remarkably good.

Stove and greenhouse cut flowers were shown in bunches of twelve, Mr. H. Blakeway taking the 1st prizes, and Mr. J. Smith being 2nd.

Hardy border plants in bunches were a very fine feature, Messrs. Cocker & Sons being 1st, and Messrs. Harkness & Sons 2nd. Then there were gay hardy annuals in bunches, zonal Pelargoniums shown in splendid condition, fancy Pansies, &c.

In the way of table decorations there were classes for an epergne, for bouquets, wreaths, &c., and the response would seem to justify an extension of such classes.

There was a good show of fruit, the main honours falling to Mr. Goodacre, Lord Harrington's gr. at Elvaston, Derby. He had the best eight dishes, consisting of fine Muscat of Alexandria and Black Hamburgh Grapes, a good Melon, Pine-apple, Barrington Peaches, Victoria Nectarine, &c. Mr. J. Read, The Gardens, Bretby, was 2nd, having good Madresfield and Buckland Sweetwater Grapes, Peaches, Nectarines, &c. With four dishes, Mr. Goodacre was again 1st, having Muscat of Alexandria Grapes, Barrington Peaches, Victoria Nectarines, and a good Melon. Mr. A. McVinish was 2nd. Mr. Goodacre was also 1st with two bunches of Black Hamburgh, the same of Muscat of Alexandria, and held the same position for any other black Grapes; while Mr. Read came in 1st with any other white. Peaches, Nectarines, Melons, Figs, Cherries, Apples, Plums, bush fruits, &c., were all shown in their respective classes.

Vegetables were numerous and very good, whether shown by amateurs, cottagers, or gardeners.

Among the miscellaneous exhibits was an interesting collection of vegetables from Messrs. Harrison & Sons, Leicester, and from Messrs. Jarman & Co., Chard; Violas, Sweet Peas, hardy flowers, and very fine French and African Marigolds from Messrs. Dobbie & Co., Rothesay; Violas, Begonias, and other things from Mr. John Forbes, Bucclough Nurseries, Hawick, and from Messrs. Yarde & Co., Northampton, and local nurserymen.

TAUNTON HORTICULTURAL.

August 9.—The Committee and the energetic and courteous Honorary Secretaries (Messrs. Maynard and Hammett) are to be congratulated upon the thorough success of their efforts to make the Taunton Show one of the best of its kind in the South and West of England.

Open Classes.

Plants were shown largely and in fine condition. Prizes of £20, £15, and £6, were offered for twelve stove and greenhouse plants in flower, and these were secured by Mr. James Cypher, Cheltenham, Mr. Mould, Pewsey, and Mr. Rowland, in the order given. Mr. Cypher's best plants were Ixora salicifolia, I. Pilgrimi, Allamanda Hendersonii, Stephanotis floribunda (in fine flower). Erica Thompsonii, E. obbata purpurea, Statice profusa, Bougainvillea glabra and Phœnocoma prolifera Barnesii. Mr. Mould's best plants were Ixora Dixiana and Dipladenia amabilis.

Messrs. Cypher, Rowland, and Mould took the prizes in the order given for six stove and greenhouse plants, all three showing well.

In the class for eight fine foliage plants, Mr. Cypher, as in the previous classes, was well ahead, showing among others fine plants of Kentia australis, K. Belmoreana, Croton Sunset, C. Johannis, C. Chelsoni, all three being beautifully coloured; Cordyline indivisa, and Cycas undulata. Mr. Rowland was a creditable 2nd; and he also had the best eight plants of exotic Ferns, distinct, in which were noted good plants of Microlepia hirta cristata and Alsophila australis. Mr. Marshall was a good 1st for eight plants of tuberous Begonias.

Mr. W. Marshall, Taunton, had the best four plants of Orchids, staging good plants of Cattleya Victoria Regina, Cypripedium Morganæ, Peristeria elata, and Dendrobium formosum giganteum; Mr. Cypher being a good 2nd.

In the class for a newly-introduced plant with ornamental foliage, Mr. Cypher secured premier place with a nice plant of Croton Gordonii.

Groups.—Miscellaneous plants arranged for effect on a space of 100 square feet are always done well at this show, but they were especially good this year. Mr. Peel, gr. to Miss Todd, Shirley Lodge, Southampton, securing 1st place for a very telling arrangement, consisting of a background of high Palms, groundwork of Maidenhair Fern, "dot" plants of Crotons, Begonias, Orchids, Caladiums Argyrites, and Francoa ramosa. Mr. Rowland was a close 2nd, putting together an effective groups of suitable plants.

In the amateur classes, the positions of these exhibitors were reversed for groups arranged on a space of 50 square feet, both arrangements being light and finished in good style. The same exhibitors were accorded like honours in the class for twelve stove and greenhouse plants, Mr. Rowland's 1st prize lot including fine specimens of Dicksonia antarctica and Cycas revoluta. Mr. Peel turned the tables on his opponent in the class for four stove and greenhouse plants in flower, his quartette containing a plant of Pancratium fragrans, having fourteen fine spikes, and a fine plant of Anthurium Scherzerianum. Mr. Peel was also 1st for six Exotic Ferns, distinct varieties.

Cut Flowers (Forty-two Classes).

Messrs. James Townsend & Son had the best stand of thirty-six Roses, distinct varieties, staging substantial, even, fresh blooms of approved varieties; Messrs. Perkins & Sons being a good 2nd.

Messrs. Keynes, Williams & Co., Salisbury, was 1st for a stand of eighteen blooms, distinct varieties; and Dr. Budd, Bath, was an excellent 2nd. The last-mentioned exhibitor took three 1st prizes in the amateur classes, namely, twenty-four blooms, twelve blooms (Tea excepted), and twelve Teas, in not less than six varieties.

Messrs. Keynes, Williams & Co. were 1st for twelve Dahlia blooms, distinct varieties, 1st for a like number of fancy varieties, and for Cactus and decorative varieties, three blooms to form a bunch, to be shown on wire frames. These exhibits included Emperor William, Earl of Pembroke, and Mrs. Staples; and for nine bunches of Pompons.

Mr. M. Smith, Dr. Flegg, and Messrs. Townsend & Son, also showed well in the above classes.

Eight classes were devoted to dinner-table decorations, &c., and a fine display of artistic arrangements was the result.

Fruit.

Twenty open classes were provided for fruit, and a fine lot (principally from under glass) was tabled. In the collections of eight kinds, and four kinds (Pines excluded), the contest was as close as it possibly could be between Mr. James Lloyd, gr. to Vincent Stuckey, Esq., Langport, and Mr. H. W. Ward, Longford Castle, Salisbury, who took the prizes in the order named, both staging good all-round fruit. Mr. Lloyd had extra large and handsome bunches of Madresfield Court Grapes, and fine in berry, full well-ripened bunches of Muscat of Alexandria Grapes, Bellegarde Peaches, Pineapples, Nectarines, Negro Largo Figs, Moorpark Apricots, a handsome oval-shaped highly-coloured and beautifully mottled Melon, the result of a cross between Hero of Lockinge and Longleat Perfection, and Jefferson Plums. The 2nd prize lots in both collections contained beautifully coloured medium-sized bunches of Black Hamburgh and Muscat of Alexandria Grape, larger in berry but not so well coloured as Mr. Lloyd's examples, extra large and well-coloured Sea Eagle Peaches, &c. Eight collections were put up. Mr. Ward was a good 1st for three bunches of Muscat of Alexandria Grapes, also for three bunches of any other black than Hamburgh, with good sized well-coloured bunches of Madresfield Court. Mr. Lloyd being 2nd in both classes, staging the same varieties as Mr. Ward. Mr. Lloyd secured 1st for three bunches of Black Hamburgh; Mr. Webber, gr. to G. F. Luttrell, Esq., taking 2nd place. The last-named exhibitor had the best three bunches of any other white than Muscats, staging Buckland Sweetwater; Mr. Ward being 2nd with Foster's Seedling.

Mr. Lloyd and Mr. Ward were 1st and 2nd respectively for two Pine-apples; the top pips of one of Mr. Ward's fruits were a little green. Mr. T.

Jones and Mr. Ward were 1st and 2nd for Peaches in a good competition, with Noblesse and Sea Eagle. Mr. Lloyd had the best-flavoured Melon. Mr. Ward had the best dish of Pears, and Mr. Crossman, gr. to Joseph Bratton, Esq., Yeovil, had the best dish of Nectarines, staging grand fruits of Pine-apple.

VEGETABLES.

Mr. Thomas Wilkins, gr. to Lady Theodore Guest, Inwood House, Henstridge, was a capital 1st for a collection of eight kinds; Mr. G. Garaway, Bath, was a good 2nd.

Special Prizes.—Messrs. Edward Webb & Sons, Stourbridge; Messrs. Sutton & Sons, Messrs. Jarman & Co., respectively gave special prizes for collections ranging from six to twelve kinds, and these were won by Mr. Thomas Wilkins, Mr. Copp, gr. to W. E. S. Drax, Esq., Holnest House, Sherborne; and Major Gully, all staging fine produce.

The same exhibitors, together with the Messrs. Mitchell, grs. respectively to G. T. C. Grove, Esq., and G. T. Chaffin, Esq., who were each 2nd in two collections, were the principal prize-winners in the twenty single dish classes; and Mr. Crossman was a good 1st for Runner Beans, with his Exhibition Runners, of great length and fine appearance. Mr. Ward secured 1st prize with grand specimens of Student Parsnip.

Non-competitive Exhibits.—Messrs. Robert Veitch & Son, Seedsmen to the Queen, Exeter, staged an extensive and attractive lot of miscellaneous plants and cut flowers. They included many novelties in the way of alpine plants arranged on rockwork, and forty new varieties of Sweet Peas. Messrs. Veitch also showed examples of their climbing French Bean coiled round sticks in pots. It attains to a height of from 6 to 7 feet, and produces immense crops of long handsome Beans from the middle of July onward until cut down by frost. Mr. Davis, of Yeovil, contributed an extensive lot of double and single flowers of the tuberous Begonia, which included many fine types. A grand double white Begonia, sent by Miss Tucker, of Leigh Court, was greatly admired, as also was Mr. W. J. Godfrey's blooms of Carnations and Pelargoniums, sent from Exmouth. Messrs. Jarman & Co., Chard, put up a good assortment of decorative plants, Sweet Peas, border Carnations, and vegetables, which altogether made a good display.

WELSHPOOL HORTICULTURAL.

August 9, 10.—The second annual exhibition was held in the Deer Park at Powis Castle, by permission of the Earl of Powis, and about 12,000 persons attended it. A large tent of a Maltese-cross form was well filled, and a supplementary tent was not large enough to contain the cottagers' vegetables, so that a large quantity had to be staged on extemporised tables out-of-doors.

Cottagers' productions are very much encouraged here, and they certainly responded admirably, there being no fewer than eleven collections of eight varieties of vegetables for three prizes given by the Earl of Powis, and heavy exhibits in all the classes devoted to them, and the exhibits generally were fine.

In the classes open to nurserymen, Messrs. Jones & Sons, Shrewsbury, were 1st for a group of plants, for a collection of Dahlias, occupying considerable space, and for a miscellaneous collection of cut flowers, in which were fine Gladioli, bunches of Sweet Peas, and many other things, all tastefully arranged.

In the gentlemen's gardeners' classes, Mrs. Curley, Brooklyn, Welshpool (gr., Mr. McFarlane), was 1st respectively for a large group of specimen plants, for a specimen plant in flower, a fine Allamanda Hendersonii, six ornamental plants, six stove and greenhouse plants, three bunches of Black Hamburgh Grapes, three bunches of Bowood Muscat admirably coloured, three bunches of any other black Grape, excellent bunches of Madresfield Court but not quite ripe, also for Peaches and other fruits; and 2nd for a collection of eight varieties.

The Misses Howell, Rhieuport, Berriew (gr., Mr. Jones), were 1st with a collection of eight kinds of fruit; and 2nd for a group of plants. Captain Hayhurst France was 1st with Roses, a very good lot; and Sir Pryce Pryce Jones, Bart., Newtown, was 1st for twelve bunches of cut flowers.

Another section of the schedule was for amateurs, and nearly sixty classes were allotted to them.

Honorary exhibits helped the display materially. In the centre of the large tent, Mr. John Lambert, gr. to the Earl of Powis, set up a very large and handsome group in form of a four-rayed star, each ray extending towards the four sections of the tent. The central pole of the tent was hidden by the group and a fine Tree Fern, and the other part of the pole hidden by Maiden-hair Ferns in plaques, fastened to the pole. A group of well-coloured Humea elegans peeped out from the Tree Fern, and flowering plants, Caladiums, Kentias, Hippeastrums, Streptocarpus, and other plants were judiciously placed in groups, and with a carpet of green moss in front.

Mrs. Naylor, Leighton Hall, Welshpool (gr., Mr. Rothwell), set up a very large group of specimen plants, including a grand Pancratium fragrans, and some fine specimen double Petunias.

Mrs. Lovell, Llanchydoll, Welshpool (gr., Mr. Jones), set up a group of Coleus, Ferns, and other plants; Mr. E. Murrell, Nurseryman, Shrewsbury, a very fine lot of Roses, including a large stand of Alfred Colomb, grand in quality, the whole being one of the features of the show. Various nurserymen added to the attractions of the show by showing Carnations, Roses, flowers of herbaceous perennials, Begonias, plants, &c.

NEW INVENTION

STEAM LAWN MOWER.

Mr. Jas. Sumner, Leyland, Lancashire, lately showed at the meeting of the Tring Agricultural Society, a lawn mower worked by a small engine, placed on the top of the machine, the fuel being oil. In the opinion of numerous horticulturists the work done by the machine was quite equal to that effected by any horse machine. It can be used when the turf is soft, there being of course no hoof marks, while the additional weight adds to its efficiency as a roller. The introducer claims that it is cheaper to work than a horse machine, is easier to manage, requires less labour, and occupies less time, whilst the engine can be used for other purposes when necessary.

DISTRIBUTION OF THE WILD RICE.

Dr. F. Buchenau, of Bremen, has elaborated in considerable detail (*Botanische Zeitung*, 1894, pp. 83 to 96), the distribution of this interesting though undesirable Grass, Leersia oryzoides (Oryza clandestina). It is a rare Grass in England, having been found, so far as we know, in the counties of Surrey, Sussex, and Hampshire only, and there only in a few widely separated localities. Marshy places and banks of ditches are its favourite localities, and once established it spreads rapidly, having nearly the same power of root-propagation as the common Couch-grass; yet it rarely seeds, at least in its northern localities. There is no real English name for it, though in books it has been called Cut-grass, on account of its exceedingly rough, sharp-edged leaves. Wild Rice is a translation of its very appropriate German name. It is perhaps not quite so rare in this country as would appear from the localities recorded, being easily overlooked, as the inflorescence has the peculiarity of being developed within the sheath of the topmost leaf. Sometimes it emerges, and then this Grass is easily detected. Another peculiarity of this Grass is that the enclosed, hidden inflorescence is commonly fertile, whereas the exserted inflorescence is commonly sterile; whether invariably so, can only be ascertained by further and more exact observation. The present distribution in Europe is from the Mediterranean northward to the south of England, to Denmark, Sweden, and Central Russia; but only in a few localities in these northern countries, where it is supposed to have been introduced by migratory water-fowl. Possibly, too, it may have been originally introduced into Europe from America. It has also been found eastward as far as the Caucasus and Bussorah. In Eastern North America it ranges from Florida and Louisiana to Canada. Yet another curious thing connected with this Grass. As a weed in the Rice fields of Italy, it is a formidable competitor in the struggle for existence with its congener, Oryza sativa. *W. B. H.*

THE GREAT INTERNATIONAL HORTICULTURAL EXHIBITION AND BOTANICAL CONGRESS, 1866: AN HISTORICAL RETROSPECT.

As each succeeding year may be said to add to the historical interest attaching to the Great International Horticultural Exhibition and Botanical Congress of 1866, which was held on the site of the present Natural History Museum at South Kensington, and as some of the notices relative thereto, called forth by the lamented death of Professor Bentley, F.L.S., were incomplete, it is well to set forth at this stage the actual facts as clearly as possible.

The Summary of General Proceedings in the Official Report sets forth that the project originated amongst a few representatives of British Horticulture and Botany, who had accepted the invitation to attend the first of these international meetings, held in 1864, at Brussels, under the auspices of the Federation of the Horticultural Societies of Belgium; and also under the immediate patronage of the Belgian Royal Family. The action then taken was followed up by those who attended the exhibition and congress at Amsterdam in 1865, when a pledge was given or implied that a similar meeting should, if possible, take place in London in 1866. With the object of carrying out these views, a preliminary meeting was held at St. James's Hall, Regent Street, on May 18, 1865, under the chairmanship of Mr. J. J. Blandy of Reading, and, with the exception of Mr. G. Ure Skinner, all those present were members of the executive committee subsequently formed. At this meeting a provisional committee was formed for the purpose of preparing a scheme for carrying out the proposed exhibition and congress, Mr. Thomas Moore acting as secretary. The co-operation of the Royal Horticultural Society and of the Society of Arts was secured, the latter body setting apart the sum of £50 as prizes for implements. On July 1, a meeting of supporters was held, a prize schedule was agreed to, and subscription and guarantee lists opened; the Provisional Committee reporting considerable financial support. At this meeting an Executive Committee of twenty-one persons was formed to carry out the Exhibition, Sir C. Wentworth Dilke, Bart., M.P., was Chairman; Mr. J. Jackson Blandy, Vice-chairman; Sir Daniel Cooper, Bart., Treasurer; the following completing the body:—Professor Bentley, F.L.S., Messrs. W. Bull, Edward Easton, C.E., Chas. Edmonds, John Fleming, Robert Fortune, John Gibson, John Lee, Dr. M. T. Masters, F.L.S., Thomas Osborn, William Paul, John Standish, Charles Turner, James Veitch, and B. S. Williams; with Mr. Thomas Moore, F.L.S., as Exhibition, Dr. Berthold Seemann, F.L.S., as Congress, and Dr. Robert Hogg, F.L.S., as general business secretaries, with Mr. Richard Dean as assistant-secretary. A short time subsequently Dr. Seemann received an appointment which made absence from England necessary, and he was succeeded as Congress secretary by Dr. Masters. The Building Committee consisted of Messrs. Charles Lee, John Gibson, Harry J. Veitch, and John Standish. The exhibition building was contracted for by Mr. John Unite; an Orchid section was covered by glass, and, with great liberality, heated by Mr. Henry Ormson. The entire cost of the exhibition tent, and laying out the ground, was £3946.

The following extract from the report is full of interest:—"The place for laying out the interior of the tent was designed by Mr. Gibson, and was carried out under his superintendence. The area covered with canvas was 3 acres 2 roods and 38 poles. Of this space, 55,000 feet was allotted for plants, 50,000 feet for promenades, and 20,000 feet for single specimens and decorations, exclusive of the compartments devoted to Orchids, to fruit, and to vegetables. The path ways, including those of the Orchid tent, occupied 60,000 feet, sufficient to accommodate 15,000 persons within the tent, allowing 4 feet to each person." In addition to the competitive specimens, the Royal Gardens, Kew, and the

Royal Horticultural Society, contributed a number of Palms and other large plants. The arrangements of the exhibits were delegated to an arrangement committee consisting of Dr. Hogg, and Messrs. Gibson, T. Moore, and George Eyles. It is scarcely necessary to state that the details were carried out in a most satisfactory and highly successful manner.

The schedule of prizes was arranged in ten sections, the aggregate number of classes being 238. The entries, deducting withdrawals, were 1486, of which number 329 were not sent in, owing to the unfavourable weather which preceded the show, and to various accidental causes. The actual number of entries received was 1751, sent in by 361 exhibitors. Of the sum of £2550 offered as prize-money, £2007 9*s.* was actually awarded, and a further sum of £219 16*s.* was paid in consideration of extra expenses incurred on account of the additional days to which the show was extended. The opening took place on May 22, and was graced by the presence of the Prince and Princess of Wales, and several other members of the Royal family. On account of the success of the show, it was, with the consent and active support of the principal exhibitors, extended to May 31.

Of the 110 jurors who made the awards in the several classes, more than one-half have gone over to the majority. The stewards of the exhibition were the members of the executive committee.

Two sittings of the Botanical Congress were held, one on the 23rd, and the other on the 24th, Professor Alphonse de Candolle presiding. Both meetings were held in the South Kensington Museum. As a large number of papers were sent in, far more than could be read, a committee of reference was appointed to consider what communications should be published in the *Reports of Proceedings*. The social side of the gathering included a banquet at the Guildhall, the Lord Mayor, Sir B. S. Phillips, Bart., presiding; and a conversazione at the South Kensington Museum.

The amount of receipts from all sources was £16,018 4*s.* 7*d.* The surplus of income over expenditure was distributed in various ways, the Gardeners' Benevolent Institution benefiting to the extent of £1000.

When the affair was practically closed, the Executive Committee, with the addition of Mr. Charles Lee and Mr. Harry J. Veitch, dined together at the "Star and Garter" Hotel, at Richmond, when a photographic group was taken by Mr. Vernon Heath. Two members were absent through illness, the vice-chairman, Mr. J. J. Blandy, who died on September 2 following; and Mr. John Fleming, who lived but a short time after. Of the twenty-one persons forming the group, Sir C. W. Dilke and Messrs. R. Fortune, Thos. Moore, James Veitch, Thomas Osborn, B. S. Williams, John Standish, Chas. Edmonds, John Gibson, Charles Lee, Charles Turner, and Professor Bentley, who form the majority, have "taken their chambers in the silent halls of death;" the survivors are Sir Daniel Cooper, Dr. Hogg, Dr. Masters, and Messrs. H. J. Veitch, Edward Easton, William Bull, John Lee, William Paul, and R. Dean. This photograph is now valuable on account of its scarcity and historical interest.

The preparation of *Reports of Proceedings* was mainly the work of Dr. M. T. Masters, assisted by Mr. Thomas Moore. It is a book of 420 pages; it contains many of the most valuable papers read at the Congress, and a number of illustrations. It is brimful of matter of great interest. Not of the least importance is the Catalogue, setting forth the names of the plants exhibited in all the classes, in so far as they were furnished by exhibitors; and the awards of the judges. The question is sometimes put, Can a copy of this invaluable report be obtained? The answer must be that as only a limited number was issued, it will for ever remain very scarce and difficult to obtain. No gardening library can be said to be complete without a copy. As time rolls on, the horticultural interest attaching to it increases in exact ratio to its monetary value.

Whether we shall ever see another such exhibition in the metropolis of London remains to be seen. Should such take place, the experience gained in 1866 will be invaluable to the promoters. Much of it is recorded in the *Reports*, much of it was hidden in the experience of those who contributed so much to the success of the exhibition, but who are no longer in our midst. They have passed away, and their works follow them. Some remain, linking the present to such a glorious past, the records of which should be faithfully preserved as commemorative of an important epoch in English horticulture. *Richard Dean, Ealing, London, W.*

VARIORUM.

Cocoa (or cacao)—coca—coco—cocoa-nut.—Probably no four words in common use have become more tangled and confused in the minds of learned and unlearned than cacao, coca, coco, and cocoa. Dr. Eugene Murray Aaron points out that even critics themselves stumble in attempts to clear away the confusion, and he mentions that the four distinct products to which the names belong—the first and last of great importance—are commonly mixed under the one term cocoa. These products are:—1, Cocoa (Theobroma cacao), the Chocolate-berry Tree. This is an evergreen, growing from 15 to 45 feet, a native from tropical America, but now become wild in Africa. It bears pointed pods, each of which contains a number of the nutritive seeds. From the seeds are derived "cacao nibs," "chocolate" (the most important substance), "cacao" (erroneously called cocoa in English countries), "broma," "cacao shells," and "cacao butter." 2, Coca (Erythroxylon coca), the Coca-leaf bush. This shrub is found in the Andes, and is famed for the extraordinary stimulating properties of its leaves, which are known as "spadic" as well as "coca," and contain two alkaloids—cocain and hygrin. 3, Coco (Colocasia esculentum, et al.), the Coco roots. The name is properly applied only to the tubers of several allied species of plants, which furnish a starch-laden food in tropical countries. 4, Cocoa (Cocos nucifera), the Cocoa-nut Palm, which yields the well-known hard-shelled fruit, together with valuable fibre, *Straits paper*. No distinction is made between the product of the Chocolate plant, namely "cocoa," and the Palm fruit in the above, so far as spelling goes. As it is impossible to get Mincing Lane to give up the use of "cocoa" for pods and nibs, to make some distinction we, on the suggestion of Dr. Trimen, have dropped the "a" in the Palm's name, making it "Coconut," which is more in accordance with the botanical name, Cocos nucifera. This has been followed, we are glad to see, by the Kew authorities, by *Nature*, and other London papers. We seldom or never hear of "Coco roots." *Ceylon Observer*.

Grass-eating Insects.—Mr. E. P. Belt, in the Bulletin 64 of the Cornell University Agricultural Station, Ithaca, N.Y., has a valuable article on the close-wings and other insects injurious to grass. A table showing the differences between the species of Crambus is given, together with details of the life-history of the insects.

Footpaths.—The *Builder* quotes the following reference to a new way of treating footpaths, from the annual report of Mr. Lovegrove, the borough surveyor of Richmond:—"A new method of treating gravelled paths was introduced in Kew Road, where the foot traffic renders it almost impossible to keep the stones down; a length of path opposite the Athletic Ground, and also across Kew Green, was simply brushed over with tar, and covered with sea-shell, the cost being about 2¼*d.* per yard super., and in the result a smooth, even path was obtained. Now that the Town Council have the maintenance of over 2½ miles of river path, this would be the most economical and satisfactory way of dealing with the walk."

TRADE NOTICE.

The old-established business of Charles Sharpe & Co., Sleaford, seed growers and merchants, has been registered as a limited company, for its continuity, and to give the managers of the different departments an interest in the business. The public is not invited to subscribe any capital, the whole of the shares having been taken up by those engaged in conducting the business.

Obituary.

Mr. Joseph Jefferson died on July 31, aged 64 years, at Carlton House, Worksop, where he had been gardener to the late Joseph Garside, Esq., for nearly forty years. Mr. Jefferson was a good practical gardener, an excellent fruit and plant grower, and at one time an exhibitor at the metropolitan and other shows. The gardens at Carlton House were always kept in first-rate order. Mr. Jefferson made everyone welcome who paid him a visit. Cheerful, good-natured, kind-hearted, he will be missed from amongst those who had the pleasure of his acquaintance. He was laid to rest in the Worksop Cemetery on August 4, deeply mourned by a large family and friends.

Auguste Linden.—We regret to have to announce the death of M. Auguste Linden. Like his eminent father, Auguste Linden was a botanical traveller, having visited the Congo, Borneo, the Philippines, &c., whence he introduced several new and interesting plants. He died on the 10th inst. at Luxembourg, after some weeks' illness.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending August 11.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	96	0	+ 325	— 51	8 +	143	34·5	15	35
1	0 aver	104	0	+ 40	+ 8	3 +	130	23·9	33	35
2	0 aver	116	0	+ 106	— 51	1 +	129	16·1	23	33
3	1 —	127	0	+ 124	— 100	0 aver	122	15·5	31	36
4	2 —	113	0	+ 135	— 79	1 —	124	15·3	24	33
5	1 —	132	0	+ 138	— 119	0 aver	120	17·5	31	37
6	1 —	103	0	+ 101	— 69	0 aver	141	24·5	33	33
7	1 —	114	0	+ 208	— 121	1 —	137	22·0	22	34
8	2 —	111	0	+ 138	— 81	2 —	138	23·8	33	38
9	1 —	104	0	+ 82	— 33	1 +	153	25·7	28	31
10	1 —	110	0	+ 128	— 67	1 —	144	26·1	30	33
*	2 —	128	0	+ 227	— 18	9 +	140	22·7	44	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending August 11, is furnished from the Meteorological Office :—

"The *weather* continued very unseasonable generally, although during the latter half of the week it improved somewhat in the more south-western parts of the kingdom. Rain fell very frequently—heavily in places. Thunderstorms were experienced in many of the English and Scotch districts, principally on August 9 or 10.

"The *temperature* was again a little above the mean in 'Scotland, N.,' and just equalled it in 'Scotland, E.' and 'England, N.E ;' elsewhere it was below, the deficit being 1° or 2°. The highest of the maxima, which occurred during the earlier half of the week, ranged from 73° in 'England, S.,' to 67° in 'Scotland, W.' The lowest of the minima were registered on rather irregular dates, and ranged from 41° in 'Scotland, N.' and the 'Midland Counties,' to 50° in 'England, N.W.,' and to 55° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in 'Scotland, N. and E,' 'England, N.E.,' 'Ireland, N.,' and the 'Channel Islands,' the excess in the first and last-named districts being large; elsewhere the fall was either equal to or slightly less than the normal.

"The *bright sunshine* was again very deficient generally, but slightly exceeded the mean in 'Scotland, E. and W.,' as well as in 'Ireland, N.' The percentage of the possible duration ranged from 44 in the 'Channel Islands,' and 33 in 'Scotland, E. and W.,' and 'England, S.W.,' to 22 in 'England, N.W.,' and to 15 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, August 16.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl....	2 0	3 0
Asters, doz. bun. ...	2 0	6 0
— French, p. bun.	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	0 6	1 0
— doz. bun. ...	2 0	4 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	1 0	4 0
Gaillardias, dz. bun.	1 6	4 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	3 0	6 0
Lilium Harrisii, doz.	2 0	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9	1 6
Maidenhair Fern, per 12 bunches ...	3 0	6 0
Marguerites, 12 bun.	1 6	3 0
Mignonette, 12 bun.	2 0	4 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pansies, 12 bun. ...	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
— 12 sprays ...	0 4	0 6
Pinks, doz. bun. ...	1 6	4 0
Pyrethrums, 12 bun.	2 0	6 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	5 0
— red, per dozen ...	0 6	1 0
— outdoor, doz. bun.	3 0	9 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, half-sieve...	1 9	2 6
Figs, per dozen ...	1 0	2 0
Grapes, 1st quality, black English, per lb.	1 6	2 0
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	2 0
,, Muscat, 2nd quality, per lb. ...	0 9	1 0
Grapes, Guernsey, per lb.	0 6	1 0
Melons, each ...	1 6	2 6
Peaches, large, p. doz.	4 0	6 0
,, small, per doz. ...	1 0	—
Pears, p. sieve, small	2 0	2 6
,, (Dessert), half-sieve	3 0	4 0
Pine-apples, St. Michael, each ...	5 0	7 0
Plums, half-sieve ...	2 0	3 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Balsams, per doz. ...	3 0	6 0
Calceolarias, per doz.	3 0	6 0
Campanulas, p. doz.	6 0	12 0
Cyperus, per dozen...	4 0	10 0
Dracæna, each ...	1 0	5 0
Evergreen Shrubs, in var., per dozen ...	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	8 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	3 0	6 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Pelargoniums, dz.	3 0	6 0
Lilium Harrisii, per dozen ...	12 0	24 0
— lancifolium, pr. dozen ...	9 0	18 0
Lobelias, per dozen...	3 0	4 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0	6 0
Nasturtiums, p. doz.	1 6	4 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	6 0	10 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen ...	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, half-sieve	2 0	2 6
,, Runners, half-sieve	2 0	2 6
Cauliflowers, p. doz.	1 6	3 0
Cucumbers, per doz.	1 6	2 6
Marrows, per doz. ...	1 0	2 0
Mushrooms, per lb.	0 6	0 8
Peas, per bushel ...	4 0	5 0
Tomatos, per lb. ...	0 3	0 4

POTATOS.

Trade this week not quite so good. Prices:—Snowdrops, 4*s.* to 5*s*s.; Hebrons, 3*s.* to 4*s.*; Giants, 2*s.* 6*d.* to 4*s.* per cwt.

SEEDS.

LONDON: *August* 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, report the somewhat improved feeling. Trifolium is dearer, as also is new Rape-seed. American Clover-seed is likewise cabled higher. The low prices accepted for seed Rye attract attention. Mustard slow. Blue Peas advancing; 62*s.* was paid last week at Peterborough. Canary-seed is remarkably strong, holders confidently anticipate increased rates. Hemp-seed unchanged.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *August* 14.—Quotations:—Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Parsley, 1*s.* 6*d.* to 2*s.* per dozen bunches; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.

FARRINGDON: *August* 16.—Quotations:—Cabbages, best, 4*s.* to 4*s.* 6*d.*; do., seconds, 2*s.* to 2*s.* 6*d.* per tally; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 1*s.* 9*d.* to 2*s.*; Onions, English, 1*s.* 9*d.* to 2*s.* per dozen bunches; Plums, green, 1*s.* 6*d.* to 1*s.* 9*d.*; Apples, Lord Suffield, 2*s.* 3*d.* to 2*s.* 6*d.*; Orleans Plums, 3*s.* to 4*s.* per half-sieve; Vegetable Marrows, 5*s.* to 6*s* per tally; Wall Plums, best, 4*s.* per 14 lb.; Greengages, 2*s.* 6*d.* per half-bushel; Tomatos, English, 4*s.* per 12 lb.; Grapes, Colmar, 9*d.* per pound; Melons, 7*s.* per case; Cucumbers, 1*s.* 6*d.* per dozen.

STRATFORD: *August* 14.—There has been a good supply of all kinds of produce at this market during the past week, and with a large attendance of buyers. A brisk trade has been done at the undermentioned quotations:—Cabbages, 2*s.* to 3*s.* 6*d.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle feeding, 30*s.* to 32*s.* do.; Mangels, 25*s.* to 28*s* do.; Swedes, 25*s.* to 26*s.* do.; Apples, English, 2*s.* 3*d.* to 3*s.* 6*d.* per half-sieve; do., 4*s.* to 7*s.* per bushel; Pears, English, 1*s.* 3*d.* to 2*s.* per half-sieve; Plums, English, 2*s.* to 3*s.* 6*d.* do.; do., 4*s.* to 5*s.* 6*d.* per bushel; Cucumbers, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Scarlet Beans, 4*s.* to 4*s.* 6*d.* per bushel; French Beans, 3*s.* to 3*s.* 6*d.* do.; Vegetable Marrows, 4*s.* to 6*s.* per tally; do., 1*s.* to 1*s.* 3*d.* per dozen; Mushrooms, 2*s.* 3*d.* to 3*s.* per half-sieve.

POTATOS.

BOROUGH AND SPITALFIELDS: *August* 14.—Quotations ranged between 65*s.* and 100*s.* per ton.

STRATFORD: *August* 14.—Quotations:—Hebrons, 65*s.* to 80*s.*; Snowdrops, 70*s.* to 90*s.*; Reading Giants, 65*s.* to 80*s.*; Magnums, 70*s.* to 80*s.* per ton.

FARRINGDON: *August* 16.—Quotations:—Essex Hebrons, 65*s.* to 80*s.*; Sutton's Regents, 65*s.* to 80*s.*; White Hebrons, 78*s.* to 85.; Red do, 70*s.* to 75*s.*; Snowdrops, 80*s.* to 90*s.*; Reading Giants, 65*s.* to 70*s.*; Imperators, 65*s.* to 70*s*; Herefordshires: Snowdrops, 80*s.* to 90*s.* per ton.

LONDON AVERAGES: *August* 15.—English Kidneys, 75*s.* to 95*s.*; Snowdrops, 80*s.* to 100*s.*; Hebrons, 70*s.* to 80*s.*; Rounds, 60*s.* to 70*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 100*s.*; do., new, 75*s.* to 95*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 140*s.*; do, inferior, 80*s.* to 100*s.*; do., new, 70*s.* to 90*s.*; Mixture, 90*s.* to 130*s.*; and Straw, 43*s.* to 63*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 11, and for the corresponding period last year:—1894: Wheat, 24*s.* 4*d.*; Barley, 21*s.* 4*d.*; Oats, 18*s.* 9*d.* 1893: Wheat, 26*s.* 5*d.*; Barley, 21*s.* 11*d.*; Oats, 20*s.* 6*d.*

GARDENING APPOINTMENTS.

Mr. CHARLES STROUD, late Gardener to D. FABER, Esq., Ampfield House, Hants, as Gardener to the Rev. A. W. PULTENEY, Ashley Vicarage, Market Harborough.

Mr. THOMAS LAST, till lately Head Gardener to Lady CLIFTON, Sholebrook Lodge, Towcester, as Head Gardener to R. FOSTER, Esq., Homewood Chislehurst.

Mr. N. SINCLAIR, for the past five years Gardener to A. WYNNE CORRIE, Esq., Park Hall, Oswestry, as Gardener to the Right Hon. Sir FREDERICK PEEL, Hampton Manor, Hampton-in-Arden, Warwickshire.

Mr. JAMES HUGHES, Foreman of the Glass Department in Mrs. WALLACE'S garden, Glassingae, Dunblane, succeeds Mr. BARLAS as Head Gardener at that place.

Mr. ARCHIBALD DALZIEL has been appointed Gardener to Mr. WARDEN, Deroyquin Castle, Kenmare, co. Kerry, Ireland.

CATALOGUES RECEIVED.

POLMUIR & BURNSIDE, Aberdeen and Kintore, N.B.—Bulbs and Flower Roots.

W. WHITELEY, Hillingdon Heath, Uxbridge—Trade offer of Standard and Dwarf-trained Peaches and Nectarines.

W. PAUL & SON, Waltham Cross, Herts—Bulbs and Winter Flowers.

VILMORIN ANDRIEUX ET CIE.—Bulbs and Flower Roots, Strawberries, &c.

THOS. WALMESLEY, Jun., 47, Bore Street, Lichfield—Bulbs and Flower Roots.

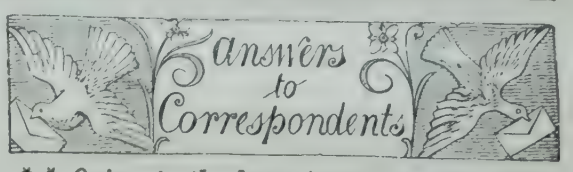
BROWN & WILSON (late Dickson, Brown & Tait), 10, Market Place, Manchester—Bulbs, &c.

LOUIS DE SMET, Ledeberg lez Gand—Special offer of Azaleas, Camellias, Tuberous Begonias, Amaryllis, &c.

DICKSONS, Chester.—Bulbs, &c.

R. B. LAIRD & SONS, 17, Frederick Street, Edinburgh—Roses and Bulbs for Autumn Planting.

WM. CUTBUSH & SONS, Highgate, London, and Barnet, Herts—Bulbs, &c.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

APPLE-SHOOTS WITH "WHITE FUNGUS" (?): *J. L. B., Worcester.* That which you take to be a fungus is the woolly mass with which the so-called American Blight (Schizoneura lanigera) surrounds itself. The insect may be destroyed by washing in winter with petroleum and soft soapy-water, ½ pint of first to 1 gallon of the soapsuds, drenching the roots also with soapsuds (no petroleum), after baring them of earth in part; washing with strong brine, painting the stems and branches with lime-wash, a small quantity of blood and wood-ashes. Previous to putting on any of these, the branches, &c, should have all loose bark cleared off them, and every part, especially the crevices and angles of fruit-spurs and branches, well cleaned with a stiff-haired brush. As a further precaution, a band of paper, 6 inches wide, smeared with coal-tar or bird-lime, should be placed round the stem early in October. After cleaning a tree, shovel the upper crust of soil away, and clear it, or bury it deeply in the earth. If a standard or bush tree, it may be desirable to dig the soil deeply as far as the spread of the branches.

BEES: *Bardwell Ash.* Place cyanide of potassium in or just under the nest. Be cautious in its use, as it is highly poisonous. Fumes of sulphur may be driven into the nest by means of the fumigating-bellows, employing live coke or charcoal in the fire receptacle. *Bardwell Ash* sends questions on three or four different subjects on one sheet of paper, gives neither name nor address, and the two shrubs of which he also sends specimens have no labels. The post-mark was as above. 1, the Grapes are mildewed; 2, the Pear leaves are affected with the Pear mite, Phytoptus pyri. Of the shrubs, one is Juniperus communis, the other Thuya gigantea.

CAMELLIA: *E. O. W.* It is frequent to see such leaves. In your case the cause may be too much sun, and drought at the roots.

CARNATIONS: *H. Bros.* Duchess of Fife is a pretty colour, a pale rose-pink. Hamlet Riley is a pale salmon-pink. They are both good but small. We should advise you another season to exhibit them at the Royal Horticultural Society or at a meeting of the Carnation Society.

CHRYSANTHEMUM: *K. & B.* Maximum (two forms), and Marguerite Marwood. These three are all forms of C. maximum. Your C. montanum and C. latifolium are forms of C. lacustre, not of maximum. The plants vary from seed. The Lathyrus is L. cyaneus.

CUCUMBERS: *Constant Reader.* One drachm (say 1 teaspoonful) to a gallon of water. Use a very weak solution at first, and very gradually increase the strength. The great mistake in all these matters is in using them too strong.

CUCUMBERS FOR SEED: *A Labourer.* Those selected for seed should be lifted into a horizontal position and allowed to remain on the plants until quite

ripe and yellow. After cutting the fruits, carefully clean the seeds in water, and thoroughly dry them before storing away.

Disqualification: *Enquirer.* You are a "professional" according to the terms of the schedule, and should not be disqualified.

Fungus on Orchids: *W.* The fungus is Prismaria alba, Preuss; the species, so far as is known, do not attack healthy plants, and probably the Orchid is not robust. The mould is superficial, and sponging with any fungicide would kill the spores.

Grapes: *Weekly Reader* does not remember what he reads, or he would have seen that the subject of spot and rot on Grapes has been treated of week after week lately.—*Beta.* A very bad case of the Vine spot, Peronospora viticola: see p. 75 in our issue for July 21.—*R. M.* We are afraid we cannot help you further. We have never seen such a case.

Insect: *F. G.* There was no insect in the box. It had escaped.

Labels for Standard Roses: *Pen and Ink.* Strips of zinc written on with white vitriol after rubbing the surface with sand-paper, fastening them on the plants with copper wire.

Melons: *W. P.* Where does the disease begin? We should burn the affected plants. In all probability the rot is caused by a parasitic fungus. The Peach was smashed.

Names of Plants: *E. O. W.* Symphoricarpus racemosus variegatus.—*W. S. L.* Tanacetum vulgare—common Tansy.—*Pope & Sons.* Melilotus officinalis.—*A. W.* 1, Clematis Jackmanni; 2, Montbretia; 3, Spiræa ariæfolia; 4, Lychnis chalcedonica; 5, Lilium chalcedonicum; 6, Physalis Alkekengi; 7, Centaurea montana.—*J. B. Hants.* 1, Olearia Haastii; 2, Spiræa Douglasi; 3, Prunus Pissardi.—*J. H. B.* 1, Sedum carneum variegatum; 2, Cotyledon; 3, Sagina procumbens.—*J. R.* 1, next week; 2, Tsuga canadensis; 3, Picea Menziesii; 4, next week; 5, Quercus cuspidata; 6, not recognised; 7, Salix rosmarinifolia; 8, Hydrangea stellata prolifera; 9, Clapp's Favourite probably.—*Veronica.* 1, Echinops Ritro; 2, Cineraria maritima; 3, Ceanothus azureus; 4, Vanda tricolor; 5, Miltonia spectabilis; 6, Oncidium sp.; 7, Cypripedium Lawrenceanum.—*E. C.* 1, Euonymus japonicus variegatus; 2, Gazania rigens, seedling variety; 3, Gypsophila paniculata; 4, Gomphrena globosa; 5, Cotyledon sp.; 6 Stachys: we do not recognise the species.—*L'Allegro.* Verbascum nigrum.—*Enquirer.* 1, Calycanthus floridus; 2, Casuarina equisetifolia; 3, Gypsophila paniculata.—*W. D. Powis.* 1, Spiræa lævigata probably, certainly not Benthamia; 2, Swainsonia galegifolia.

Royal Horticultural Society Meetings: *Leamington.* These are announced regularly in our columns. Why not write direct to the Secretary for a card?

Tomato Spot: *P. Y.* Your plants have the spot so very often described and figured in our columns. Try spraying with Bordeaux mixture when the fruits are still quite unripe.

Viola Trouble: *W. R. L.* The disease is not caused by fungus in the first instance, but probably by some error in cultivation. Bacteria were also absent. *G. Massee.*

Communications Received.—C. H. J.—Wm. Pease (next week).—H. Wigley.—M. J. J.—National Co-operative Festival.—A. & N.—N. V.—P. & Sons.—J. S.—A Very Old Subscriber.—W. P.—J. R.—C., H. J.—Cap.—S. P. O.—J. B.—G. A.—J. R.—Wild Rose—A. D.—A. P.—H. W. W.—F. M.—W. E.—R. D.—M. T.—E. C.—T. C.—H E.—W. T.—P. L. S.—G. P.—Professor McO., Cape Town.—M. T.—M—G. H. (Rev.)—W. E. S.—M. L.—W. A., next week.—F. R.—J. H. B.—J. G. B.—H. R. H.

Photographs, Drawings, &c., Received with Thanks—Professor Burvenich, Ghent.—Mr. Macquard, Cape Town. F. v. M., Melbourne.—G. I. W.—R. W. A., Johannesburg.—R. J. (Cattleya, later on, with many thanks).

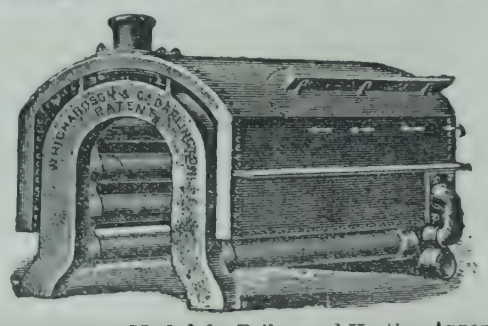
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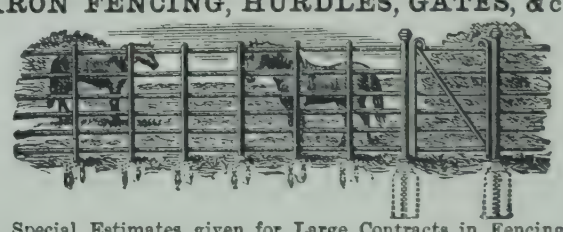
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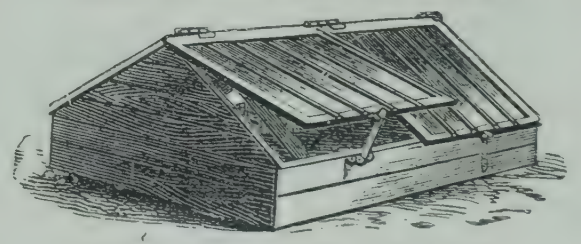
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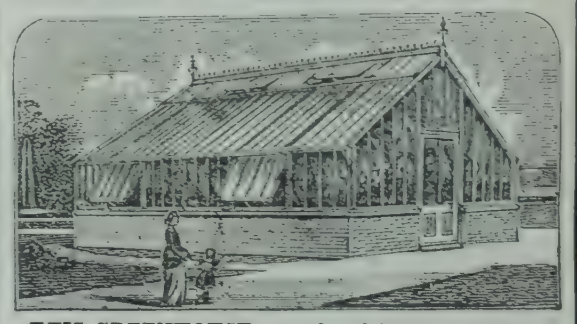
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BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.
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"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.
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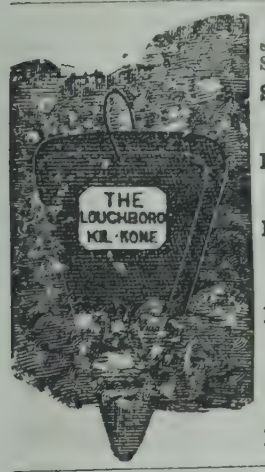
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Only through—J. TAYLOR, Hoole Chester.



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For Price List apply to D. CAMERON,
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For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden requisites. **Peat Moss Litter.**
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THE GARDENERS' CHRONICLE

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WANTED, Gardeners and others, to send for particulars of NEW DOUBLE LADDER. It stands quite independent, or by withdrawing bolt at top you have two ladders.—Particulars of BATCHELAR, 48, Hammersmith Road, W. Patent applied for.

ORCHID PEAT: Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—
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PAXTON'S COTTAGERS' CALENDAR
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Will be useful to Lecturers and Students in the above subject.
Price 3d.; post-free, 3½d.
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HOLIDAY SEASON, 1894.

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AND
Accidents of All Kinds.

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ESTABLISHED 1851.
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The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

WANTED, a MANAGER and GROWER, small Market Nursery, Yorkshire. Cottage, gas and coal free. None but thoroughly practical men need apply.—Address all particulars as to ability, experience, age, and wage required to P. F. 41, Wellington Street, Strand, W.C.

WANTED, a GARDENER (SINGLE-HANDED).—A respectable man. Must thoroughly understand Vines, Hard and Soft-wooded Plants, Indoors and Out, and be clean and neat in all his work. Those with good characters may apply by letter, or personally, from 6 to 8 on Monday next, at Fernside, 87, Stamford Hill, N., near Stamford Hill Station, G.E.R.

WANTED, a SINGLE-HANDED GARDENER. Entire charge of Greenhouse and Garden, clean boots and windows, and be generally useful. Wages 18*s*. and Cottage. — Apply to R. J. GRIFFITHS, Rock Cottage, Dolgelley.

WANTED, a GARDENER. — Unmarried; handy all-round man, willing to make himself useful. Able with help under to supervise Stock, &c. Plain gardening, little glass; bees. Wages rising from 20*s*., and bedroom.—Write full particulars to RECTOR, Tendring, Colchester.

WANTED, a plain WORKING GARDENER, to undertake Kitchen and Flower Gardens, Vinery, Tennis Court, and Orchard. Wages, 16*s*. a week, cottage, and garden.—W. G., Towersey Manor, Thame.

WANTED, an UNDER GARDENER, for Inside and Outside Work.—Wages 15*s*.. Bothy on premises. Four men kept.—Apply by letter, stating height, age, and particulars of last place, to T. CHRISTY, F.L.S., Malvern House, Sydenham.

WANTED, for the Furnishing Department, an experienced FOREMAN, middle-aged, of good address, to wait upon Customers at their London Houses, and competent to give Estimates, with modern ideas in the art of Floral Displays.—Apply, in first instance, by letter only, with copies of testimonials, to WIMSETT AND SON, Florists to the Queen, Chelsea, S.W.

WANTED, an experienced married MAN as FOREMAN, Inside. Wages, 25*s*. per week.—Full particulars as to ability, &c., to HEAD GARDENER, Langley Court, Beckenham.

WANTED a PROPAGATOR and GROWER, well up in Market Stuff.—W. H. PRATT, Roseneath, Madeira Avenue, Worthing.

WANTED, a BUDDER. Must be thoroughly successful in Roses and Fruit, and willing to fill up time in General Outdoor Nursery Work. Wages, £6 per month, and annual rise.—J. C. NELSON, Cambridge Nurseries, near East London, Cape Colony.

WANTED, a young MAN, well up in growing Chrysanthemums for exhibition. Wages 18s. with Bothy.—W. MEASE, The Gardens, Downside, Leatherhead.

WANTED, in the Fern-houses, a Man thoroughly used to this class of work. Wages, 21s. per week. Apply, stating age and experience, to POULTONS, Ltd., Fountain Nursery, Angel Road, Edmonton.

WANTED, a young MARRIED MAN, no family, to Manage Small Nursery. Not afraid of work. Well-up in Market-growing, principally Tomatos. Cottage on premises. Good character. Abstainer. Wesleyan preferred.—Apply to B., 127, Mansfield Road, Gospel Oak, London, N.W.

WANTED, a young MAN, to assist in Wreath and Bouquet Making. One used to Market Work prererred.—D., 41, Wellington Street, Strand, W.C.

WANTED, for a few weeks, TWO or THREE good HANDS to Bud Roses; liberal wages.—Apply, with references, to ROBERT MACK AND SON, Rose Growers, Catterick, Yorkshire.

WANTED, an INVOICE CLERK.—Must be smart and accurate, and accustomed to the Bulb Trade. Salary 20s. per week.—Apply by letter only, B., 13, King Street, Covent Garden, W.C.

WANTED, a good COUNTER-HAND, for Retail Seed and Bulb Business; also IMPROVER.—State particulars of experience, and wages required, to N., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, a Good COWMAN.—Married, without family. for a Gentleman's estate. One who has been accustomed to Jersey cows, &c. Age about 30. Good references required. Wages 16s. a week with good house, garden, and firing.—Apply to J. MARTIN, Barcote, Faringdon, Berks.

WANTED, a LADY to MANAGE a FRUIT and FLOWER BUSINESS in the West of England. Must be an expert Wreath and Bouquet Maker.—Apply, stating terms, age, and experience, to W. M., Messrs. Jacob Wrench & Son, London Bridge, London, E.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

Gardeners, Foresters, Land Stewards, &c.

JOHN DOWNIE, 144, Princes Street, EDINBURGH, can confidently recommend first-class Men as above, of excellent character and ability. Highest recommendations. Telegraphic address, "DOWNIE, EDINBURGH."

MESSRS. CHARLESWORTH AND SHUTTLEWORTH AND CO., Orchid Growers, Heaton Bradford, can recommend a first-class GARDENER and ORCHID GROWER.—For particulars apply to the firm.

GARDENER (Head), where three or four are kept.—T. J. WOTTON, gardener to Major Robertson, Widmerpool Hall, Notts, wishes to recommend his Foreman, T. Foster, age 28, who has been with him five years, to any Lady or Gentleman requiring the services of a good practical all-round man. Good references.

GARDENER (Head).—Age 32, married; a thorough practical Grower of the most choice Flowers, Decorative Plants, Fruit, and Vegetables. Not afraid of work. Excellent references. — E. D., 13, Whyke Lane, Chichester.

GARDENER (Head).—Age 38; married, one child. Thoroughly experienced in all branches. Several years' excellent character. Over twenty years' experience.—A. W. PEGG, Pouchen End, Boxmoor, Herts.

GARDENER (Head), where two or more are kept; age 29, married, one child; good all-round man. —A GENTLEMAN recommends his late Head Gardener as above.—GEORGE, 25, Lifford Street, Putney, S.W.

GARDENER (Head).—WILLIAM ALLEN, late Head Gardener to Sir Geo. Russell, Bt., M.P., Swallowfield Park, Reading, and formerly Head Gardener to the late Lord Hatherton, Teddesley Park, Stafford, now offers his services to any Lady or Gentleman requiring a thoroughly practical man in all branches of gardening. Testimonials forwarded.—WM. ALLEN, Barlaston, Stoke-on-Trent.

GARDENER (Head). — JAMES CYPHER would be pleased to recommend a thoroughly good Gardener to any Lady or Gentleman. Thorough knowledge of Orchids, Stove and Greenhouse Plants, Fruit, &c. Excellent testimonials.—Exotic Nurseries, Cheltenham.

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GARDENER (Head), or GARDENER and BAILIFF. — No family. Life experience in every branch. Wife a good Dairy and Poultry Woman.—T. W., 41, Wellington Street, Strand, W.C.

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GARDENER (Head), where three or four are kept; age 30.—T. WADE, for the past two years Foreman at Croome Court, seeks engagement with any Lady or Gentleman requiring the services of a reliable energetic man. First-class references.—T. WADE, Croome Court, Severn Stoke, Worcester.

GARDENER (Head, where several Under are kept).—Age 30; married when suited. Sixteen years' practical experience in all branches, including Orchids. Excellent character.—W. NASH, Wasing Lodge, near Brimpton Common, Reading, Berks.

GARDENER (Head), where two are kept, or good SINGLE-HANDED.—Age 29, single; twelve years' all-round experience. Three years' good character from present situation.—J. TREADWELL, The Gardens, Easneye Park, Ware, Herts.

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GARDENER (Head Working); age 43.—A LADY can highly recommend her late Gardener as a very trustworthy man. Thoroughly efficient in all branches. Fifteen years in last place.—H. M., 14, Kingswood Road, Upper Norwood.

GARDENER (Head Working, or good SINGLE-HANDED).—Age 28, married, no family; life experience with Vines, Peaches, Tomatos, and the general routine of a Gentleman's establishment. — GARDENER, Penmaen House, Penmaen, Swansea.

GARDENER (Head Working). — Married, no children. A Lady highly recommends the above. Thoroughly experienced in Vines, Flowers, Fruit, Vegetables. Total abstainer.—J. WOOD, Lordswood, Shirley Southampton.

GARDENER (Head Working).—Age 40, married; thorough practical experience in all branches. Eleven and a half years' character.—A. BEATTIE, Guilton, Ash, Dover.

GARDENER (Head Working).—Age 33, married, no family.—Life experience in all branches. Five years' character from last situation.—C. GROVER, 24, Lower Park Fields Putney, S.W.

GARDENER (Head Working), or GARDENER and BAILIFF on small estate.—Capable of taking entire management. Age 26. Good experience in all garden work, holding two Certificates Science of Agriculture. Highest references.—H. FIELDER, Catisfield, Fareham, Hants.

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GARDENER (Head Working).—Age 39, married, no family. Late Head Gardener to Lord Algernon Percy, twelve years. Only cause of leaving breaking up of establishment. First-class Plant and Fruit Grower. Life experience in first-class establishments. Good all-round Gardener in all branches. Highest references as to character and ability. Disengaged.—JAMES SKILLING, 9, Park Mews, Kilburn, London.

GARDENER (Head Working, or good SINGLE-HANDED).—Fifteen years' good practical experience in good Gardens. Total abstainer. — GARDENER, 103, Hambro Road, Streatham, S.W.

GARDENER (Head Working).—A Gentleman wishes to highly recommend a thoroughly practical man as above. Age 31, married, one child.—J. KEMP, Shalimer, Ewell, Surrey.

GARDENER (Head Working, or good SINGLE-HANDED).—Age 34. Thorough in all branches. Leaving through death. Eight years' good character, two previous. Married. — T. S., 19, Stanhope Gardens, South Kensington, S.W.

GARDENER (Head Working).—Age 30, married when suited. Eighteen years' experience in all branches. Satisfactory cause for leaving. Good character. —C. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (Head Working), where two or three are kept.—Age 27, single; eleven years' practical experience in Cucumbers, Melons, Vines, Peaches, Stove and Greenhouse Plants, Kitchen Garden. Three years as Foreman.—J. JACKSON, Kingswaldenbury, Hitchin.

GARDENER (Head Working).—Age 32; thoroughly experienced in all branches. Two and a half years' good character, eight previous. Wife thorough Laundress if required.—GARDENER, Grena Lodge, Richmond, Surrey.

GARDENER (Head Working).— Age 29, married, no family; good all-round experience, including Orchids. Can be well recommended. Disengaged on the 21st.—G. CHEAL, Grove House Gardens, Westgate-on-Sea, Kent.

GARDENER (Head Working).—Age 37, married; thoroughly experienced with Grapes, Peaches, Tomatos, Melons, Flowers, and Vegetables of all kinds. Excellent character.—GARDENER, Dragon St., Petersfield, Hants.

GARDENER (Working). — Life experience in all branches of Gardening, indoor and out; understands Stock. Wife, Laundry, Dairy, or useful, if required; middle age, no family, good characters.—GARDENER, 2, Oak Terrace, Hornchurch Road, Romford, Essex.

GARDENER (Head, or good SINGLE-HANDED.—Age 24; eight years in present situation, over two years as Head; good reference; abstainer.—H. JACKSON, Kensworth, Dunstable, Beds.

GARDENER (Single-handed, or otherwise). —Age 27, married; experience in Growing Flowers, Fruit, and Vegetables. Good reference. — W. KEEN, Roe Green, Kingsbury, Middlesex.

GARDENER (Single-handed, or Second). —Age 27; twelve years' experience, Inside and Out. Can be well recommended. Excellent character.—R. A. TANDRIDGE, Post Office, Godstone, Surrey.

GARDENER (Single-handed, or Under). —Age 23, single; practical experience, Inside and Out. Good character. Total abstainer.—J. WARREN, Mere Bay Road, Twickenham.

GARDENER (Single-handed, or Second in a good establishment).—Age 33, married, one child aged 10; Wife could manage Poultry. Good references. — R., Mr. Wilkins, Station Road, Horley, Surrey.

GARDENER (Single-handed, or with Help).—Age 24; ten years' thorough practical experience in all branches. First-class references.—S. F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (Single-handed). — Age 40, married, no family; understands Conservatory, Greenhouse, Vines, Cucumbers, Tomatos, Chrysanthemums. Flower, Fruit, and Kitchen Gardens, &c. Good character.—J. LEDGER, Summerhill Cottage, Chislehurst, Kent.

GARDENER (Single-handed, or Under). —Age 25, single; two years and four months' good character. Six years' previous.—W. B., Hope Villa, Shooter's Hill, Kent.

GARDENER.—Mr. H. J. DINES, Gardener, Spring Grove, Bewdley, Worcestershire, can highly recommend a Young Man, age 23, for the Kitchen Garden, strong and willing.

GARDENER; age 33. — Mr. WOODWARD, Barham Court, Maidstone, recommends strongly a most energetic Gardener, of irreproachable character, whose experience embraces every detail in culture of Fruits, Flowers, and Management of good Gardens. Ten years, Head.

GARDENER (Experienced).—Requires situation as HEAD where another is kept, or SINGLE-HANDED. Understands Cows, Poultry, &c.—As to character and capabilities, apply B. B., Russell, Devonshire Nursery, Haverstock Hill, London, N.W.

GARDENER (Kitchen, or good SINGLE-HANDED).—Age 46, married, no family; can manage Bees, no objection to Cows or Poultry. Leaving through estate being sold.—G. R., 3, Dale View, Bedonwell, Belvedere, Kent.

GARDENER (Single-handed, or Second), in good establishment.—Age 23, single; good reference. Inside and Out. Total abstainer.—HY. OZELTON, 6, Barker Terrace, Clifton, York.

GARDENER (Second, or Under), in a good Private Place.—Age 23; good knowlege of the work, Inside and Out. Has done nothing else but Gardening. Two and a half years' good character.—A. C., 4, Northumberland Terrace, Dyer's Lane, Putney.

GARDENER (Second, or Single-handed). —Situation wanted by a young man, age 23, as above. Life experience in all branches, with good character.—H. MORRIS, Sheephatch, Waverley, Farnham, Surrey.

GARDENER (Second).—Age 28, married; well up to his work, both Inside and Out. Can be well recommended.—Z. Z., 663, Wandsworth Road Clapham, S.W.

GARDENER (Second), or First JOURNEYMAN.—Age 26; good knowledge of Plants and Fruit. Well up in Growing Cyclamen, Ferns, Pelargoniums, Chrysanthemums. Been used to exhibiting. Ten years' experience. Good references.—G. GREEN, Green Lane, Datchet, Bucks.

GARDENER (good SECOND). — Age 23; thoroughly experienced Inside and Out. Good references.—A. SPEAKMAN, 10, Percy Street, North Finchley.

GARDENER (SECOND), where five or six are kept.—Age 24, single. Thoroughly experienced Inside and Out; well recommended.—J. RING, 10, Strafford Road, High Barnet, Herts.

GARDENER (SECOND), where three or more are kept.—Age 24; three years' excellent character.—J. MARTIN, The Gardens, Ashley Park, Walton-on-Thames, Surrey.

GARDENER (UNDER, or SINGLE-HANDED). —Nine years' experience, Inside and Out. Good references.—W. S., 41, Wellington Street, Strand, W.C.

GARDENER (UNDER), in a Gentleman's Garden. — Age 20; good character. — W. BURTON, 7, New Buildings, Hampstead, N.W.

£5 BONUS to Head Gardener who will secure a situation for a young married man, no family, as UNDER GARDENER. Knows Outdoor Work well. Good character.—BAILEY, 92, Dogget Road, Catford, S.E.

GARDENER (UNDER).—Age 21; seven years' experience, Inside and Out, in good establishments. Quiet and steady. Gardener's son. Disengaged.—J. G., Bishopsgate, Englefield Green, near Egham, Surrey.

GARDENER (UNDER) seeks situation in a Gentleman's Establishment.—Age 24; abstainer.—W. H., Morgan's Vale, Downton, Salisbury.

GARDENER (UNDER).—Age 22; seven years' experience Inside and Out. Good references. — T. ADAMS, 1, Coles Road, Hersham, Surrey.

GARDENER (UNDER, or good SINGLE-HANDED place).—Age 21; nine and a half years' good character from present situation. — E. BURSNALL, The Gardens, Patching.

To Nurserymen or Market Gardeners.

MANAGER, FOREMAN, or GROWER. —Good experience of growing Grapes, Tomatos, Cucumbers, Chrysanthemums, Mushrooms, Ferns, and Soft-wooded Stuff for London and Provincial Markets. Scotland preferred. —PRACTICAL, 41, Wellington Street, Strand, W.C.

MANAGER of FLORIST'S BUSINESS.— Well experienced in Buying, Selling, Estimates, Book-keeping, and Correspondence. Excellent references.—ALPHA, 41, Wellington Street, Strand, London, W.C.

MANAGER or FOREMAN.—Age 30; life experience. Cut Flowers, Pot Stuff, &c., in quantity for market. Good testimonials. — B., 58, Sydney Villas, Elliot Road, Turnham Green.

MUSHROOM CULTURE (OUTDOOR), and GENERAL MARKET GARDENING. — Experienced man is open for engagement as WORKING MANAGER, London district or near Midland Town preferred.—Address, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR and GROWER (Soft-wooded). —Age 24; nine years' experience in good nursery; Wreaths, Crosses, &c. Good reference.—G. H., 41, Wellington Street, Strand, W.C.

GROWER.—Age 24; ten years' experience in Carnations, Ferns, Stove, Soft-wooded and other Market, Flowering, and Pot Stuff, also Chrysanthemums, Tomatos, &c. Good references.—T. C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

GROWER.—In small Nursery; seventeen years' experience; well up in Ferns, Cucumbers, Tomatos, Grapes, Mushrooms, and General Stuff.—W., 6, The Terrace, Grove Road, Mitcham.

PROPAGATOR.—Vines, Pot Roses, Hard and Soft-wooded Plants. Well up in Wreaths and Bouquets. Six years' character.—ROSES, Mr. Hanson, Chestnut Grove, Staines, Middlesex.

PROPAGATOR and GROWER in a Nursery.—Age 25; well up in Fuchsias, Marguerites, Geraniums, Carnations, Roses, Ferns, Chrysanthemums, Tomatos, Cucumbers, and General Work.—A. B., 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 27; thirteen years' practical experience in all branches. Good character as above from last situation. Previous testimonials.—H. H., 40, Ebury Road, Watford, Herts.

FOREMAN.—Twelve years' experience in Plant and Fruit-houses. Good references from such as Eastwell, Grange Park, Eastwood Park, and others.—THOMPSON, Gatehouse, Westwell, Ashford, Kent.

To Nurserymen.

FOREMAN (Outdoor). — Twenty-five years' extensive practice with Fruit Trees and General Nursery Stock with leading firms.—ACORN, 50, Watermoor Road, Cirencester.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—G. PARKS, Berry Hill Gardens, Mansfield, would be pleased to recommend a young Man, as above. Twelve years' experience.

FOREMAN, in a Private Establishment.— Age 26; Twelve years' practical experience. Excellent character from last and previous places.—J. FRANCIS, Church Street, Madeley, Salop.

FOREMAN, Inside or General.—Age 25; eleven years' good all-round experience with Fruit, Vegetables, and Flowers, both Inside and Out. Disengaged. Good character.—DUNKLEY, Blatherwycke, Wansford.

FOREMAN.—Age 27; thirteen years' experience in Stove and Greenhouse Plants, and Chrysanthemums, Vines, Peaches, Melons, Cucumbers, and House Decorating.—A., 38, Stamford Road, Fulham, S.W.

FOREMAN.— Married, no family. Thirteen years' experience; excellent testimonials, including Edgbaston Hall, Wexham Park, Sanbeck, &c.—FOREMAN, Bawsdey Gardens, Woodbridge, Suffolk.

FOREMAN in a good Establishment.—Age 27; good general knowledge of Fruit and Plant Culture. First-class references.—A. BENNETT, Paddockhurst Gardens, Crawley, Sussex.

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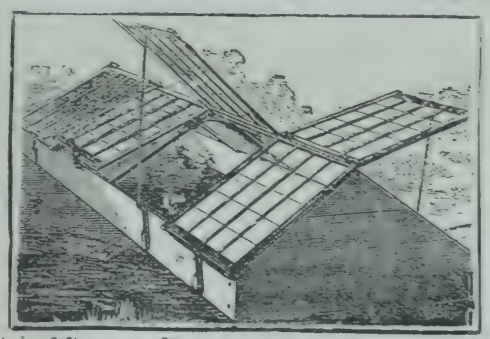
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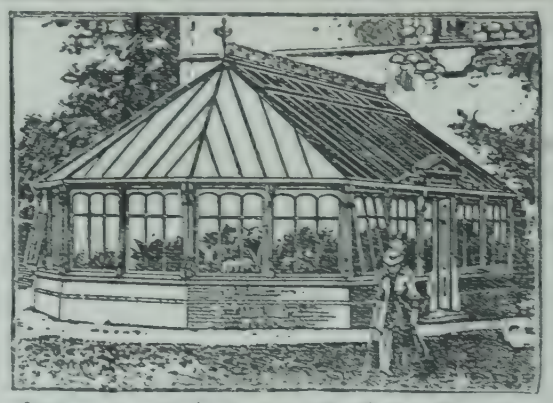
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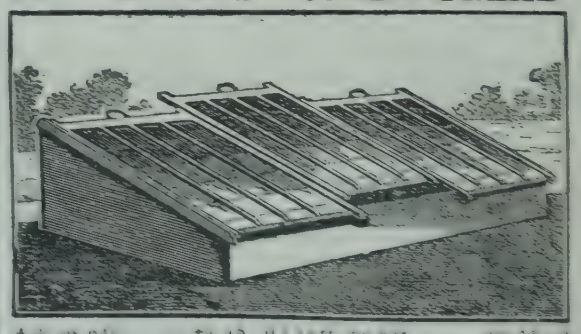
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W. H. BEESON, Carbrook Bone Mills, Sheffield.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

CHRYSANTHEMUM GROWERS should now use my SPECIALITÉ MANURE to produce healthy plants and fine blooms. Analysis sent with all samples. Sold in tins, 2 lb., 1s., post-free, 1s. 6d.; in bags, 7 lb., 2s. 6d.; 14 lb., 4s.; 28 lb., 7s.; ¼ cwt. 12s.; 1 cwt., 22s.
H. J. SIMPSON, 6, Spencer Road (late 306, High Street), Acton, London, W.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

SALES BY AUCTION.

Monday Next.

An Importation of 93 cases of LILIUM HARRISI,

Just received direct from Bermuda in the finest possible condition. The bulbs varying from 5 to 9 inches in circumference. Also—

51,000 FREESIA REFRACTA ALBA,

And 5 Cases of various other BERMUDA BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, August 27, at 3 o'Clock.

On view morning of Sale, and Catalogues had.

Monday Next, August 27.

A Consignment of PALM SEEDS, just received in very fine condition, comprising

10,000 COCOS PLUMOSA.
60,000 KENTIA BELMOREANA.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on MONDAY NEXT, August 27, at 3 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, August 31.

ABSOLUTELY WITHOUT RESERVE.

CYPRIPEDIUM PARISHI, VANDA CŒRULEA, &c.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. CHARLESWORTH, SHUTTLEWORTH & Co, Heaton, Bradford, to offer by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, E.C., on FRIDAY NEXT, AUGUST 31, at half-past Twelve o'Clock, an exceptionally fine and healthy consignment of East Indian ORCHIDS, consisting of

VANDA CŒRULEA, CYPRIPEDIUM PARISHI, VANDA KIMBALLIANA, CYPRIPEDIUM BELLATULUM.

Lotted to suit the trade and large buyers, and to be sold absolutely without reserve. The plants are in very good order.

Also an importation of 300 CALANTHE VERATRIFOLIA, and 30 CŒLOGYNE CUMMINGI, fine pieces for unreserved sale, 250 lots of Imported Orchids from Messrs. F. Horsman & Co., and others, and a grand plant of VANDA SANDERIANA.

On view morning of Sale, and Catalogues had.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY NEXT, August 31, a fine importation of the rare and lovely CATTLEYA REX, by order of F. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

Monday, Thursday, and Saturday Next.

DUTCH BULBS.—SPECIAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., as follows :—

MONDAY NEXT, August 27 ... ... over 1600 Lots
THURSDAY NEXT, August 30 ... ,, 1300 ,,

And SATURDAY NEXT, September 1, about 300 Lots.

Large consignments of named HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with White ROMAN HYACINTHS, and Paper White NARCISSUS, received direct for unreserved Sale.

These early Auctions have been specially arranged in Lots to suit the trade and other large buyers. The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists, who may desire a regular supply of Catalogues for these Sales.

Auction Rooms and Offices, 67 & 68, Cheapside, London, E.C.

Upper Edmonton.

Five minutes' walk from Angel Road, and eight minutes' from Silver Street Railway Stations.

NINTH GREAT ANNUAL UNRESERVED TRADE SALE of POT-PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY, September 10, at 11 o'Clock punctually (there being upwards of 1500 lots), the following unusually well-grown Stock :—

TEA ROSES, in Pots, the grandest lot ever offered, including extra strong well ripened plants of M. Niel, W. A. Richardson.
CLIMBING NIPHETOS, CLIMBING PERLE DES JARDINS, and other best sorts for forcing, these are especially fine.
CRIMSON RAMBLER.
FERNS, many thousands, in various sizes.
TREE CARATIONS, including Duke of York (fine new crimson), Winter Cheer, Miss Joliffe Improved, Mrs. A. Hemsley, and other best winter-flowering sorts, also large quantities of Old Crimson Cloves, &c.
BOUVARDIAS, large quantities of all the best sorts.
FICUS ELASTICA VARIEGATA, an extra fine stock of this beautiful plant.
CROTONS, a splendid lot of beautifully coloured plants.
PALMS, consisting of fine specimens of Kentias, Arecas, Cocos, Geonomas, &c., also great quantities of smaller plants.
GENISTAS, unusually fine bushy stuff.
SOLANUMS, bushy and well-berried.
CYCLAMEN, DOUBLE PRIMULAS, EUPHOBIAS, POINSETTIAS, AZALEAS, CAMELLIAS, and other useful Flowering Plants.
HYDRANGEAS, well-ripened for early forcing.
LAPAGERIAS, AMPELOPSIS and PASSIFLORAS.
CLEMATIS, JACKMANI SNOW WHITE, JACKMANI, and other leading sorts.
IVIES, choice Variegated sorts.
ASPIDISTRAS, ARAUCARIA EXCELSA, FICUS ELASTICA, GREVILLEAS, ARALIAS, and a great variety of other useful flowering and foliage plants. Large quantities of small Heaths, Genistas, &c., for growing on.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Hillingdon Heath, near Uxbridge.

(Two miles from West Drayton Station.

TRADE SALE of beautifully-grown STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Wm. Whiteley to SELL by AUCTION, on the Premises, Whiteley's Nurseries, Hillingdon Heath, Uxbridge, on THURSDAY, September 6, at 11 o'Clock precisely, in consequence of the large number of lots, 15,000 FLOWERING and FOLIAGE PLANTS and ORCHIDS, in excellent condition, comprising—

3000 Palms	2000 Orchids
4000 Ferns	2000 Double White Primulas
1000 Carnations	100 Eucharis
1000 Roses	500 Crotons
500 Euonymus	100 Gardenias

Also Pancratiums, Ficus, Pandanus, Chrysanthemums, Imantophyllums, Hydrangeas, Grevilleas, Coleus, &c.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B. — Conveyances will meet certain trains at West Drayton on morning of Sale (see Catalogue), to convey intending purchasers to the Nurseries.

Friday, September 7.—Without Reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by S. G. Lutwyche, Esq., of Eden Park (who is contemplating making alterations to his Glasshouses), to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, Sept. 7, at 12.30 o'Clock, 100 lots of choice, clean, well-grown Orchids in vigorous and robust health, without reserve. Amongst them will be found :—

Dendrobium Wardianum album	Lælia elegans
,, crassinode album	,, anceps Fostermanni
,, nobile nobilius, extra fine piece from original plant	Cattleya Lawrenceanum
	,, Warnerii, dark var.
	,, Schofieldiana
,, hybrid Rœbelingianum, very rare	Lycaste plana rubroglossa
	Lycaste Skinneri alba, large flowered variety
,, hybrid splendidissimum fine piece	Vanda Denisoniana
	,, teres
,, nobile, with pure white sepals and petals	Cypripedium Charlesworthii, in flower
,, hybrid Lutwycheanum (Wardianum Lowii × splendidissimum superbum)	,, Seegerianum
	,, insigne fuscatum
	,, Dantheri superbum
	,, Rothschildianum
,, nobile Cooksonii	,, Schrœderæ
,, nobile Sanderæ	,, Javanicum superbiens
,, hybrid Dominianum	,, Lathomianum
,, hybrid Cassiope	Masdevallia hybrid Falcata
,, hybrid Melanodiscus	,, hybrid Hincksiana
,, hybrid Owenianum	,, hybrid Heathii
,, hybrid Melanopthalmum	,, Veitchii grandiflora
Cattleya aurea, in sheath	,, Roezlii, true

On view morning of Sale, and Catalogues had.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE.

To commence punctually at 11 o'Clock, there being upwards of 1400 Lots.

The Stock being of the same exceptionally high-class always offered at this Nursery.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. B. Maller & Sons to SELL by AUCTION, on the Premises, the Burnt Ash Road Nurseries, Lee, Kent, S.E., adjoining Lee Railway Station, and within a mile of Blackheath or Grove Park Station, S.E. Railway, on TUESDAY, September 11, at 11 o'Clock precisely, without reserve, a remarkably well-grown stock of WINTER-FLOWERING HEATHS and other—

STOVE and GREENHOUSE PLANTS,

Consisting of—15,000 Erica hyemalis, 2000 Erica gracilis, 1000 Erica Cavendishii, 600 Erica Caffra (all well set with bloom-buds), 2000 Ampelopsis Veitchii, 1500 Epacris to name, 1000 Boronia megastigma, and others, 1000 Grevillea robusta, 4000 Genistas, 5000 Solanum capsicastrum, well berried; 1000 Adiantum cuneatum, 1000 Lomaria gibba, 800 Tea Roses, in pots; 2000 Bouvardias, of sorts; 1000 Palms, of sorts; 1000 Cyclamen persicum, 500 Crotons, beautifully coloured; 1000 Aralia Sieboldii, 1000 Double Primulas, with a large quantity of young Erica hyemalis, gracilis, and other sorts; Aralia Sieboldii, Ferns, and Genistas, all in 60-pots for growing on.

The Stock is now on view. Catalogues may be had on the Premises; at the Seed Warehouse, 61, High Street, Lewisham; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Sidcup, Kent, S.E.

About ten minutes walk from the New Eltham (late Pope Street) Station, S.E.R.

GREAT ANNUAL TRADE SALE of WINTER-BLOOMING HEATHS, particularly well-grown and beautifully set with flower, ROSES, and other stock.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Longlands Nursery, Sidcup, S.E., on FRIDAY, SEPTEMBER 14, at 11 o'Clock, by order of Messrs. GREGORY & EVANS, an enormous quantity of unusually well-grown plants, comprising about

80,000 WINTER-BLOOMING PLANTS,

In excellent condition, and well set with flower-buds, including 6000 SOLANUMS, full of berries, and in fine condition; 6000 BOUVARDIAS, clean and strong plants; 5000 Double PRIMULAS, and some thousands of Mixed FERNS and other Plants. Also a magnificent lot of about—

10,000 CLIMBING and other ROSES,

All in first-class condition, including all the best sorts in cultivation.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—The stock of Plants this season will be found well up to their usual standard, special attention being invited to the Heaths and Genistas, also the Solanums and Roses, which are probably the best ever offered at this Nursery.

The Brimsdown Nurseries, Enfield Highway.

ANNUAL TRADE SALE of WINTER BLOOMING HEATHS and GREENHOUSE PLANTS, by order of Mr. J. Maller.

MESSRS. PROTHEROE AND MORRIS desire to notify that the above Annual Sale will take place on THURSDAY, SEPTEMBER 13.

The Nurseries, South Woodford.

GREAT ANNUAL TRADE SALE of WINTER-BLOOMING HEATHS and GREENHOUSE PLANTS. By order of Mr. John Fraser.

MESSRS. PROTHEROE AND MORRIS beg to announce that the above Annual Sale will take place on WEDNESDAY, September 12.

Monday and Wednesday Next.

30,000 FORCING BULBS FROM FRANCE.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY and WEDNESDAY NEXT, August 27 and 29, 30,000 Early White ROMAN HYACINTHS, PAPER WHITE and Double ROMAN NARCISSUS, LILIUM CANDIDUM, &c., and several thousands of FREESIA REFRACTA ALBA, IRIS, DAFFODILS, Scilly White NARCISSUS, SCILLAS, LILIUM HARRISI, &c.

On view morning of Sale, and Catalogues had.

Monday and Wednesday Next.

GRAND IMPORTATION OF DUTCH BULBS.

Specially lotted for all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY and WEDNESDAY NEXT, August 27 and 29, at half-past 12 o'Clock precisely, an extensive consignment of HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and OTHER BULBS, from well-known Farms in Holland.

On view morning of Sale, and Catalogues had.

N.B.—None but good and reliable Bulbs will be offered.

Tuesday, August 28, 1894.

CLEARANCE SALE, owing to Extension of Premises, by order of Mr. G. W. Riley, the owner.

HERNE HILL RUSTIC WORKS,

Norwood Road, Herne Hill Station, S.E.

MR. JOHN BOTT has been favoured with instructions to SELL by AUCTION, as above, on TUESDAY, August 28, 1894, at half-past 12 for 1 o'Clock precisely, the SURPLUS STOCK of 60 portable Rustic Summer Houses, with thatched and boarded roofs, Rustic Chairs, Seats, Tables, Greenhouses, Garden Frames, Ladders, Barrows, Steps, Trestles, Dog Kennels, Pigeon-houses, Pea Sticks, Timbers (English and Foreign), and Sundries, subject to not being sold previously.

On view day before sale. Catalogues on premises, or of the Auctioneer, "Commercial House," Herne Hill Station, S.E.

Preliminary Notice.—Ketton Hall, near Stamford.

Highly Important SALE of STOVE and GREENHOUSE PLANTS, ORCHIDS, PALMS, FERNS, BULBS, ROOTS, &c.

MESSRS. REEDMAN AND SON have received instructions from J. T. Hopwood, Esq., to SELL by AUCTION, on THURSDAY, September 6, 1894, about 120 Choice and Vigorous ORCHIDS, 200 Stove Plants, healthy and strong; 100 Stove and Greenhouse Ferns, including some fine Specimen Ferns, about 800 Iris (roots) in variety, 600 Bulbs Narciss., 600 roots of the popular Carnation Ketton Rose, and several fine Palms, &c.

Particulars and Catalogues later.

Auction and Valuation Office, 45, Broad Street, Stamford.

WANTED, on Long Lease, a PIECE of GROUND suitable for Fruit Growing under Glass, 3 to 4 acres, within easy distance of London. Good loamy soil of good depth, where water can be easily laid on.—Apply to Messrs. SCOTT, SPALDING AND BELL, 15, Queen Street, Cheapside, E.C.

Bocking Nurseries, near Braintree, Essex.

To NURSERYMEN, FLORISTS, and OTHERS.

FOR SALE, in consequence of the death of the Proprietor, the NURSERY, FLORIST, and MARKET-GARDEN BUSINESS, established over 70 years, with Freehold Dwelling House, for heated Glass-houses, several Glass-pits, Potting-shed, &c., and 3 roods and 7 perches of Garden Ground.

Also LEASEHOLD NURSERY, containing 1a. 2r. 35 p.

For further particulars, apply to EDWARD HOLMES, Solicitor, Braintree.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

To Fruit and Flower Growers.

FOR SALE, price £10,500, a delightfully situated FREEHOLD PROPERTY, near Reading, comprising 10½ acres of Orchard and Nuttery; large number of new Vineries, Tomato, Cucumber, Mushroom, and other houses; a modern and well-constructed Dwelling-house, 11 rooms, bath-room with hot and cold supply; two Cottages, Stabling, Tennis Lawn, &c. The Orchard and Glasshouses pay well and are easily worked.

Address, B. C., Calcot, Reading.

LONDON, S.E.—A NURSERY for SALE. About 3 Acres: 16 Houses, 2 Lean-to Pits, 2 Span Pits, each about 100 feet long; 2 smaller houses, all well heated, &c.; also Cold Frames, &c., Dwelling-house, Stables, Sheds, &c. About 5 miles from Covent Garden. Open to consider a reasonable offer.

Apply to SHUTTLEWORTH, Limited, Peckham Rye, S.E.

SOUTHPORT.—NURSERY, FLORIST, FRUIT, and SEED BUSINESS, clearing £350 yearly. Capital Dwelling-house, Shop in best Stand, 12 Hothouses, and Land. Chance seldom offered.—Full particulars, MASON, 71, Market Street, Manchester.

FRUITERER, FLORIST, and GREENGROCER'S BUSINESS, in a small way, to be DISPOSED of, in the neighbourhood of Acton. Suitable for a young Couple. Good Round (Pony). Reasonable terms.—Apply to Mr. FOSTER, 276, High Street, Acton Hill, Middlesex.

EXHIBITIONS.

SANDY (Bedfordshire) FLORAL and HORTICULTURAL SOCIETY.—Twenty-sixth Great Autumn Show (Open), THURSDAY, August 30, 1894. Plants, Flowers, Fruit, Vegetables, Dogs, Poultry, Pigeons, Rabbits, Cavies, Pets, Cage Birds, &c. Prizes, £320, including Ten Stove and Greenhouse Plants in flower (distinct): 1st £12; 2nd, £8; 3rd, £6; 4th, £3. Entries close August 25.
W. GREEN, Sec., Sandy.

National Chrysanthemum Society.

EARLY EXHIBITION of CHRYSANTHEMUMS.—Royal Aquarium, Westminster, September 4, and 6, 1894. Several classes for GLADIOLI and DAHLIAS. Schedules of Prizes can be had of—
RICHARD DEAN, Hon. Secretary and Superintendent, 12, Ranelagh Road, Ealing, London, W.

To Nurserymen.

TO BE LET or SOLD, a FREEHOLD NURSERY, containing 14 well-built Greenhouses, in all about 740 feet run; Stable, Van-shed, Potting-shed, Workshops, and Dwelling-house, with or without Stock.
Apply to W. EYDMANN AND SON, Auctioneers, 225, High Street, Acton, W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest Stock of Orchids in the World.—30 minutes from St. Pancras.

CUT FLOWERS.—CUT FLOWERS.

We hold SALES every MONDAY, WEDNESDAY, and FRIDAY EVENING at half-past five o'Clock. These Sales have been continuous, without a week's omission, for over eight years. References to Senders of over eight years' standing.
POPE AND SONS, 6, Phillips Street, Birmingham.

NEW STRAWBERRIES.

ROYAL SOVEREIGN (1893), 8*d.* each; 6*s.* per dozen.
SENSATION (1892), 2*s.* per dozen; 12*s.* per 100.
The above from plants direct from the raiser.
A fine collection of other varieties. List free on application to
B. HURST AND SON, Burbage Nurseries, near Hinckley.

CYCLAMEN a SPECIALTY. — World-renowned Strain. Gold and Silver Medals, and highest Awards. SEED per packet, from 2*s.* 6*d.* DRY BULBS, from 2*s.* per doz., post free. PLANTS coming into bloom, good, in 5-pots, 18*s.* and 24*s.* per doz., free on rail. Cash with order. Special prices to the Trade.—The ST. GEORGE'S NURSERY CO., F.R.H.S., Hanwell, Middlesex.

LILIUM HARRISII.—Special Offer.—Fresh Imported Bulbs, sure to give satisfaction, 9 to 11 inches, 60*s.* per 1000; 7 to 9 inches, 180*s.* per 1000; 5 to 7 inches, 120*s.* per 1000. FREESIAS, 18*s.* per 1000; 2*s.* 6*d.* per 100. ANCRATIUMS, 40*s.* per 1000. CHINESE SACRED LILIES, 60*s.* per 1000. All other BULBS at low prices. Cash with order.
BIRCHALL BROTHERS AND CO., 20, Polygon Road, Southampton.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchant, Southgate, N. Established 1797.

ARMITAGE BROS.

have received, in SPLENDID CONDITION for FORCING, their first consignment of FRENCH BULBS, which they offer at the following specially MODERATE PRICES:—

	Per 100.	Per doz.
HYACINTHS, White Roman, 1st size ...	15*s.* 0*d.* ...	2*s.* 0*d.*
,, ,, 2nd size ...	11*s.* 0*d.* ...	1*s.* 6*d.*
,, Blue Roman	9*s.* 0*d.* ...	1*s.* 3*d.*
FREESIAS, refracta alba	6*s.* 0*d.* ...	1*s.* 0*d.*
NARCISSUS, Double Roman	5*s.* 0*d.* ...	1*s.* 0*d.*
,, Paper White	5*s.* 0*d.* ...	1*s.* 0*d.*
,, ,, large flowering	6*s.* 6*d.* ...	1*s.* 3*d.*
LILIUM CANDIDUM...	12*s.* 0*d.* ...	2*s.* 0*d.*

All Orders 5*s.* and upwards in value *delivered free.*
For other BULBOUS and FLOWERING ROOTS, SEEDS for AUTUMN SOWING, &c., see New Catalogue, post-free on application.

ARMITAGE BROS., High Street, NOTTINGHAM.

Please mention this Paper.

B. MALLER AND SONS beg to offer to the Trade a very extensive and unusually well-grown stock of Ericas (hyemalis and other varieties), Epacris, Solanums, Genistas, Cyclamen, Double White Primulas, Bouvardias of sorts, Adiantum cuneatum and other Ferns; Palms in variety, Gardenias, Stephanotis, Dipladenias, Ficus elastica, Crotons, Genistas, Tea Roses (in pots), Boronias (megastigma and heterophylla), Vines in pots, &c. An inspection is invited.
TRADE CATALOGUE forwarded on application.
The ANNUAL SALE by AUCTION will be held on TUESDAY, September 11.
Burnt Ash Road Nurseries, Lee, S.E.

ORCHIDS.

NEW IMPORTATIONS of BRAZILIAN ORCHIDS.
Full particulars on application to—
A. H. GRIMSDITCH (Orchid Importer),
5, CLAYTON SQUARE, LIVERPOOL.
Sole Agent for CARLOS TRAVASSOS, Rio de Janeiro.

DUTCH FLOWER ROOTS.

JAMES VEITCH & SONS

BEG TO ANNOUNCE THEY HAVE RECEIVED THEIR ANNUAL SUPPLY OF

HYACINTHS, NARCISSUS, TULIPS

AND OTHER BULBS,

And are pleased to say that they are in EXCEPTIONALLY FINE CONDITION.

BULB CATALOGUE FOR 1894

Has now been Posted to all their Customers; anyone not having received the same, a Duplicate Copy will immediately be forwarded Post Free on application.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, LONDON, S.W.

NEW CRIMSON PERPETUAL-FLOWERING CARNATION URIAH PIKE.

This beautiful Carnation, with its powerful clove scent, has been one of the greatest attractions at all the leading Shows, a proof that it is undoubtedly the finest Carnation offered to the Gardening World for many years. Notwithstanding the large quantities sent out, I still have a very large Stock of good strong healthy plants of all sizes to offer.

Plants in 5-inch pots, 5s. each, 50s. per dozen.
Plants in 3½-inch pots, 2s. 6d. each, 24s. per dozen.

TERMS, CASH WITH ORDER. SPECIAL QUOTATIONS TO THE TRADE.

Six First-class Certificates, besides Medals, have been awarded to—

JAMES PIKE, PARK ROAD NURSERIES, SOUTH ACTON, LONDON, W.

Bougainvillea glabra var. Sanderiana.

HUGH LOW AND CO. offer fine Plants of this free-flowering and brilliantly-coloured variety of the old Bougainvillea glabra, as exhibited by them, and Certificated by the Royal Botanic Society, Regent's Park, May 30, 1894. Price, 5*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

LILIUM LOWII. (First-class Certificate Royal Hort. Soc., July 11, 1893.)—Several plants of this rare and beautiful Lily are now flowering at the Clapton Nursery.
HUGH LOW AND CO., Clapton Nursery, N.E.

CROTON RUSSELLII. (First-class Certificate, Royal Hort. Soc., November 14, 1893.) Most distinct novelty, excelling any other variety in brilliancy of colour. Price, 21*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

DICHORIZANDRA MUSAICA GIGANTEA (First-class Certificate at Temple Show, 1894).—A very handsome improvement on the type. Price, 21*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

NEW, SINGLE, SCARLET CLEMATIS, Madame Edouard André. Fine plants, 3*s.* 6*d.* & 5*s.* each.
HUGH LOW AND CO., Clapton Nursery, N.E.

LITTLE & BALLANTYNE

Beg to intimate the arrival of their

ROMAN HYACINTHS,

Paper White and Double

ROMAN NARCISSUS,

And other EARLY FORCING BULBS,

And respectfully solicit EARLY ORDERS, to secure the largest and best Bulbs.

Royal Seed & Nursery Establishment,
CARLISLE.

PTERIS CRISTATA AND TREMULA,

In 48's, at 4*s.* 6*d.* per dozen.
A large quantity of the above: strong, healthy, young stuff. Packed free for cash with order.
B. PRIMROSE, Blackheath Nursery,
ST. JOHN'S PARK, BLACKHEATH, S.E.

FINEST BELGIAN PLANTS at LOW PRICES

AZALEA INDICA, A. MOLLIS, A. RUSTICA, FL. PL.
HARDY GHENT AZALEAS.
THE BEST DECORATIVE PALMS.
THE BEST FORCING PLANTS for WINTER, &c.
CHARLES VUYLSTEKE,
NURSERYMAN, LOOCHRISTY, GHENT, BELGIUM.
For WHOLESALE CATALOGUE, apply to my Agents, Messrs. R. SILBERRAD & SON, 25, SAVAGE GARDENS, CRUTCHED FRIARS, LONDON, E.C.

CHARLES SHARPE & CO.

Seed Growers—Seed Merchants
Cultivateurs — Marchands Grainiers
Samenculture—Samenhandlung.

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HORTICULTURAL PROVIDERS—*the Original Inventor of Cheap Greenhouses,*

755, OLD KENT ROAD, LONDON, S.E.

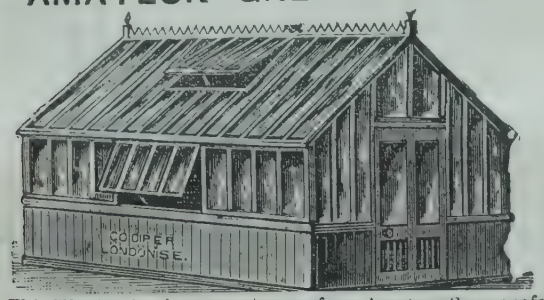
NURSERIES—HANWORTH AND FELTHAM.

The Largest Steam Horticultural Works in the World. Inspection invited.

1000 HOUSES I STOCK to Select fro

Works cover 5 acres.

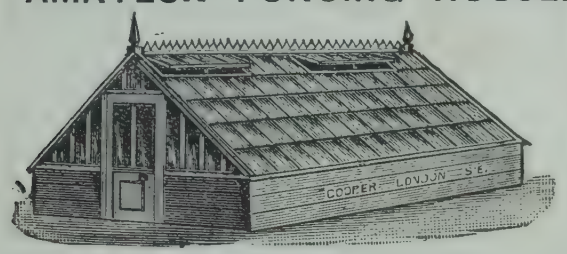
AMATEUR GREENHOUSES.



This Illustration is an exact copy of my Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with Ventilators, Irons for Opening, Staging, Glass, &c. Made in Sections, so that they can be erected by any gardener or handy man in a few hours. Simply screwed together. 7 by 5 ft., 56*s.*; 9 by 6 ft., £4; 12 by 8 ft., £6; 15 by 10 ft., £8 10*s.*; 20 by 10 ft., £12; 25 by 10 ft., £16.

Any size made. SEND FOR LIST, post-free.

AMATEUR FORCING HOUSE.



The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

HORTICULTURAL TIMBER.

WELL-SEASONED RED and YELLOW DEAL.

SASHBARS. 1½ in., 3*s.*; 2 in., 3*s.* 9*d*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

MATCH BOARDS, ⅝, 6*s.* per square; 1-in., 10*s.* 6*d.* per square.
FLOOR BOARDS, 1-in., 9*s.* per square.
FEATHER EDGE BOARDS, ¾ by 6, 6*s.* 6*d.* per square.
DEALS, 3 by 11, Yellow, 4*d.*; 3 by 9, 3¼*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1¼*d.*; 2 by 6, 1*d.*
CUTTING FLATING, 9*d.* per 100 ft.; Deeping, 2*s.* 3*d.* dozen 12 ft.
SLATING BATTENS, ¾ by 2, 1*s.* 3*d.* per 100 ft.; ¾ by 1, 7*d.* per 100 ft.
HALF GLASS DOORS, 4 ft. 6 in. by 2 ft. 6 in., 6*s.* each, 6 ft. by 2 ft. 6 in., 7*s.*; Marginal Light, 6 ft. 6 in. by 2 ft. 6 in., 10*s.*
VENTILATORS, TOP or SIDE, 2 ft. 6 in. by 2 ft., 2*s.* each.
FINIALS, MACHINE-TURNED, 12 in. high, 6*d.* each; 4*s.* 6*d.* per dozen.
TRELLIS, Planed, Extended—

Open.	*s.*	*d.*	Open.	*s.*	*d.*
12 ft. by 1½ ft.	2	0	12 ft. by 3½ ft.	4	6
12 ft. by 2 ft.	3	0	12 ft. by 4 ft.	5	6
12 ft. by 2½ ft.	3	6	12 ft. by 5 ft.	6	6
12 ft. by 4 ft.	4	0	12 ft. by 6 ft.	8	0

MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9, best Red Deal, all planned, rabbeted, &c., ready for use. Send for Specification.

The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

All Timber consigned at the Cheap Timber Rate to all parts of the country. Send for TIMBER LIST.

VIRGIN CORK, well mossed, thin and light, 14*s.* per cwt.
DAHLIA or ROSE STAKES, strong, painted green, tarred ends, 4 ft., 18*s.* per gross; 5 ft., 21*s.* per gross; 6 ft., 26*s.* per gross.
TIFFANY, the cheapest shading, 72 in. wide, 6½*d.* per yard.
TEAK ORCHID BASKETS, well and strongly made, 6 in., 10*s.* 6*d.*; 7 in., 12*s.*; 8 in., 14*s.*; 9 in., 17*s.*; 10 in., 19*s.*; 11 in., 23*s.*; 12 in., 28*s.* per dozen.

BOUQUET WIRE.

Stubs, 7 in. lengths, No.	20	22	24	26	28	30
per dozen lb. ...	4*s.*	4*s.* 6*d.*	5*s.*	6*s.*	6*s.* 6*d.*	8*s.*

Silver-plated, on ¼ lb. reels, 5*s.* per dozen.

WOOD FLOWER-STICKS.

Feet	1	1½	2	2½	3	3½	4	4½	5
Per 1,000 ...	2/2	3/9	6/-	8/-	10/-	14/-	17/-	23/-	29/-
Painted Green	6/-	8/-	14/-	17/6	20/-	25/-	32/6	40/-	55/-

WOOD LABELS—Best Make.

Inches	3	4	5	6	7	8	9	10
Per 1,000...	1/5	1/8	2/-	2/9	3/3	4/6	5/6	6/-

SPECIAL BAMBOO CANES—About 4 ft.

Best and most durable for Tomatos, Chrysanthemums, &c.

Per 100.	Per 1,000.	Per 5,000.
2*s.* 9*d.*	25*s.*	£5

RAFFIA, for Garden Tying, best quality, 1 lb., 9*d.*; 2 lb., 1*s.* 4*d.*; 3 lb., 2*s.*; 7 lb., 4*s.* 3*d.*; 14 lb., 8*s.*; 28 lb., 14*s.*

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz., 100 ft.,	21-oz., 100 ft.
4ths	... 8*s.* 3*d.*	... 11*s.* 3*d.*
3rds	... 9*s.* 0*d.*	... 12*s.* 3*d.*

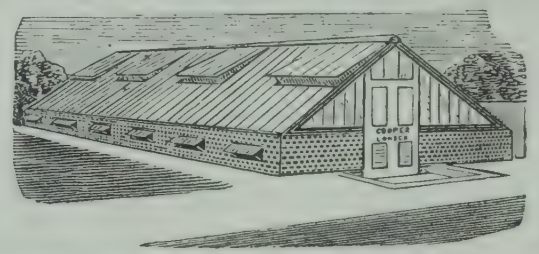
10,000 Boxes to select from.

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

SPAN-ROOF FORCING HOUSES



Built for brickwork, 3ft. high, of well-seasoned red deal, roof ventilation according to size, all 21oz. glass, suitable for nurserymen, market gardeners, and those who require a cheap, strong house for forcing or growing Cucumbers, Tomatos, Melons, &c. Delivered to any Station in England.

20 × 9, £8.

For Illustrations and Prices of other sizes, see

ILLUSTRATED PRICE LIST FREE.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1½ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

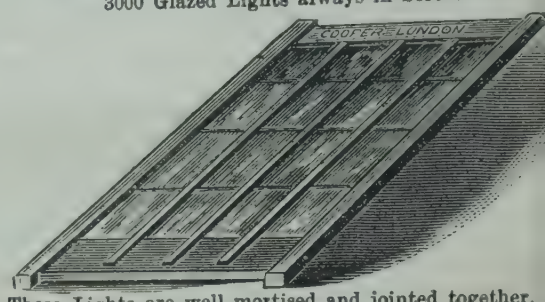
COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 40 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, made in a good workmanlike manner, and are well worth inspection. Framework made of 2 in. by 2 in. styles, properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	
4 ft. by 3 ft., ,, ,, ...	
6 ft. by 4 ft., ,, ,, with 21-oz. glass ...	
6 ft. by 4 ft., unglazed lights	

Special quotations for large quantities.

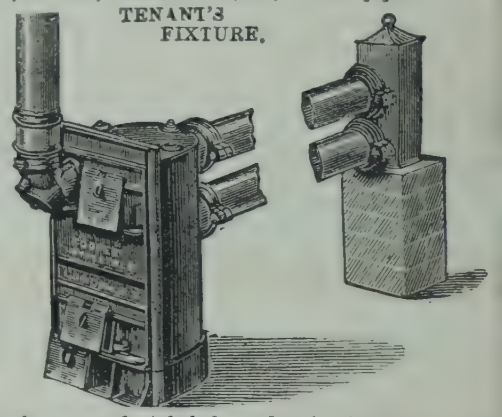
See page 278 in List.

"INVINCIBLE" HOT-WATER APPARATU

Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft., £1 15*s.*; No 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No 375 ft., £7 15*s*; No. 6, 500 ft., £9; of 4-in. pipes.

TENANT'S FIXTURE.



Requires no sunk stokehole, and no brick setting. Will all night without attention. Will burn house-cinders, th fore costs next to nothing for fuel. Anyone can fix it. child can stoke it. Success guaranteed.

Cost of complete apparatus for Greenhouse with 4-in. pi flow and return along one side, cut and fitted; so that if internal measurement of the Greenhouse is given, the ap ratus will be sent completely ready for fixing, an advant which will be appreciated by all. Securely and caref packed on rail at the following respective prices:—7 ft. by 5 £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 2 by 10 ft., £6 5*s.* See page 186 in List.

POULTRY HOUSES.



Well and substantially structed, warranted wa proof, complete with d ventilator, and slide, from

5ft. by 4 ft.	
6 ft. by 4 ft.	
7 ft. by 5 ft.	
9 ft. by 6 ft.	

Send for List.

MANURES, PEAT, SAND, FERTILIZERS, &

1-lb. tins Fertiliser...	per dozen	£0
1-lb. tins Sunshade...	,,	0
Cocoa-nut Fibre Refuse	per sack	0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0
Best Orchid Peat	,,	0
,, Rhododendron Peat...	,,	0
,, Brown Fibrous Peat	,,	0
,, General Peat...	,,	0
,, Loose Peat	,,	0
,, Surrey Loam	,,	0
General Potting Compost	,,	0
Fern Compost	,,	0
Bulb Compost	,,	0
Leaf Soil, well decayed	,,	0
Pure Wood Charcoal	,,	0
Fertiliser for Farming and Market Gardening, in 1-cwt. sacks	per sack	0 1
Worm Destroyer	per ½-pt.	0
Insecticide	each	0
Tobacco Paper, 6*d.* per lb.	per cwt.	1 1
Wonderful New Mushroom Spawn	bushel	0

All Sacks and Bags free. Send for List, post-free.

Novelties, 1894.

FOR LIST of the FINEST NOVELTIES in Flowering and Ornamental Foliage Plants, apply to—
SANDER AND CO., St. Albans.

Novelties, 1894.

THE ROYAL SET of COLEUS.—Unique and superb; the handsomest ever offered; foliage rivalling the best Caladiums. Empress of India, Princess of Wales, Princess May, Princess Beatrice, Prince Albert Edward, Duke of York. Seven varieties for 21*s*.
See SANDER AND CO.'S LIST of NOVELTIES.

Novelties, 1894.

BOUGAINVILLEA GLABRA SANDERIANA.—The most useful and brilliant flowering plant known. First-class Certificate, Royal Horticultural Society, April 24, 1894. Of the most easy culture, either in the greenhouse, conservatory, or plant-stove, producing its magnificent rosy-crimson bracts and yellow blossoms in the smallest pots, under all conditions, in the greatest abundance and amazing profusion. Price 7*s*. 6*d*. each.
SANDER AND CO., St. Albans.

Novelties, 1894.

DIPLADENIA ATRO-PURPUREA.—Flowers rich, glowing crimson-maroon, with deep orange throat. First-class Certificates wherever shown. Plants now ready. Price, 12*s*. 6*d*. each.
SANDER AND CO. St. Albans.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s*. per doz.; six sorts of PALMS, in 48's, 9*s*. and 12*s*. per doz.; Large KENTIAS, in 60's, 5*s*. and 6*s*. per doz.; eight sorts of PALMS, in 60's, 4*s*. and 5*s*. per doz.; do. in large thumbs, 3*s*. per doz., 20*s*. per 100; ARALIAS, in 48's, 5*s*. and 6*s*. per doz.; FICUS, in 48's, 12*s*. per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5*s*. per dozen; twelve best sorts of FERNS, 12*s*. per 100; ASPARAGUS PLUMOSUS NANUS, 6*s*. per doz.; variety of FERNS in 48's, 5*s*. & 6*s*. doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.

VIOLA CUTTINGS.—These strike easily now in a shaded cold frame. We offer 100 for 7*s*. 6*d*., cash; 50 for 4*s*. 3*d*.; 25 for 2*s*. 6*d*. Four cuttings, two cuttings, or one cutting of each of the following 25 grand exhibition sorts: A. Grant, Ardwell Gem, Blue Cloud, Bullion, Countess of Hopetoun, Countess of Kintore, Countess of Wharncliffe, Crimson King, Duchess of Fife, Duchess of Sutherland, Evelyn, Goldfinch, H. W. Stuart J. B. Riding, Lord Elcho, Lady Dunlonald Mrs. Grant, Mrs. Bellamy, Princess Beatrice, Rob Roy, Sylvia, Wonder, Wm. Neil, White Duchess, and Violetta. 100, in 12 best bedding varieties, 5*s*. 6*d*.; 1000, in 25 varieties, 22*s*. All named, and carriage free.
DOBBIE AND CO., Florists to the Queen, Rothesay.

STRAWBERRIES

All the leading varieties, in 1-yr. prepared plants, ready for immediate delivery, 6*s*. per 100. Orders despatched by return of post. Plants in small pots and runners of all the best forcing varieties and Novelties ready shortly. Catalogue free.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

PEARSON'S BULBS

FOR EARLY FORCING.

Our ROMAN HYACINTHS are finer and in better condition this season than ever we have seen them—

Extra size, 5 to 6 in. circum.	... 16/- per 100;	2/3 per doz.	
First ,, ...	... 13/- ,,	1/9 ,,	
FREESIA REFRACTA ALBA, extra large	... 5/- ,,	1/- ,,	
NARCISSUS, DOUBLE ROMAN	... 5/- ,,	1/- ,,	
,, PAPER WHITE ...	... 5/- ,,	1/- ,,	
,, ,, GRANDIFLORUS ...	... 7/- ,,	1/3 ,,	

NARCISSI of every variety worth growing at very low prices.
Full Descriptive CATALOGUE sent free on application.
THE CHEAPEST HOUSE IN THE TRADE FOR REALLY RELIABLE BULBS.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

DUTCH BULBS!

FRENCH BULBS! and ENGLISH BULBS!

See our Special Wholesale Catalogue of Bulbs.
Containing List of all the Best Varieties of HYACINTHS, TULIPS, CROCUS, LILIUMS, DAFFODILS, SNOWDROPS, IRIS, &c., free on application.
Please compare our Prices before sending your Orders abroad.

WATKINS & SIMPSON,
SEED and BULB MERCHANTS,
EXETER ST., STRAND, LONDON, W.C.

NARCISSUS BULBS (Sir Watkin).—Good flowering Bulbs, 100, 32*s*.; dozen, 4*s*. Extra large Bulbs, 100, 45*s*.; dozen, 6*s*.
GARDENER, Plas Gardens, Dinas Mawddwy, R.S.O.

PALMS, Kentia Fosteriana, pair of splendid specimens, ten leaves, 10 feet high. For Sale, or part Exchange.—Offers to GARDENER Ashgate Lodge, Chesterfield.

FOR SALE, a quantity of DOUBLE WHITE NARCIS BULBS, True, 5*s*. per bushel.
E. POOLE, Osterley, Isleworth.

FOR SALE.—EARLY OFFENHAM CABBAGE SEED, now harvested, grown from stock carefully selected for many years, for hardy and early maturing characteristics. Price, per lb., 4*s*., a considerable allowance made on larger quantities.
DOUGLAS LANE, Charlecote, near Warwick.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

TO HORTICULTURISTS.—FOR SALE, at Fulham, the finest Specimen of the rare "MAGNOLIA ACUMINATA." 35 feet in height, symmetrical and well branched. The *Gardeners' Chronicle* mentioning this tree, says:—"It is not too large for removal if care is taken to get out all the chief roots, and severely prune-in the leading branches." For price and particulars apply to G. B. HALL, Surveyor, 10, Waldemar Avenue, Fulham, S.W.

FERNS. — GREAT ANNUAL SALE. — SURPLUS STOCK (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 10*s*. per 100; 200 out of pots, 16*s*.; large ditto, in 48's, 10 best selling sorts, 6*s*. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronde), 6*s*. and 8*s*. per dozen; ditto, for making large plants quickly (bushy), 16*s*. and 20*s*. per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6*s*. per dozen. Ficus, Palms, Dracænas, 1*s*. each. Pelargoniums and Hydrangeas, 9*d*. each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

BULBS for AUTUMN FLOWERING.—DESCRIPTIVE LIST on application, of Beautiful and Rare Species of Autumn and Winter CROCUSES, and Autumn-flowering MEADOW SAFFRONS, producing a beautiful effect in September—FLOWER OF THE WEST WIND (white); LILY OF THE FIELD (yellow). Autumn-flowering SCILLAS and SNOWFLAKES, &c.
BARR'S DAFFODIL CATALOGUE for 1894, now ready, free on application.
BARR'S GENERAL BULB CATALOGUE, ready September 1.
BARR AND SON, King Street, Covent Garden, London.

CYPRIPEDIUM CHARLESWORTHII.

Over 300 Flowers now Open!

HUGH LOW & CO.

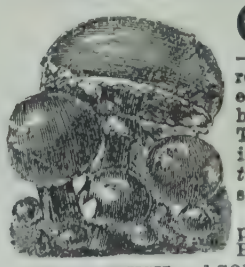
Cordially invite inspection of the above beautiful novelty, now so finely in bloom at the CLAPTON NURSERY, in all its varieties.

GRAND NEW ZONALS, 1894.

Selected from Pearson's, Cannell's, Miller's, and my own sets. Cuttings, 6*s*. per dozen.

NEW ZONALS, 1893.—Cuttings, 3*s*. per dozen. Very fine, previous introduction, 2*s*. per dozen. Free, cash with order.

H. J. JONES,
RYECROFT NURSERY, HITHER GREEN, LEWISHAM, S.E.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6*s*. per bushel, 1*s*. extra for package; or, 1*s*. per cake, free per Parcel Post.
WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

DUTCH BULBS.

WE ARE NOW BOOKING ORDERS FOR—

HYACINTHS, TULIPS,	**CROCUS, LILIUMS, &c.**

Before Buying elsewhere send for our CATALOGUE, free on application, and save 25 per cent.
ROMAN HYACINTHS and LILIUM AURATUM a Speciality.

MICHAEL RAINS & CO.,
BULB GROWERS AND SEED MERCHANTS,
34, MANSELL STREET, ALDGATE, LONDON, E.,
And THE NURSERIES, HAARLEM, HOLLAND.

SOLANUM CAPSICASTRUM

"CLOTH OF GOLD."

The entire Stock, from a start of one plant, which originated from seed at HARTLAND'S, Ard Cairn, Cork, is offered for Sale to the highest bidder. The leaves are the colour of GOLDEN ELDER, and the berries bright orange-scarlet.
The plant, in habit, GUARANTEED equal to the finest form seen in Covent Garden, but with this difference, that the foliage as stated is golden. It also comes more golden from seed. This I have only tested this season. At night the plants are scarlet and gold.
Apply to—

WM. BAYLOR HARTLAND,
SEEDSMAN, CORK.

HYACINTHS, TULIPS, Narcissi, Lillies, Snowdrops, Crocuses, Scillas, Irises &c. BULBS

BEST QUALITIES AT LOWEST RATES.
DELIVERED FREE BY RAIL OR PARCEL POST.
Descriptive Catalogue No. 441
Post Free on application.

DICKSONS Bulb Growers & Importers **CHESTER**

"ONLY THE BEST."

BULBS FOR EARLY FORCING.

GARAWAY & CO.

Offer best quality Bulbs.

WHITE ROMAN HYACINTHS	9/- per 100.
,, ,, ,, (larger)	12/6 ,,
PAPER-WHITE NARCISSUS	5/- ,,
DOUBLE ROMAN NARCISSUS	5/- ,,
DOUBLE DAFFODILS, extra large bulbs ...	7/3 ,,
FREESIA REFRACTA ALBA	6/- ,,

All orders over 5s. free by post or rail.
15 per cent. discount (3s. in £) for Cash with Order.

GARAWAY & CO.,
DURDHAM DOWN NURSERIES, CLIFTON, BRISTOL.

CARNATIONS.

JAMES DOUGLAS, F.R.H.S., begs to announce that his Catalogue for Autumn, 1894, and Spring, 1895, is Now Ready, and will be sent post-free to all intending purchasers. It contains full Descriptive Lists of the New Malmaison Carnations, and the New Border Carnations produced by Martin R. Smith, Esq., in his garden at Hayes. There is also a full Descriptive List of the New Yellow-ground Picotees, which obtained First-class Certificates and Awards of Merit at Newcastle-on-Tyne, London, Southampton, Oxford, and elsewhere during the past season. James Douglas obtained the unprecedented number of thirty-one First-class Certificates and Awards of Merit in 1894.
Early Orders are solicited, as the stock of plants is limited. Orders will be executed in rotation as received. The New Malmaisons are now ready.
EDENSIDE, GREAT BOOKHAM, SURREY.

DO NOT ERECT

Old-fashioned GREENHOUSES and FRAMES.
Leading Growers and Amateurs declare them obsolete.

7,000 feet Length of the New Patent Travelling Structures already in Construction.
Write for Catalogue of SMALLEST to LARGEST Sizes to

The Horticultural Travelling Structures Co.,
2 & 3, White St. (Moorgate St. Station, E.C.)

55 English, American, and Foreign Press opinions.
Gardeners' Chronicle:—"It is commended as saving 100 to 200 per cent." The *Gardening World*:—"There is no question as to the utility." The *Horticultural Review*:—"Will effect a complete revolution." *Amateur Gardening*:—"Can honestly commend the style as eminently practical." The *Journal of Horticulture*:—"May be used for Vines, Tomatos, Chrysanthemums, Roses, Strawberries, and Fruit Trees generally."

KENT: THE GARDEN OF ENGLAND

GEO. BUNYARD & CO.

BEG CORDIALLY TO INVITE INSPECTION OF THEIR

FRUIT TREE and GENERAL NURSERIES

Which are unusually interesting this Season, as Fruit is abundant and the Trees are finer than ever.

(SEE BELOW.)

APPLES are fine in all forms, and Pyramids can be supplied of extra sizes, as well as Fruits; Cordons, Espaliers, Gridirons, and Amateur's Standards; Hambling's Seedling, new, 5*s*. each; and several other new kinds can be recommended. 100,000 on Paradise Stock; 100,000 on Crab Stock. Market kinds by the 1000.

PEARS, grand Espaliers of all the best-flavoured kinds, and Pyramids on Quince and Pear; and extra-sized Cordons. A few grand Novelties—50,000.

PLUMS, extra-sized Fan-trained Trees in a Fruiting state. Pyramids and all other forms—100,000.

DAMSONS, all the best sorts—25,000.

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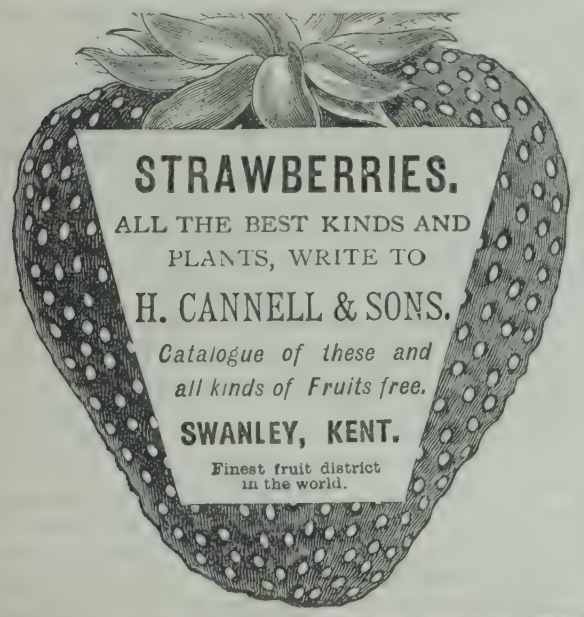
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The best late Strawberry, and the largest and best late variety. A seedling from British Queen, but much later. Flavour grand.
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	Per 100.		Per 100.
A. F. Barron	15s.	King of Earlies	15s.
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THE
Gardeners' Chronicle.
SATURDAY, AUGUST 25, 1894.

HIGHCLERE CASTLE, HAMPSHIRE.

[SEE SUPPLEMENTARY ILLUSTRATION.]

WERE any one to draw their own conclusions in relation to this grand Hampshire demesne, they would doubtless consider that the great eminence on which the castle stands, and the clear air and grand view of the country surrounding, supplied its very suggestive appellation. Highclere is just in Hampshire, and that is all, for away in the extreme north-westerly part of that large county it touches Berkshire on the one hand, and Wiltshire on the other. The position generally is high, and placed on a vast range of chalk, which, however, seems to have on its surface soil of excellent quality, for not only do trees thrive grandly, but crops of all descriptions in field, park, and garden are excellent. Newbury, in the Berkshire valley of the Kennett, about five miles from the castle, is the nearest town; whilst the nearest station, that of Highclere, on the Didcot and Winchester line, is about a mile from the park entrance on that side.

As the park includes some 3000 acres, and the castle is centrally situated, the drives in all directions from the various entrances are long as well as beautiful. Two great features characterise this fine park. The first is its striking undulations, which give to it an aspect of breadth really greater than exists, whilst adding variety and charm that command the warmest admiration. If the eminences are high the valleys are correspondingly deep and broad, hence there is with the variation of surface a very effective boldness, that enabled planting to be done with effect. Then secondly, the park is very rich in timber. It is indeed superbly wooded, without being, as so often is the case, over-planted. The chief arborescent effect is found in noble single trees dotting the valleys and hillsides, with grand clumps on the elevations, whilst here and there comes out with charming, but in no sense undue, prominence, some building, such as a Greek temple, a Gothic chapel, an arched gateway, or similar object that forms very pleasing features in the landscape. These artificial aids, however, are few, and usually somewhat remote from the lines of route.

The castle was built by Sir Charles Barry in 1842. It is of quadrangular form, having three bold massive fronts, north, east, and south, with all the offices on the west side. At each corner is a bold tower, and from the centre rises a huge square one of great breadth and height, rising above the main building in a very conspicuous way. Surrounding the castle are pleasure-grounds of some 30 acres, but there are neither trees, shrubs, or beds near, as so bold a building needs ample margin of gravel and grass. Just at its western corner are the remains of a very ancient Yew, some portions of which are alive, others are dead or have disappeared. The remains of the stem are some 45 to

50 feet round, and doubtless represents an age of 1000 years or more. There is a tradition attached to this tree, that it was formerly the habitation of a ghost which eleven parsons were convened to exorcise, and their invocations for a time were successful. The ghost, however, soon returned, and it was not till a round dozen of reverend gentlemen conducted the ceremony of exorcism that final success resulted.

Cedars of Lebanon are in great abundance, and here do wonderfully well. Most of the trees have the appearance of having been pollarded, though this is hardly likely, and they have, as a result, sent up numerous huge branches somewhat vertically, so that they tower up higher than natural-grown trees usually do, and are less broad. It may be to that circumstance that these trees seem to have suffered little from heavy snowstorms. An old guide-book tells the story of some of these trees, notably two remarkably fine specimens near to the castle. The plateau on which the lawn is situate is 600 feet above the sea-level. Soil is thin and sterile; subsoil hard, with flints and chalk substratum 3 feet from surface. Climate cold, foggy in spring, and often windy. The two larger Cedars were raised from a cone brought from Mount Lebanon by Dr. Pocock, the celebrated eastern traveller, and were sown in 1739. Only two grew. These were planted out, and remained stunted; then transplanted in 1767, being then 17 inches in girth 1 foot from the ground. Many of the others were raised from seed brought from Wilton House in 1772, and planted out in 1778. Of the two older trees, the girth of the larger one in 1787 was, 3 feet from the ground, 2 feet 11 inches; in 1832, 9 feet 3½ inches; and it is now 21 feet, whilst the girth of the other hardly less in nobleness, is 19 feet.

As may be expected, Beech forms a conspicuous feature amongst trees about the pleasure-grounds and park, and some are specially grand specimens. Dotted about the pleasure-grounds are fine Tulip trees, giant Magnolias, fine Hickories, Maiden Hair trees, &c., and Rhododendrons, Azaleas, and Kalmias are in wonderful abundance, although the soil has been specially made for them.

Away in the woods, where Mr. Storey, a very able forester, holds sway, the trees are indeed fine. Specially so are the Douglas Firs, of which there are some of the noblest and most perfect in the kingdom. Pinus ponderosa, Silver Fir, Hemlock Spruce, Picea Morinda, Abies cephalonica, A. Nordmanniana, Picea Mensiesi, and hosts of others are wonderfully good. Most descriptions of forest trees are in capital condition, and Rhododendrons line the roads literally for miles, and surround the huge lake, clothing its sides and islands.

It is not possible, however, to dilate on these features. Enough to say, that any interested in woodcraft who will visit Highclere will assuredly find abundant reward in the woods, in the nursery and in Mr. Storey's hearty welcome. Returning to the castle, however, the calm summer evening discloses from its south front a very striking view of that lofty height, Siddon Hill, which lies about a mile off. This eminence rises some 950 feet above the sea level, and is finely timbered, a central figure being on the summit a treble arched gateway that resembles the entrance to some ancient castle. Rather more easterly, but still comparatively near, is the immense chalk mound called Beacon Hill, which is clothed only with verdure and some stray bushes of Juniper. This mound, for that it literally is, is nearly of the height of Siddon Hill, and a climb to its summit is indeed well repaid, for at that elevation, with nothing whatever to obstruct the view, a wonderful panorama of country bounded by the New Forest and the Isle of Wight in one direction, the Surrey hills, and even the Crystal Palace in another, and the Berks and Oxford hills on the right forms one of the most extensive and charming pictures of English scenery to be found in the kingdom. Those who regard England as an over-populated country would have cause to think differently if they could see the vast areas of comparatively unpeopled country which lies before them from the top of that ancient Saxon encampment, Beacon Hill.

The gardens at Highclere are under the supervision of Mr. W. Pope, and whilst his conveniences in the fruit department are somewhat meagre, and some considerable improvement is yet to be effected in the autumn, yet he does very well in relation to that important part of production. As a vegetable grower and exhibitor he, however, stands A1 in his profession, although it cannot be said that this soil, or the north-western aspect of his kitchen garden are perfect. The May frosts did great harm in many directions, and Gooseberries laid by bushels beneath the bushes. Still, things might have been worse. Onions are always well done at Highclere, and there is a big breadth of planted-out samples from seed, raised under glass in January, of all the finest sorts in commerce. In that direction Mr. Pope is hard to beat. But he has a fine breadth of spring-sown Onions also, full of vigour and devoid of maggots. A first-class crop of this sowing always results. Naturally, every other description of vegetable is well done also, even to such comparatively small things as herbs, for no product however simple, is neglected. The result is seen when the Highclere collections are staged, as they frequently are, at the leading shows of the kingdom, for Mr. Pope is always found an antagonist hard to beat. There are myriads of things about Highclere that it is not possible here to particularise. In some directions large clumps of the pretty white Scotch Briar are most beautiful. In other directions big beds of huge and ancient Tree Pæonies are very striking objects. On the south margin of the castle is a necklace border of shrubs, composed of variegated Aucubas and dark-leaved Laurustinus alternating. There is in one part of the grounds a true Copper Beech, quite of a Beet-root colour. In another direction, beside a pond, is a fine white Willow, the leafage of which presents against the deeper greens around a very silvery aspect. Golden Oaks now, that are in the autumn of a rich red hue, are effective objects here and there.

The place is one to be seen and enjoyed, rather than to be described. True, it lies somewhat out of the beaten track of travel, and the neighbouring training downs of Kingclere perhaps get more visitors; those, however, who prefer the noble and the beautiful to that which is speculative will find Highclere give ample return for the journey. It is to be added, that whilst access to the park can be obtained at any time, by special application to Mr. Rutherford, the agent, on two days a week the entire place is thrown open to the public—a practice which is to be highly commended, and is here much appreciated. *Visitor.* [Highclere holds an important position in the annals of horticulture, for it was there that, in the early years of this century, R. J. Gowen commenced, under the auspices of Lord Carnarvon, and the Hon. and Rev. W. Herbert, afterwards Dean of Manchester, a series of important experiments on hybridisation. As one result of this, we may mention Rhododendron altaclerense (arboreum × catawbiense). There were besides raised numerous hybrids of Erica, Gladiolus, Hippeastrum, and other genera. It seems strange to us now that some good, worthy people denounced these experiments, and the inferences founded upon them, as irreligious; but so it was. Similar charges arise when any new views are propounded, but if based upon fact, the truth prevails, and the timid ones live to wonder at their own fears. Ed.]

New or Noteworthy Plants.

Dracæna Godseffiana, *Hort. Sander.*

This is a distinct species, allied to D. surculosa, camerooniana and interrupta, from which it differs by its very large fruit. It is a native of Lagos, in West Tropical Africa, and has been introduced into cultivation by Messrs. Sander & Co., of St. Albans. It is likely, for the sake of its prettily variegated leaves, to be a favourite with cultivators. The following description is made from a plant now fruiting at Kew.

Stems slender, glabrous, erect, with many nodes producing only small, erect, lanceolate scale-leaves, which are adpressed to the stem. Leaves often three in a whorl, spreading, oblong or obovate, cuspidate, sessile, 3 to 4 inches long, 1½ to 2 inches broad at or below the middle, firm in texture, and persistent, bright green, variegated with copious spots of white. Racemes terminal, shortly peduncled; bracts very small; pedicels short. Fruit globose, greenish-yellow, nearly an inch in diameter. *J. G. Baker.*

Scutellaria formosana, *N. E. Brown, n. sp.*

This is a very pretty Labiate that is now flowering with Messrs. J. Veitch & Sons, of Chelsea, who received it from Mr. Ford, the Curator of the Hong-Kong Botanic Garden, with the information that it is a native of Formosa and Lantas Island. It forms a bushy plant about a foot or 16 inches high, the branches ending in a raceme of large blue and white flowers. I am informed that it requires stove treatment, as it does not thrive in a cool-house.

The stems are square and glabrous, about three-quarters of a line thick, dull green, with reddish-brown angles. Leaves 1¼ to 2 inches long, ⅓ to 1 inch broad, on petioles 3 to 5 lines long, ovate, subobtuse, broadly cuneate at the base, obscurely 3 to 4 toothed on each margin, glabrous and minutely punctate on both sides, bright shining green above, paler and often stained with purple beneath. Racemes terminal, 3 to 4 inches long; flowers opposite, the pairs ⅓ to ½ inch distant. Bracts rhomboidal, 1 to 1¼ line long, ⅔ line broad, like the pedicels and the calyx very minutely puberulous, green. Pedicels 2 lines long, green. Calyx ⅛ inch long, green, the shield on its upper lip subquadrate with rounded angles, about ⅛ inch long and broad. Corolla 1 to 1¼ inch long, pubescent with gland-tipped hairs, the upper lip ⅓ inch long, blue with a violaceous tinge, the lower lip transverse, broadly rounded, and slightly emarginate in front, ⅓ inch broad, white, slightly tinted with blue; the tube is white, with a pale greenish tinge.

S. formosana is closely allied to S. javanica, Junghuhn, but that is a taller plant, attaining a height of 3 feet; its stem is puberulous, its leaves very distinctly toothed, more acute, and with scattered hairs on both sides, and its flowers are only ⅔ inch long, and are described as being of a rosy-lilac or carm ine-lilac colour. The Kew Herbarium, however, contains specimens of a plant that was cultivated by Messrs. Veitch & Sons in 1859, and is labelled "Japan (?)," and of another collected in Sumatra by Curtis, which more closely resembles S. formosana, having glabrous leaves, only more evidently toothed; but the flowers are smaller, and of the same size as those of S. javanica. Possibly all may be local forms of one species, but until more is known concerning them, I deem it best to retain the present plant as distinct, especially as it is easily distinguishable from typical S. javanica, and for horticultural purposes is worthy of distinction. A good plant of it in flower must be very effective for decorative purposes. *N. E. Brown.*

Orchid Notes and Gleanings.

Cypripedium Curtisi.

In a note in the last issue of *Le Jardin*, p. 171, it is stated that C. Curtisi has been raised by Mr. Bleu as a hybrid from C. ciliolare, by pollen of C. superbiens, and hence it is assumed that C. Curtisi is a natural hybrid between the species named.

Lælia elegans Weathersiana, *Hort. Measures.*

This variety of L. elegans is remarkable for the large and expanded front lobe of the lip, and for its intense violet-purple colour. It has just flowered with Mr. R. H. Measures, of the Woodlands, Streatham, and is superior to the ordinary form. The sepals are pinkish-olive in colour.

Cattleya Rex.

Cattleya Rex is certainly a very free-flowering Orchid, and blooming at this season, is valuable in many ways. We possess six plants with thirty flowers; one is already crossed with Lælia Schilleriana. It is, moreover, a free grower, and a first-class Cattleya. *H. Knight, Laeken, August* 20.

BEGONIA RAJAH.

This is a very handsome dwarf foliage Begonia (fig. 31), from the Straits Settlements, discovered and described by Mr. Ridley. The upper surface of the leaf is bullate, rich bronzy-green, whilst the broad nerves are of a paler yellowish-green. The under surface is dull red in colour. The plant was exhibited by Messrs. Sander & Co., at the Royal Horticultural Society on August 14, and received a First-class Certificate.

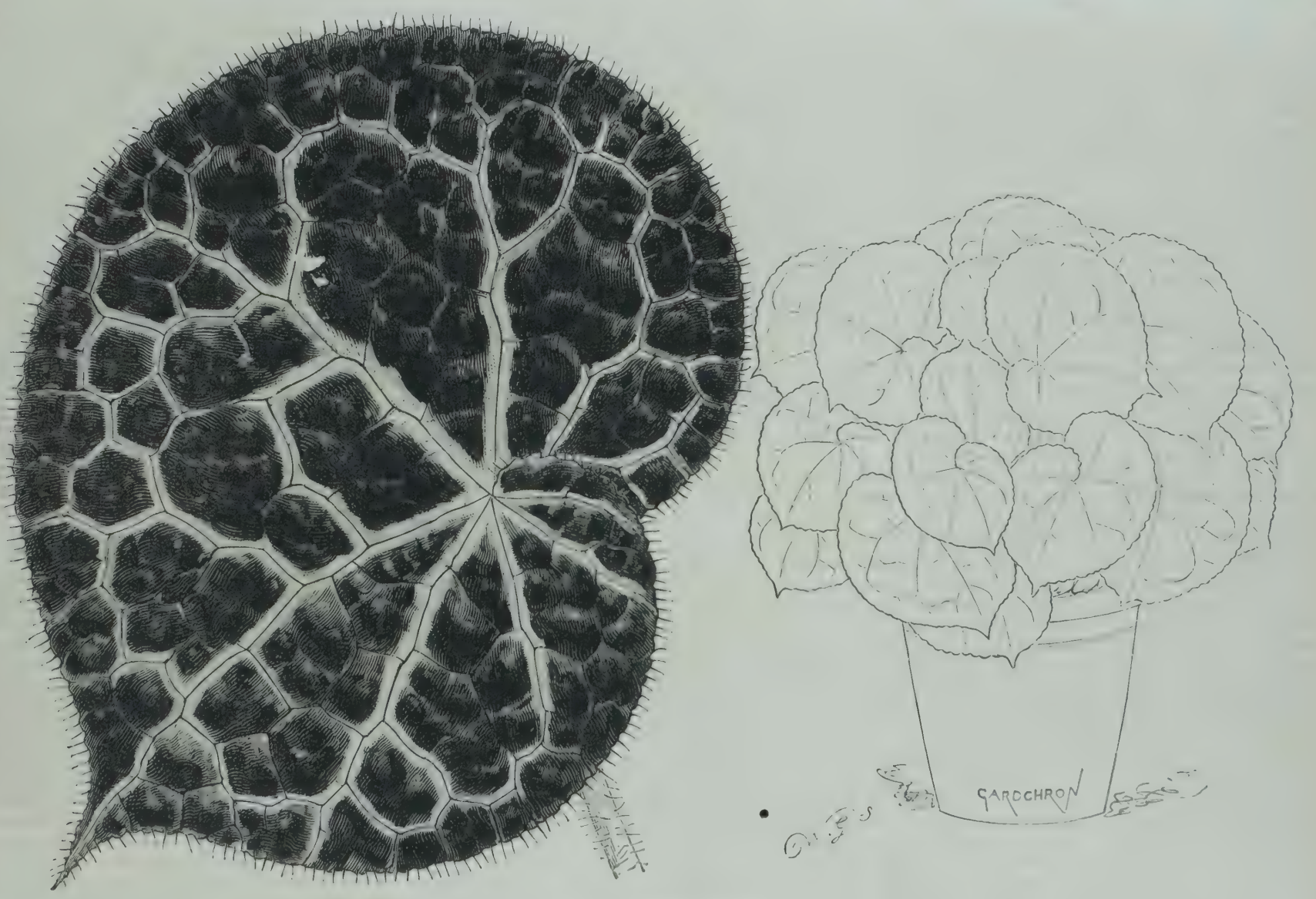


Fig 31.—Begonia rajah.

THE ROSARY.

ROSE RÊVE D'OR.

I am somewhat amused at the very decided terms in which people write about Roses. We poor parsons are oftentimes accused of dogmatism; but whether that charge be just or unjust, we are completely put out of court by many of those who grow and some of whom write also about Roses. Thus I saw in a contemporary some time since a laudatory notice of this Rose, and it was announced in a very decided way that it must be planted on a south aspect. In refutation of this, let me give the history of my plant of it. In that terrible year of France's agony, 1870, the year of Sedan and the Commune, I received a parcel of Roses from Lyons. Owing to the occupation of France by the Germans, it was some six weeks before it reached me, and I naturally concluded there was very little hope that the plants would survive the delay. I however planted and nursed them, and some of them did survive; amongst these there was a plant of Rêve d'Or. I was informed that it was a climbing Rose, with nearly evergreen foliage. It occupies that border land between Teas and Noisettes that makes it so difficult to say to which of the two sections it belongs so when it had recovered the effects of the journey, I planted it against my house in a completely eastern aspect. Here it flourished to such an extent, that it reached quite up to the roof, and half covered two of its sides, the eastern and northern; about ten years after it had been planted I calculated that there were about 3000 blooms on it. This was its grand climacteric. The winter of 1880-81 (I think it was) was very severe, and my Rose suffered fearfully; the following winter was also severe, and I thought the two together had finished it off. I cut it right down to the ground in the autumn, intending to dig it up in the following spring; but to my delight I found signs of life in it, fresh shoots were thrown out, the result being that although it has not yet attained its former dimensions, it has very nearly done so, and has borne this year, I should think, a couple of thousand blooms. So much for its requiring a south aspect. It may be said, perhaps, that my plant would not have suffered so severely in another aspect. It may be so; but I do know that many Roses in different aspects suffered as much. *Wild Rose.*

Rosa macrantha.

This beautiful Rose deserves to be more extensively grown than it appears to be at the present. It is erect in habit of growth, and flowers with profusion; they are single, large, and well formed, the golden anthers contrasting most effectively with the pearly whiteness of the individual flowers, which are almost as large and as useful for decorative purposes as those of the Eucharis amazonica. I saw rows of this Rose and Rosa Biggeriana a short time ago growing by the side of Lord Penzance's Hybrid Sweet Briars in Messrs. Keynes, Williams & Co.'s Nurseries, Salisbury, and I was so pleased and struck with the size, colour, and beauty of Rosa macrantha, that I could not resist suggesting to Mr. Wyatt, jun., the advisability of fertilising one of the Hybrid Sweet Briars (say, Flora McIvor), with pollen taken from this charming single Rose. A Sweet Briar, yielding a profusion of flowers of the description indicated, would be a grand acquisition to, and would surpass in loveliness and usefulness, any existing varieties of the single Rose or Sweet Briar. *H. W. Ward.*

Autumn Notes.

With harvesting very general in the southern counties, we may consider ourselves well into autumn. If we look at Roses upon the Manetti stock, and upon somewhat porous soils, we find that even the present showery season has not much affected their early ripening. A bed of my own is quite fit for lifting, if needed, for early potting. August and early September is a most suitable time for this in the case of hybrid perpetuals upon the stock already named, and I have frequently had great success when lifting thus early. Do not keep them out of the soil an hour longer than necessary, and select that stage between summer and late autumn growth, which promises to be so prevalent this season. Of course no one would attempt the lifting of such plants as may still be in full growth. Potted firmly, stood in the shade of a wall or hedge,

*

plants which are ready for lifting, if carefully looked after in the matter of overhead moisture for a time, will soon plump up and make an abundance of new roots. I do not like to delay the pruning of such plants too long, or many of the roots experience a severe check. Pruned hard, they break well, and flower during the same winter if treated steadily. It is no more or less than improving upon the late autumn growths, with the additional advantage of protection. Where many fail, is in the adoption of too hasty measures when first removed under cover.

With the present wet weather we are fortunate to be free from red-rust and mildew; only a few H.P.'s have, as yet, been affected by the former, and the chilly change, following a spell of sultry weather, raised fears of the latter upon the late growths of Teas and others upon Briar stocks.

How much the season of Roses can be prolonged by a little judicious use of various stocks, and also by planting a few Roses late in spring! A day or two back I saw a bed, the half of which had been planted in autumn, and the rest in spring; now one portion is in full bloom, and the other will soon be following with its third crop this season. The use of various stocks, planting a few in different aspects, &c., will ensure a prolonged season. *A. P.*

REMARKS ON THE FRUIT CROPS OF 1894.

[*For Tabulated Summary, see p.* 119]

(*Continued from p.* 182.)

4, MIDLAND COUNTIES.

Warwickshire.—In orchards in this district, with the exception of an occasional tree here and there, Apples are a failure, although the bloom was glorious. The frost in May was followed by a devastating attack of caterpillar and aphis, finishing what the frost had spared. In the orchard-house, with the exception of a few Plums, there is nothing worth noting. Yet in a lower part of the garden, where one would think frost would strike more severely, we have a dozen or more bush trees very satisfactorily laden with healthy fruit. The names of them are: Keswick Codlin, Rhode Island Greening, King of the Pippin, Schoolmaster, Cellini, Dutch Mignonne, Reinette du Canada, Kerry Pippin, Northern Spy, Small's Admiral, Ribston Pippin, Lane's Prince Albert, Blenheim Orange, Harvey's Wiltshire Defiance. Pears: these are in this district, together with the Apricot, the two outdoor crops of the years. There will be a good many Pears even on standards of the commoner varieties; but our greatest success here is on the wall trees, which are literally laden. When the frost came they were fairly in leaf, and a slightly projecting coping perhaps helped. We also in good time hand-picked the trees, and so freed them of caterpillar. Subjoined are the names of our most successful varieties: Glou Morceau, Easter Beurré, Beurré Rance, B. Diel, B. d'Amanlis, B. Clairgeau, Marie Louise, Bon Chrétien, Victoria, Van Mons. Leon Le Clerc, Comte de Lamey, Winter Colmar, Winter Nelis, Louise Bonne of Jersey, Dunmore Brown, Beurré, Passe Colmar. Peaches: with the exception of a Dr. Hogg, all our outdoor Peaches are young trees, with only a few fruits on each, not sufficient to give any satisfactory report of them now, but they are making excellent wood, and will no doubt give a good account of themselves another year. The Dr. Hogg, however, like its respected namesake of pomological reputation, has always done well with us out-of-doors; it is now a fine tree, and has quite a show of fruit all over. Apricots are by far the finest crop I ever saw in this neighbourhood during a longish life-time. The trees are remarkably healthy; when threatened with caterpillar we had the trees hand-picked. Plums are plentiful, although the leafage of the trees is not in a very healthy condition, having, like the Apples, suffered from aphis and cold weather. We have some Cherries, but they are not up to much, having evidently suffered from cold at an early stage; many of the Morellos are falling off. Sweet Cherries were better, but we had a great fight to destroy the black aphis, which came again and again; an emulsion of paraffin was our most effective dressing. Raspberries: owing to the drought of 1893, canes were not sufficiently matured to yield good crops this year, but enough fruits are being gathered. Strong canes are coming up, which promise well for another year. Red and Black Currants are plentiful, but the fruit—from an attack of aphis or blight, as it is called here—is very dirty, and has to be washed before using. Strawberries, like the other small fruits, are very unsatisfactory. Hazel-nuts are everywhere plentiful. Walnut trees are without fruit; Mulberries are little better. Beech, Horse Chestnuts common and scarlet, are full of fruit; there will also be some acorns. Oak trees in this neighbourhood during the early days of June were very much denuded of their leafage by the devastating attacks of Lepidoptera — the green Tortrix, probably Tortrix viridana. The trees are now making a second leafage, and if that is any pleasure to us, we are at this advanced season enjoying the delicate tints of the leafage of an early June, and we will have it continued, more or less, far into the month of August. Farmers' orchards of this part of the country, notwithstanding the preachings of sundry County Council lecturers, bear still upon them the stamp of many years' neglect. Farmers evidently have little hope that the cultivation of fruit will ever do them any good. They still hang on, as it were, with their eyelids, to obsolete farming practices, in the full hope that the season of depression will pass away, and that the evolution of time and circumstances will restore to them those happy days when the easy cultivation of the land, &c. Pity such a state of ignorant blessedness should ever have been disturbed! In those days farming, for the most part, was conducted by brute force and human muscle. Now it appears to be all brain and steam, and the weakest go to the wall. *W. Miller, Combe Abbey, Warwickshire.*

5. SOUTHERN COUNTIES.

Berkshire.—There was a grand show of bloom, and every appearance of one of the best crops of recent years, up to the evening of Sunday, May 20, when 10° of frost was registered here. Fortunately, the Strawberry and early Potato crops were saved, men working all night covering them up with litter. Pears escaped, the trees being well clothed with foliage, and Apples, Cherries, and Plums have far better crops than I expected, much of the fruit being frozen through, and black. As regards free-bearing and good Apples for dessert and kitchen use, many names which have been noted in previous years will again occur, such as Rosemary Russet (a sure cropper), Frogmore Prolific, Calville, St. Lawrence, Peasgood's Nonsuch, Pine-apple Pippin, King of the Pippins, Mère de Ménage, Jonathan, Paradise Pippin, Grime's Golden, New Ribston, Claygate Pearmain, Warner's King, Duke of Devonshire, Ecklenville, Tower of Glamis, &c., are all carrying good crops. Of varieties introduced later, Domino, St. Edmund Pippin, Bismarck, Schoolmaster, Lady Sudeley, King Harry, Baumont's Red Reinette, and others, are looking well. Pears on walls, standards, and bushes, are bearing heavy crops of clean fruit, viz., Williams' Bon Chrétien, Ne Plus Meuris, Passe Colmar, Beurré Giffard, Beurré Rance, Louis Bonne of Jersey, Seckle, Marie Louise, Beurré de Jonghe, L'Inconneau, Beurré Sterckman's, Pitmaston, Duchesse d'Angoulême, Forelle, Beacon, Clapp's Favourite, General Todleben, Princess, &c., may be mentioned, and crop all round is very heavy. Thinning the fruit has been persevered with. Peaches and Nectarines good crops, but trees have been badly infested with aphis, and with the growth retarded by cold nights, it has been difficult to eradicate, and trees are not looking well. Strawberries were late, and have been of average quality; many crops in this district were killed outright by frost mentioned before. Raspberries under average; Superlative is a grand sort, free cropper, fruit very large, and plant of robust constitution. Bush-fruits are abundant; Gooseberries very large. *O. Thomas, Royal Gardens, Windsor.*

Berkshire.—For my district, taking a diameter of five miles, the fruit crops are nearly as I have jotted them. Three consecutive frosts, culminating in the night of May 20th, and a severe hailstorm following on the 24th, crippled the bloom of my Wellington Apples, and have left a straggling crop. I feel, however, comforted in this case, for the sake of the trees, as they bore heavily last year. Of Irish Peach, Mr. Gladstone, Pay-the-Rent, and the Codlin tribe, I have full crops. My Pears are an over crop, and so are my Plums, though Damsons are sparse. Of Black Currants my crops are enormous, and I have been fairly well off for Red ones and Raspberries, as our jam pots testify. Red Currants, as a rule, got much smitten. Of Gooseberries I never had a better crop, but they are now being chiefly resolved into Champagne. With Strawberries I consider myself to have been well supplied with a half-crop; Keen's Seedling and John Ruskin failed, Sir Joseph Paxton producing as recorded elsewhere, and Auguste Nicaise has redeemed itself this year. It has not grown so abominably big. I can compare it for you to the picture of "Royal Sovereign" the Messrs. Laxton presented us with, it came with me so bright and clear. Elton Pine completes my list, but my plants are too young to throw a crop this season. Filberts and Cob-nuts are a prodigious crop, but no Walnuts. There are plenty of Grapes and Figs upon the walls of my house. *Robert Fenn, Sulhamstead.*

—— In this district the fruit crop all round is far from satisfactory. Apples are a poor crop, and the trees looking wretched. Pears on pyramids set good crops, but the fruit has since dropped. On walls on the other hand they are an average crop, and the trees healthy. Of Strawberries in these gardens we have had abundance; being sheltered and early they were not destroyed by the frost of May 21, as were many others in the district. Of nuts Cobs and Filberts are heavy crops, but Walnuts suffered with the hail and frost in May. *T. Turton, The Gardens, Maiden Erlegh.*

Hampshire.—For the first time in ten years the Apple crop must be accounted as under average. Warner's King, for instance, in one part of the garden has a full crop, while on others of the same sort there is none. Cox's Orange Pippin is a failure for the first time during thirteen years. Keswick Codling, Lord Grosvenor, Worcester Pearmain, and Ecklinville have good crops. I attribute the absence of a good crop to the continued wet, cold, and sunless weather experienced while the trees were in bloom, and not to the frost occurring on May 21. Pears are a heavier crop than usual. *E. Molyneux, Swanmore Park.*

—— Apples covered with bloom were attacked with the caterpillar. Many old orchard trees were rendered quite bare of foliage during the month of June. Young Apple trees round the kitchen garden squares are much better, such varieties as Lord Burghley, Pott's Seedling, Peasgood's Nonsuch, Cellini, Annie Elizabeth, and a few others having fine crops of nice clean fruits. Pears are good, and heavy thinning has had to be done, notably on Beurré Hardy, Glou Morceau, Ne Plus Meuris, Conseiller de la Cour, and a few others. We need a deal of sunshine and warmth to finish off the many autumn fruits, or I am afraid they will be small and inferior. *A. Maxim, Heckfield Gardens.*

—— The Apple crop is bad about here; most of the fruits have fallen off and are still dropping. The set of Pears was a good one, but late in point of time, and they are also falling off very much. Plums are the same. Cherries are falling off and the trees very much blighted, as are Peaches and Nectarines, and the fruit is late and small. Gooseberries and Currants are most abundant. I think the cause of the fruits falling is due to sudden changes and cold weather. *Wm. Smythe, Basing Park Gardens, Alton.*

Kent.—Apples are very scanty, as could be seen early from the absence of blossom; Pears, on the contrary, are abundant. Cherries were stunted in the early part of the season by the cold weather, and since the wet weather set in, immense quantities have rotted on the trees. *V. Court, The Greys, Lynsted, Sittingbourne.*

Kent.—Apples, on the whole, below average. Pears and Peaches are the reverse, heavy crops being the rule. Soft fruits were very good, notwithstanding Strawberries (the earliest blooms) in some gardens were injured by the late May frosts. Cherries were good, though, owing to continued rainy weather, some of the fruits are splitting. Plums and Damsons are good crops. Apricots clean, with plenty of fruits. The good set of Peaches and Apricots is in a great measure due to the wood being well ripened, together with very fine weather when in bloom. *H. Markham, Mereworth Castle, Maidstone.*

—— The crop of Apples on standard trees is under average; although bush trees are carrying good crops. Golden Spire has again proved itself to be one of the best cropping culinary Apples, bushes of this variety being loaded down with fruits. The tree is a very erect grower, consequently could be planted much closer than is usual with others. Irish Peach, a rather early dessert variety if allowed to grow as it likes, with just a little thinning of the branches, is carrying abundance of fruits at the points, four and five fruit in a cluster. Pears of almost all varieties are a very heavy crop, and will need a great deal of resolute thinning so as to insure size and good flavour. Planters should take care to plant plenty of Doyenné du Comice, Josephine de Malines, and Winter Nelis. Peaches and Nectarines are looking well, but the trees need sunshine. Singular to relate, that around here the Strawberries and other small fruits have been most plentiful, but the fruits have suffered much from rain and dull weather. Thousands of bushels of Cherries from this district were despatched to market in fairly good condition, but lately the continued rain caused many fruits to crack nevertheless, good prices were the rule, and amongst farmers this fruit is considered to be most remunerative. Kentish Cob Nuts are wonderful to behold, and most likely will be very cheap, as the crop is a heavy one, but there is still time for many to drop off. *G. Woodward, Barham Court, Teston.*

—— Apples in orchards a failure; only a few Codlins and King of Pippins. Garden trees on Paradise stock, good crop. Pears: largest crop ever known, in all forms. Plums: caught by frost in places; Damsons likewise. The promise of a large crop of Cherries was blighted by frosts, and cold, damp days. Wall fruit is only a small crop. Small fruits, where not cut by frost, very fine. Nuts: largest crop ever known; some will grow 2 tons to the acre. *George Bunyard, Maidstone.*

—— Apples in this district are a total failure. Pears are very good; a big crop, and very clear skinned. Plums are a bit more shy, especially the early good sorts; the Victorias a wonderful crop. Cherries were very good, but the recent wet spoiled the quality more than 50 per cent. Gooseberries and Currants were very good, especially the Black Currants. Nuts are an immense crop, both Cobs and Filberts, but the wet is very bad for them, and we may finish badly yet. *Champion Bros., Baron's Place, Mereworth, and Boro' and Covent Garden Markets.*

—— Apples very scanty. Pears are not much grown in this neighbourhood, but where a tree is found it is sure to have a crop on it. The Plum crop is rather partial, but there is an average crop; the same may be said of the Damsons. There has been a very fair crop of Cherries (except perhaps with the English and Flemish varieties), but the weather has been most unfavourable for the ripening of the fruit. Black Currants have yielded a splendid crop this year. *W. H. Skinner, The Hall, Boughton Monchelsea, Maidstone.*

Middlesex.—The season opened with abundant bloom, and was most favourable till the middle of May, when severe frost destroyed the early fruit, Strawberries and other fruit suffering badly. Such trees as Peaches, Nectarines and Apricots, which were sheltered on south or south-west walls, and which set early, are bearing heavy crops. Pears are good and abundant, such varieties as Louise Bonne of Jersey, Glou Morceau, Beurré Baltet Père, B. Diel, Jersey Gratiolis, Durondeau, Marie Louise and Passe Colmar are loaded with fruit. Both wall trees and pyramids are fruiting well. We have a nice lot of Apples, of both late and early kinds. Worcester Pearmain, Red Astrachan, Quarrenden, with the Codlin type, are bearing heavy crops, with a nice lot of good-keeping varieties. *G. Wythes, Syon House.*

Middlesex.—Apples on small bush and pyramid trees only are an average crop, and very light on old standard trees. Some few gardens round here have a good crop of Apples, but they are exceptions. Plums heavy crop generally; but the May frosts spoilt the crop in some places. *G. Ringham, Wrotham Park.*

—— Strawberries were a miserable failure. The following varieties of Pears are good in this district:—Williams' Bon Chrétien, Marie Louise, and Louise Bonne of Jersey. *William Farr, Spring Grove House Gardens.*

—— Our Apples are above average and good. The trees are what may be termed natural bush and pyramid on several kinds of stock, inclusive of French Paradise and wild Crab. Nearly all are laden with fruit, and in all parts of the garden, many of the trees breaking down beneath their load. The following may be noted as most conspicuous: Frogmore Prolific, Cellini, New Hawthornden, Mank's Codlin, Golden Spire, Lane's Prince Albert, Bramley's Seedling, Worcester Pearmain, Kerry Pippin, King of the Pippins, Small's Admirable, Golden Noble, Stirling Castle, Ecklinville Seedling, Rymer, Beauty of Kent, and Loddington Seedling. *A. F. Barron.*

Surrey.—The Apple crop is a very partial one, this fact being noticeable even in a very limited area. Maggot was troublesome early in the season. Pears, especially cordons, have a good all-round crop. Plums on walls are the heaviest crop we have had for several seasons; the fruit, however, despite the thinning it has had, seems likely to be small. Peaches and Nectarines on south walls evidently feel last season's drought severely, for there was a premature ripening of the wood, and an imperfect set of fruit. Apricots and dessert Cherries on south-west and west walls are and were well up to the average in quantity and quality. The late frost crippled Strawberries, early set and late bloom being alike destroyed. Dessert Gooseberries on trellis are an excellent crop, but very few are to be found in the open quarters. *E. Burrell, Claremont, Esher.*

—— Pears, Plums, Apples, Cherries, Gooseberries, &c., were very robust and clean. The enormous show of bloom was strong and perfect, notwithstanding the good harvest of the previous year; but after the fine, warm weather, the cutting winds from May 17, and the frost (10°) on the 21st, and succeeding days, was disastrous. Pears and Cherries seem to withstand it the best. Plums, not a third of a crop remains. Apples are almost a failure, except in a few places. Apricots are fairly good; Peaches about the same. Strawberries almost a failure; what withstood the frost were small and insipid. Gooseberries, Currants, and Raspberries, are of good quality, but deficient in flavour. Nuts are more plentiful than I ever remember. *A. Evans, Lythe Hill.*

—— Apples set an abundant crop, but the frost of May 20 and 21 destroyed nearly all. The varieties that suffered least are Lord Suffield, Keswick Codlin, Bismarck, and Quarrenden. The first blooms on the Raspberry were all killed, but sufficient buds were protected by the foliage to insure a later crop. Strawberries were a complete failure, with the exception of Latest of All; from that we have gathered some very fine fruits, but none at all from eleven other varieties. Red and Black Currants are plentiful, large, and clean. Damsons last year were a very heavy crop, and this year the trees are laden with fruit again. Green-fly troubled us very much until a week or two ago. *G. H. Cummins, The Grange, Carshalton.*

Surrey.—This is one of the heaviest fruit years we have had for a long time, and the Apple crop would have been as heavy as the Pear and Plum crops but for the severe frost about May 20. Gooseberries were finer than I have seen them before, but Currants are rather blighted. *J. Walker, Ham.*

—— Apples are, whilst of fairly good quality, yet a very partial crop, probably not more than half the average. Pears are an enormous crop everywhere, and very clean and good. Cherries have been most abundant and fine; whilst Plums are a rather poor crop in many places, but in others are very plentiful. It is the most erratic crop of the season. Peaches, Nectarines, and Apricots, on walls, are very partial. Nuts generally are plentiful, and small fruits have been wonderfully good. *A. Dean, Kingston-on-Thames.*

—— Varieties of Apples which are cropping well are Beauty of Kent, Lord Suffield, Lemon Pippin, and Cox's Pippin. Some Pears have heavy crops, but we are wanting sunshine very badly. The trees are very clean. Williams' Bon Chrétien is the only exception, and it has failed to set any blossoms. I never remember seeing such a set of Peaches and Nectarines, every flower seeming to give a fruit. My walls being well protected from the north and east winds, I do not cover the trees with netting, and the result is a much heavier set of fruit. Currants are spoiled by honeydew; Filberts and Cob Nuts are breaking down with the weight of the crop. *G. B. Baskett, Easking Park Gardens, Godalming.*

—— Owing to late frost, few Apples remain in this district, except where trees were sheltered. There is a slight sprinkling of King of Pippins, Ribston, Cox's Orange, and Cockle Pippins, Golden Nobs, Mannington Pearmain, and a few others. Of kitchen Apples, the best are Ecklinville Seedling, Warner's King, Gloria Mundi, Stirling Castle. The Pear trees bear very heavy crops, requiring much thinning of the fruits, and they are clean and healthy looking. *C. Papworth, Ridding's Court, Caterham.*

—— The Apples which crop well this year are Prince Albert, Stone's Ecklinville, Tower of Glamis, Lord Grosvenor, Golden Noble, and Brownlee's Russet. *C. J. Salter, Woodhatch Lodge, Reigate.*

Sussex.—Pears are a wonderful crop on nearly all trees. Apples are very poor through this district. In some places the caterpillar was very troublesome. Bush fruit of all kinds, with the exception of Red Currants, have been very plentiful. Strawberries through the whole district were very short. Plums for the most part are an abundant crop, especially the more hardy varieties, as Victoria, Early Rivers, and Orleans. Peaches and Apricots have never been better. *H. C. Prinsep, Buxted Park.*

—— The piercing cold winds and the frosts in May proved most disastrous to the Apple crop in this part of the county. With the exception of a few sure-bearing varieties, it is a failure, and the trees are unhealthy. Pears are a more promising crop, and trees on the walls of Beurré d'Amanlis, Jargonelle, Louise Bonne of Jersey, Williams' Bon Chrétien, Durondeau, and Souvenir du Congrès, are carrying heavy crops, but owing to the absence of sunshine, the fruits are beginning to crack. *A. Offer, Handcross Park Gardens.*

Wilts.—The frosts in May marred the prospect of a good all-round fruit year, still Apricots, Peaches, and Nectarines set an immense crop, and required severe thinning. The condition of the trees and fruit is everything that could be desired. Green Gage Plums on trees which had been protected the same as Apricots and Peaches when in flower, are plentiful and good. Other varieties of Plums bearing good crops are Early Favourite, Early Prolific, Monarch, Mitchelson's, Orleans, Guthrie's Late Gage, Pond's Seedling, Jefferson's, Grand Duke, and Victoria. Pears are a light crop. Trees of Crassane Althorp, Marie Louise, Beurré Diel, Williams' Bon Chrétien, Catillac, Doyenné Boussoch, Durondeau, and Beurré Clairgeau are fairly well cropped, though Apples are a poor crop in our

orchards; but young espalier trees in kitchen garden are bearing good crops, the varieties being Emperor Alexander, Stirling Castle, Mr. Gladstone, Early Juneating, Early Nonpareil, Early Red, Margaret, Keswick Codlin, Duchess of Oldenburg, Ecklinville Seedling, Red Astrachan, Annie Elizabeth, King of the Pippins, and Beauty of Bath. Gooseberries are immense crops of good fruit. Raspberries are also good. Currants are fair. Strawberries very light, the blossom having been nearly all killed by frost. *H. W. Ward, Longford Castle, Salisbury.*

Wilts.—The fruit crops generally are bad in the open, especially the staple crop, Apples. The frost upset all our calculations, otherwise the prospect was excellent. Trees on walls, &c, are generally well-cropped and of good quality, having escaped injury by frost, the trees being sufficiently foliaged to furnish protection to the fruit. Cherries are much blighted. Peaches and Apricots are splendid crops, and we have already gathered fruit of the Waterloo Peach. Cob Nuts and Filberts are a fine crop, but Walnuts were spoiled by the frost. *W. A. Cook, Compton Basset.*

—— Generally the fruit crops are abundant, and good in quality, with the one exception—Apples, which are very bad indeed—the worst we have had for thirty-four years. Peaches, both early and late varieties, are particularly good. We commenced to gather early Alexander from a south wall on July 10. Early Louise and Amsden on the 17th, and Hale's Early, are now (July 21) ripening. Apricots and Cherries are very abundant and fine. Pears are also the heaviest crop we have had for many years. *J. Challis, Wilton House, Salisbury.*

(*To be continued.*)

NURSERY NOTES.

DWARF CANNAS.

Through a large part of the year dwarf Cannas are a feature at Cheshunt. Messrs. Paul have raised some splendid varieties, and shown them well at the leading exhibitions. A large number of seedlings are now under trial, and as they have been raised from the finest varieties, they will prove of more than usual interest. Many beautiful kinds may be anticipated, and as the Canna is only now being really improved upon as regard the dwarf section, one may expect many distinct things. In one of the houses a group of the newer kinds, some of Crozy's raising, is in bloom, and the following are a few of the finest:—Comet is one of Messrs. Paul's raising, the flowers produced in a sturdy spike, and the plant very dwarf, the broad segments yellow, striped with reddish-crimson. Progression is a fine kind, the flowers yellow, spotted light crimson, and another, like a Gladiolus in the form of its flowers, is Mrs. Tasker, yellow, flushed with red. A large, but not coarse flower, is Pioneer, the colour clear carmine; a good yellow-flowered variety, very clear and pleasing, being Antoine Barton, spotted with crimson. Cheshunt Yellow is a pure yellow, with a bronzy-reddish blotch in the centre, which shows up the deep yellow shade. L. E. Bally is rich yellow, with crimson spots; Sophie Buchner, deep crimson, broad and handsome. E. Meig is a distinct variety, deep crimson, the flowers in a fine spike, and several others are in bloom. The list, however, of the best Cannas is long, and is extending each year, especially as Messrs. Paul have hybridised so freely, with a view of getting dwarf plants with flowers of striking colour, either self or spotted. The plants will soon be very beautiful in the open, and in the future, in favourable seasons, the Cannas of these dwarf types will be much valued for beautifying the garden or park. *Visitor.*

J. Ouvrard's, Child's Hill, Kilburn.

Although not covering such a large area of ground as many other market-growing establishments, the above is one of the most interesting nurseries in the vicinity of London; it was started on a very modest scale more than thirty years ago, that is long before the Rochfords and other large trade growers covered great areas with ranges of spacious houses as they do now. It may also be mentioned that the Child's Hill Nursery, from its commencement, has been entirely devoted to the cultivation of plants, and did not therefore participate in the profits which were made by the early market fruit growers.

Mr. J. Ouvrard, once a foreman of the now defunct firm of E. G. Henderson & Sons, of St. John's Wood, &c., is a man of great energy, and one of the ablest and most deservedly successful pioneers of market men engaged in growing plants; and his success is no doubt due to his own exertions, supplemented by those of his wife; for, in its early days, much of the work at the nursery was performed by Mr. Ouvrard and his devoted wife, who for many years delighted in the work of pricking-off and potting-off young Ferns. His good nature and amiable disposition, as well as his keen perception of moving and keeping with the times, have been of the greatest service to him, helping him into his present position. A few years ago Ferns formed his principal stock in trade; and Pteris Ouvrardii, raised by him, a variety of much decorative value, will remain to perpetuate his name. No one who saw the magnificent forced Azaleas, which used to make Mr. Ouvrard's name famous among growers of forced flowers for Covent Garden Market, will forget the beautiful sight that these plants afforded. Latterly, however, flower-forcing and Fern-growing have been partially abandoned, and the cultivation of Palms taken up. These plants always commanded a certain amount of his attention, and it may safely be said that he was one of the best cultivators of Kentias in this country; and his Kentias, in height varying from 2 to 6 or more feet, have been disposed of by him by tens of thousands. The Child's Hill Nursery is now replete with plants of this species, as well as with numerous other popular species, such as Latania borbonica, Areca lutescens, Cocos Weddeliana, &c., all in the best of health.

Palm culture, although an important branch in the Child's Hill Nursery, is not by any means the one absorbing occupation of Mr. Ouvrard, for nowhere else can a more beautiful lot of Phrynium variegatum, or plants in better condition, be observed. Foliage Begonias and Caladiums are well grown, and Crotons and Dracænas receive special attention at his hands. It is refreshing to see, among the seedlings of Dracænas raised at Child's Hill, such a strikingly distinct plant as D. Ouvrardii, half-a-dozen plants of which variety received an Award of Merit when exhibited at the meeting of the Royal Horticultural Society on June 26 last, by Mr. J. Ouvrard, whose name was inadvertently printed in the *Gardeners' Chronicle* for June 30, and other papers, as Durrant. This new variety has leaves of medium size, deep bronzy-green in colour when mature, broadly margined with pink, the young foliage being of a rosy-carmine shade, and the whole plant very effective. Besides the beautiful colouring of its foliage, the principal feature in this variety, as also in a handsome red-foliaged form which Mr. Ouvrard has named D. Robertsoni, may be said to reside in the great substance of the leaves, which apparently is greater than in the majority of the varieties which are already in commerce. It is to be hoped that such a remarkable measure of success will have the effect of encouraging the raiser, inducing him to repeat his operations on a larger scale, and thus give us plants equally as distinct and of the same decorative value. *S.*

A TRAVELLERS' NOTES.

(*Continued from p.* 91.)

April 23, 1893.—Ballarat entirely owes its position to the discovery of gold, and to its being the centre of possibly the richest gold-yielding district known. But 74 miles from Melbourne, it claims 50 miles of streets, and in the two municipalities over 43,000 inhabitants. The elevation is 1,415 feet above the sea. It possesses gardens of unusual interest. Though called botanic, they can in reality scarcely claim to be such. The Conifers are exceptionally fine, the collection of statuary, purchased at great cost in Italy by men who made fortunes in the mines, is naturally ahead of anything in any public garden I have previously visited. The collection of Tree Ferns is large and in good condition, occupying the main portion of a house 450 by 60 feet; the paths, nearly all at right angles, as are the streets in Australian towns, are 12 feet wide, covered with a fine iron-stone gravel, weedless and perfectly smooth. Within a few yards is a lake, 575 acres in extent; but possibly that which most attracts attention is the absence of overcrowding in the shrubberies.

Mr. Longley, the Director, has held the position for thirty-four years, and many of his reminiscences of the earlier days are interesting. When he took over the garden, then nought but a police-paddock, Melbourne was being built. Ballarat was regarded as an Eldorado, and quarrymen were receiving 18*s.* per day. 88 acres is the extent covered by the entire reserve—33 only being under cultivation, the remainder down to the shores of Lake Wanderer, is planted with Elm, Oak, Willow, Pinus insignis, P. halepensis, &c., many of them now fine specimens. The climate is good, though for three months, in summer no rain falls. The temperature rarely exceeds 98°, and Mr. Longley cannot recall having experienced more than 5° of frost. Snow occasionally falls. Near the great shade-house, a handsome turreted erection, 450 by 60 feet, is a low, circular glass pavilion containing the five finest pieces of statuary, a more than life-size group, represent "The Flight from Pompeii," occupying the foremost position.

Beds gay with bedding-out plants, annuals, &c are scattered about the lawn, lying immediately in front of the shade house, though chiefly devoted to Tree Ferns, amongst which are many fine specimens of Cyathea medullaris, C. princeps, C. Cunninghamii, C. dealbata, Dicksonia australis, D. squarrosa, D. antarctica, &c. Two long side beds are devoted to Camelliss and Fuchsias, both in good condition, many of them carefully trained pyramids and half-standards gay with flower. The Camellias as at Adelaide, are apt to burn if exposed to the full effects of a summer's sun.

Creepers hide the numerous pillars, and penetrating between the rafters, trail over the roof. Abutilons, Tacsonias, Passifloras, Bignonia Mackenii and La Trobei, named after the first Victorian Governor; Ampelopsis japonica and Veitchii, Lapageria, Aranja albens, Mandevilla suaveolens, Trachelospermum jasminoides, Aphanopetalum racemosum, &c., for the most part in the open black loam of the prepared borders grow with luxuriance.

The more ordinarily met with species of Cyrtomium, Pteris, Davallia, Lomaria, Asplenium, Platycerium, &c, occupy the open borders between the Tree Fern stems, and adorn a neat rockery and waterfall at one end. Tanks of fish, gold and silver roach, cat-fish, tench, Russian carp, &c., are in evidence for those piscatorially inclined. The end of the house facing the lake is at present a glorious picture, a tangled mass of Tacsonia exoniensis×, and Bignonia Mackenii in full bloom. In the border opposite is a specimen of Abies Webbiana 15 feet high, a species not often met with. Behind the shade-house is the nursery, &c., a Platanus occidentalis shading the entrance, considered by Mr. Longley superior as a planting tree for the Ballarat climate to P. orientalis. It is generally hardier and does not burn. Facing one of the only two glasshouses the garden possesses is a neat clipped hedge of Cupressus macrocarpa, and several pillars of variegated Symphoricarpus trained on sticks 8 to 10 feet high.

In the houses the Begonias are quite a feature not so dwarf as we grow them, the individual size of bloom is equal to anything in England as is the variety of colour—many fine flowers were 5 and even 6 inches across. Over a hundred varieties of Fuchsias are grown; and the ouble Petunias are very good. Streptocarpus also look well.

A collection of woods, in a low building devoted to the Ballarat Fish Acclimatisation Society, over whose welfare Mr. Longley also presides, illustrates the rapidity of growth of forest trees in the neighbourhood. One specimen of Pinus insignis Mr. Longley mentions as having attained in nineteen years the height of 66 feet, and a stem circumference of 9½ feet. Within a few feet of the Acclimatisation Society's building is another striking instance: an English Oak, with a stem 15 inches in diameter, but twenty-five years old. The nursery ground is naturally devoted to the reproduction of those plants required for planting in the reserves and gardens. A batch of some 500 Eucalyptus globulus look well, as do large pyramid Azaleas, 3 to 4 feet; and Rhododendrons the same size in pots. Seed saved in the place of Cedrus Deodara germinates free

Giant Elm, grafted in July last, has foliage in magnificent trim, and in one instance has made a shoot 11 feet long. Neat bushes, 2½ to 3 feet, of Boronia megastigma, occupy the centre row of one bed; it is scarcely credible they are but two years from cuttings. There is no difficulty in growing them 5 feet high, and 3 to 4 feet through, and in this condition flowering them freely. Euonymus and Holly do well; and beyond a handsome, close-cut hedge of English Privet is a row of standard, mop-headed, double scarlet flowering Thorns. Double-blue and double-white Violets edge neat beds of Narcissi, seedling Carnations, Hollyhocks, &c.; and beds of annuals, sown but two months ago, for flowering next October in the garden, are for the most part up and thriving.

Beyond the fence-boundary of the nursery, Mr. Longley pointed out a row of grafted Canadian Elm, planted by himself a little over eight years since, and now averaging 30 feet—fine trees. Elder (S. nigra) does well, and fruits freely; a fine feast for the sparrows—as great a pest here as elsewhere. Mr. Longley finds they breed three times in the season, commencing to rebuild a nest the same day one is destroyed. In the large shade-house no fewer than 300 eggs and young have been destroyed in a week.

From the nursery it is but a few paces to the 1-mile walk, running the whole length of the garden. The borders contain some fine Eucalyptus globulus, Acacia lophantha, &c. The shrubs do not offer great variety. Facing the walk is a maze of English Privet and Whitethorn, 100 yards long by 75 wide, on precisely the same plan as the Hampton Court one.

As I mentioned in the earlier part of my letter, the Conifers in the Ballarat gardens are considerably above the average, and to view them alone I consider a stay in this town would well repay a lover of such trees. Pines hold the foremost place. Pinus Brewsteri (?) reaches 40 feet; P. canariensis, an even, regular specimen, 60 feet; P. insignis still more, two perfect plants facing each other on either side of the walk. It is possibly the most common species, one of the oldest being between 80 and 90 feet; P. Coulteri but little less, and at present bearing a few cones, is a noble plant; P. Jeffreyi can claim but little over 40 feet, Pinus Laricio, 60 feet, a coning specimen of P. excelsa, 45 feet, whilst P. halepensis and P. pinaster, are also represented.

The heights given of these Pines but poorly illustrate the noble effect produced by these fine trees, for the most part in grand condition. Not suffering from overcrowding, in good soil, in a climate not offering great extremes, and when necessary, with water artificially supplied, they have acquired a luxuriance rarely met with under cultivation. The collection of Abies is also interesting. Abies Douglasii is, at this moment, coming freely in several of the borders, a specimen between 50 and 60 feet high is possibly the most noticeable of this species. Spruce does well and cones freely. Picea Smithiana, 30 feet; Abies alba, 27 feet; a pair of Abies Nordmanniana, 30 feet, all bear cones at the present time. Several specimens of Abies Webbiana also testify to its thorough acclimatisation.

In respect to the Cupressus, M. Longley prefers C. Thompsonii (?) for this locality, thoroughly hardy, he finds it stands best of all. Of its beauty there can be no doubt, a pair of pyramidal graceful 40 feet specimens are amongst the best of the species in the garden, Cup. macrocarpa and Lambertiana, the latter covering the width of an entire walk with its strong spreading branches. Cupressus funebris does well, numerous fine trees of all the species mentioned are met with in various parts of the garden, clumps of Pinus insignis and Cupressus macrocarpa in two instances occupying entire quarters. Araucarias have as yet attained no great size. A. Cookei is now coming, whilst A. Bidwilli, Cunninghami excelsa, and even A. imbricata, are all represented by good though small pieces. Amongst others, Conifers Juniperus prostrata is thoroughly at home, and in several instances covers many square yards. Frenela Gunni does well, Juniperus rigida, Podocarpus spinulosus, both reach 15 feet. Wellingtonias—an avenue of many dozen well-shaped specimens from 30 feet to 50 feet—and various Cedrus Libani and Deodara are noteworthy. Mr. Longley considers the last-named the Conifer of Ballarat. When the Pines and Firs have ceased to exist, he believes it will stand and thrive, neither drought, hot winds nor sun seem to affect it seriously. I must however say, the specimens are not so good a colour, or the foliage in such condition as in colder spots and moister atmospheres.

In the borders edged with neatly-clipt Box-edging, are many good specimens of shrubs, Berberis Darwinii, clumps of Pampas-grass, Portugal Laurel, several clumps 18 to 20 feet high, in perfect condition; Pittosporum crassifolium, much used as a hedge plant in damp soft ground; flowering bushes of Lagunaria Patersonii, Ceanothus divaricatus, with stems 6 to 9 inches in diameter; Laurus Camphora, from bushes 15 to 18 feet high; Pittosporum nigrescens, clipt columns, close on 25 feet; Colletia bictonensis, 12 feet; Magnolia grandiflora, 15 feet; Arbutus Unedo, berrying and flowering freely; Cantua dependens, 4 to 5 feet, and of still greater diameter, is said to flower with luxuriance; Veronica and Laurustines, 10 to 12 feet in diameter; Euonymus green and silver, massive columns 18 feet by 10 feet; Habrothamnus, Loquats, Nandina domestica, several specimens, 5 to 7 feet, the foliage being employed for bouquets and table decoration, and standing longer than Maiden-hair Fern; Aloysia citriodora, 10 feet, quite a weed in Gippsland, covering many acres, and refusing to be exterminated, even by fire. Ilex cornuta, freely berrying. Golden Holly, 9 to 10 feet, Photinia serrulata, 20 feet, are amongst those I noted in the shrubberies of this pretty little garden.

A distinct feature is an avenue of Dracæna nutans, interspersed with clipped Pittosporum eugenioides variegata, lining one of the trunk walks for several hundred yards. The Dracænas vary from 20 to 25 feet, whilst the Pittosporum rarely attain more than 10 feet, solid clipped columns, 4 to 5 feet in diameter, of milky-white foliage, the effect is very striking.

Forest trees do well, Horse Chestnut, Elm, Wych Elm, Willow, Occidental Plane and Ash, are numerously represented, the last named now seeding freely. The Rosary is large and well filled, pegging down the shoots being found most productive of blooms. Respecting the lawns, the amount of shade many undergo may partly account for thinness. Mr. Longley finds English and Italian Rye-grass stand well for two years, but white Clover is preferable to both. Couch is also employed. The beds of Dahlias are exceptionally fine, and those of Chrysanthemums and Marguerites good. *James H. Veitch.*

(To be continued.)

THE ACACIAS, WORTHING.

In the neat little garden attached to his residence, Major-General C. B. Lucie-Smith and his wife make their chief hobby, and pursue with considerable success a system of experimental gardening, respecting which some notes taken on a recent visit may prove interesting and useful, especially to amateur Orchid-growers, as they indicate a method of successfully treating certain sections of those plants which can be followed by the owners of the smallest villa gardens. But it should be pointed out that all who would obtain good results must pursue the same course as Major-General and Mrs. Lucie-Smith, and study well the various species likely to thrive together, and their habits and requirements, and either work with their own hands or personally direct every operation and incident connected with them throughout the year.

The plan of cultivating the cool-house Orchids is to winter them in a small house in which the temperature kept is of the very lowest prescribed for such plants, and to place them in summer in sheltered places in the open air, selections being made of those liking sunlight or shade, each class placed accordingly. At the present time the Orchid-house is empty. The most shade-loving section is arranged in a small courtyard, with the entrance covered by a canvas screen. Here on a stage erected over a border planted with hardy Ferns are several plants each of many of the more showy, and some of the rarer species of cool, Orchids growing well, and in the most perfect health. Among these we noted as being remarkably fine, the specimen of Cochlioda Noezliana, illustrated in our issue for July 21, p. 71, Epidendrum vitellinum majus, which bore over 200 flowers; many fine Odontoglossum crispum, O. Pescatorei, O. pardinum, O. Edwardii, the rare O. retusum, and O. rigidum, a small healthy plant of O. coronarium, sending forth a strong flower spike, and which, as its owner truly says, is a good proof of the correctness of the treatment; Oncidium macranthum and its variety "hastiferum;" a fine specimen of Oncidium Phalænopsis, which has been covered with flowers; some very sturdy Masdevallias, among them being a fine plant of M. rosea, a photograph of which, when last in flower, we hope to illustrate shortly; and many other good things. Among those suspended, Oncidium Forbesii, O. Gardneri, O. prætextum Gravesianum, Cattleya citrina, and Lælia præstans.

In the second shelter a similarly-enclosed space fitted with skeleton frame, to support light canvas shading to be used to break the rays of the sun or the keen winds when the weather is rough, were an equally healthy and interesting lot of plants, among them being two very fine specimens of Pleione humilis, which, owing to their vigour invariably produce two flowers on each inflorescence, a very uncommon occurrence when plants of this species are grown under glass all the year. Here, too, are several plants of the beautiful Oncidium spilopterum, which unfortunately have been of late mistaken for a new species and named O. Saintlegerianum. The fine plant beside it discloses another complication, and is from the same part of South America. It was bought as Lælia Crashleyana, but it is evidently L. crispilabia, syn. L. Lawrenceana, and probably L. Lucasiana. In this division are some good plants of Odontoglossum aspersum, O. crispum, O. Cervantesii, O. Œ'stedii majus, Oncidium tigrinum, Cypripedium insigne, Cœlogyne cristata, &c. In some little frames are many species of Masdevallia, one form of M. racemosa (Crossii) being about 1 foot across; also large specimens of Odontoglossum Rossii majus, Lælia majalis, which flowers regularly and well; L. albida, L. autumnalis, L. anceps, both white and coloured varieties; Sophronitis grandiflora, Vanda Kimballiana, and V. cœrules, the last-named being very stout and healthy, having formed many large fleshy air-roots during the years it has been grown here in the open air in summer and the cool-house in winter.

With regard to the treatment of Orchids at The Acacias, Major-General C. B. Lucie-Smith alleges, and we have had good proof of the truth of his statement, that a far greater proportion of flower is got from the plants than is the case with those under ordinary cultivation, and the plants, although sometimes of not so dark a green as those grown under glass, are really more healthy and safe from sudden collapse. But few things have failed, and none suddenly. Miltonia vexillaria does not thrive; it blooms the first year marvellously, the second poorly, and the third it is too weak to flower. It should be stated that special care is taken that the plants do not suffer from want of water at any season of the year, but especially in summer, when they are in the open air.

The hardy and alpine garden is another interesting feature at The Acacias, and although small in extent, it contains many fine things. Planted in the rocky borders and beds are many things not usually seen in the open ground as permanent plants, such as Azalea indica, A. obtusa, and A. amœna which have all made nice bushes, and flower well. The Camellias, too, are well set with bud; the Bamboos have grown to a great height, and the Lapageria on the wall flowers annually. Some of the most striking things, many of them in bloom, were Daphne Blagayana, Æthionema grandiflora, Androsace lanuginosa, Dianthus alpinus, D. neglectus, and other species, Platycodon Mariesii, Erica cinerea, Andromeda japonica, Philesia buxifolia, Polygala chamæbuxus, Houstonia cœrules, Lithospermum prostratum, various species of Genistas and Veronicas.

In the little Rose garden, the Ceanothus and other things on the walls are giving a great show of flowers, and one specimen of Cytisus Andreanus has nearly reached the top of the wall, and gives a good illustration of the reward which perseverance often brings to the lover of plants. When it first came out, the plant was bought, and planted in one of the borders, but it did not thrive. By the advice of friends its position was changed several times, but without good result. At last, Mrs. Lucie-Smith planted it close to the foot of the wall, which it now covers, where it grows with surprising vigour.

The Herbaceous Border.

SPIRÆA ARUNCUS.

This handsome species, which by reason of the large feathery plumes of its flowers has been called "The Goat's Beard Spiræa," is one of the most noble of border perennials. By reason of its great size, it is hardly suited for the ordinary herbaceous border, and should therefore be afforded a position where, with ample room, it may develop to its fullest capacity. The soil should be moderately stiff and rather moist—the latter perhaps is one of the greatest essentials to its well-being; and when planted it should not be disturbed for several years. If abundant moisture at the root be available, ten, or even a dozen years in one position will not be too long. Under such conditions the plant will grow fully 5 feet or 6 feet high, and as much through, and will produce numbers of its giant plumes of white blossom. Such plants as these when in isolated positions produce a very fine effect; and, apart from its value as such, it is excellent for forcing for conservatory and other decorative work.

Veronica longifolia sub-sessilis.

This is one of the most useful of the herbaceous section of the genus. It is a decided advance on existing kinds, and is also far removed by its exceptionally bold habit from the long-leaved section generally. The plant was originally known as V. Hendersoni. It is in all respects a high-class perennial, and such a season as the present one it appears in this district at least peculiarly well suited, hence it may be assumed the plant loves abundance of moisture. But the soil of this locality is light and well drained, and in summers like that of 1893, the plant makes but little headway, though the plant is less happy where the soil is heavy and cold. Generally speaking the growth is free and vigorous, and flower-spikes are produced in great numbers. When well-grown it attains to about 3 feet high, and produces massive spikes of violet-purple flowers for a long time. In a soil fairly rich the plant grows luxuriantly, and it may be increased by division of the root, or preferably by cuttings to almost any extent. These latter root very freely in sandy soil under a handlight.

Echinacea purpurea.

This beautiful plant is one of the most distinct hardy herbaceous perennials in cultivation, and its chief value lies, perhaps, in the distinctive colour of its flowers, which are almost unique in the garden. At a short distance the red claret-purple of the ray-florets imparts a shade of colour that is at once striking and welcome. This Echinacea is a perfectly hardy perennial, growing, when fully established, to a height of 3½ feet, the flower-spikes issuing from amid the rough radical leaves. It is as easily grown in a fairly deep and rich sandy loam as almost any plant, but it is not quite so readily increased. The best mode is by division of the root, as seeds are not certain, and even the seeds obtainable from the best continental sources are of very indifferent quality, and few, if any, vegetate. The plant is best divided in early spring, when the new growth is pushing forth; and where quantity is required the plants will need somewhat careful handling, on account of the rather woody root-stock. The best method of severing the old stools in the first instance is by piercing the prong of a small hand-fork through the woody portion, and thus wrench it asunder. By this means the root-stock is severed evenly with the grain; but if a knife be employed, it cuts across and through many roots, with the result that the latter are lost, and being a sparsely-rooted subject it is important that all possible fibres be saved. By adopting this method for a season or two, a good stock may be raised. When seen in a group of a score or more, the effect is very striking, and to obtain such is a result well worth a little pains. Even when a good stock has been obtained, I would advise breaking up the plant moderately and replanting it once in two years; otherwise the plants lack vigour, and the flower size and colour. The other members of this group are E. p. intermedia, differing only slightly from the type; E. p. serotina, a late-flowering hirsute form of the type; E. angustifolia is, as the name implies, a narrow-leaved species, with large flowers of a light rose-purple hue. They are most desirable and ornamental plants, and having a freely-branched habit, supply a profusion of their flowers for a somewhat considerable season. *J.*

Florists' Flowers.

THE HOLLYHOCK.

Blessed indeed are those localities where the pestilent Hollyhock-fungus is an unknown trouble. All the more blessed because so few. Yet we see the good old Hollyhock flourishing in many directions in spite of the fungus, which, like all of its breed, rejoices in such a long name. When first the fungus began to attack Hollyhocks, the discredit of its appearance was laid on the shoulders of the unfortunate florist, because he had propagated and propagated, and coddled and forced, until all the stamina and constitution was taken out of the plants. Of course it was all untrue, but it answered its purpose for a time; critics entirely overlooked the fact that there were myriads of the commonest Hollyhocks growing in gardens that were equally attacked by the fungus [as well as Wild Mallows]. Still, we have very much weathered the storm, and have taken to the cultivation of Hollyhocks again. They are still designated florists' flowers, but far more now are they grown as garden flowers, and as such are they the most desirable and most at home. Sometimes, in rural districts, we see large clumps of single forms blooming profusely; they are very pretty, and as single flowers admit of much development. Still, our Hollyhock tastes are chiefly with the doubles, not poor thin things, small centres, and immense guard petals, but flowers of good double quality, and of good colours, well and densely set on the stems. These we can now have through seed strains, and anyone who will but sow of a good stock every year, practically treating the plants as biennials, and grubbing out the old ones so soon as they become too dense, or show the yellow fungus warts, will find no difficulty in maintaining, as brilliant and effective border flowers, a big stock of the noble Hollyhock. *A. D.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CALANTHES.—Particular attention should now be given to Calanthe Veitchii and to those of the vestita section, the bulbs of which, though considerably advanced, will still require plenty of water at the root, and unless this be supplied with discretion, the bulbs and leaves quickly become spotted. It is also important at this period to give sufficient light, to invigorate and solidify the bulbs, and at the same time counteract those diseases to which soft sappy bulbs are liable. Therefore, when additional space can be afforded, the plants should be thinned out considerably, and in re-arranging them, the smaller examples should be placed so that each plant obtains its equal share of sunlight. If the foliage can be got to within a foot of the roof glass so much the better. Stage accommodation for this class of plants being limited here, we have separated all the small plants, and suspended them close to the roof over the pathway. The bulbs will receive great benefit if exposed to the sun in the early morning and again in the afternoon, and during the middle hours of the day only a very thin shading is needed. In a few weeks, when the plants have become accustomed to the extra light, the shading may be safely dispensed with altogether. Calanthes of the Regnieri section will now be about half-way through their growing season, and will not at this time stand the extra amount of direct sunlight. Therefore, it is best that they should occupy a separate position, and be treated the same as the others were when in full growth.

RHYNCHOSTYLIS.—Rhynchostylis retusa (usually known as Saccolabium Blumei), R. guttatum, R. præmorsum, R. violaceum, and R. cœleste when in bloom are always greatly admired, but it is a general remark amongst cultivators that these handsome plants are not nearly so well done as they were when Orchid-growing was in its infancy. Still, there are now in some few collections exceedingly well-grown plants of Saccolabium, and could we but get such splendid specimens as were formerly imported, I believe they would be cultivated and exhibited as well now as formerly. These plants dislike at all times a desiccating fire-heat, but delight in plenty of sun-heat, and also sunlight in moderation. Even during the hottest months a very thin shading only is necessary, while at the present time if they are shaded as recommended for Calanthe Veitchii, and supplied with water just sufficient to keep the Sphagnum moist, such treatment will be found most suitable. As regards Rhynchostylis (Saccolabium) cœleste, I have found after repeated trials that it grows, roots and blooms more freely when placed in a lower temperature than is generally afforded the majority of the species, the best treatment for this lovely Orchid should be similar as advised in a former calendar for Aërides of the maculosum type, and if practicable a little extra light will be beneficial.

GENERAL PLANTS.—The West African Angræcum pellucidum requires the temperature of the East Indian house, it is a shade-loving plant, and cannot stand the least sunshine. Choose a position under the permanent shade of a large specimen, where the plant may be protected from the sun's rays, and this species will grow and produce its long pendulous spikes with great freedom. Cypripedium Fairieanum is a charming little plant, that may be classed as a gem, even in the most select collection, but I have heard several cultivators complain that it is a difficult species to grow satisfactorily. The principal causes of failure are entirely due to giving the plants too much heat. The plants should be kept on the shady side of the intermediate-house, and have plenty of fresh air on all favourable occasions. Liberal and frequent supplies of water must be given throughout the year, otherwise thrips will attack the foliage. Under the above treatment our plants this year have much improved. One is now sending up its welcome flower-spikes. The pretty C. Schlimi is identical in its demands to the preceding. In the cool-house the Lycastes are in full growth, and will require copious waterings from now until the bulbs are fully made up; the same remarks also apply to Odontoglossum grande. The growths should be frequently examined to see that no water remains in them, as sometimes they decay before one is aware of it, and a year's inflorescence is lost.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PEACHES AND NECTARINES.—Syringing of the earlier kinds of Peaches, such as large Early Mignonne, Dr. Hogg, &c., and of Lord Napier and other early kinds of Nectarines, should no longer be necessary; but in the case of later varieties, syringing may be continued another fortnight, and even longer, should the trees be at all infested with red-spider. If trees are badly infested with this pest, it may be the effect of dryness at the roots, notwithstanding that much rain has fallen since the early part of July. In most cases, Peach and Nectarine trees are growing in well-drained, artificially-made borders, and on walls having a warm aspect, and the trees under such circumstances require more water than we appear to think necessary. The dropping of fruits before they are quite ripe, frequently arises from this same want; it is therefore wise to be well informed that the borders, where mid-season and late varieties bearing heavy crops are growing, are sufficiently moist, or in default give a thorough root watering at once. Keep the growths on young vigorous trees properly trained, and remove entirely all lateral growths; or where these are too numerous on a shoot, prune back the shoot to a well-placed lateral, which must receive aid in ripening by keeping the growths thinly trained. Trees of any of the later kinds of Peaches or Nectarines which have made only moderate growth, and are bearing heavy crops of fruit, should be given one-sixth part liquid manure from the farmyard or stables when watering them.

EARLY PEARS. — Jargonelles, still the best flavoured of all the earlier Pears, if safely protected from birds, are better when eaten from the trees than after having been ripened indoors. Where it has been found necessary to gather the crop, take care not to keep the fruits until they get sleepy, and especially do not put them up for dessert in this condition. To keep up a succession of Pears,

the earliest and the finest fruits of Williams' Bon Chrétien on trees trained to walls having a warm aspect, should be gathered at short intervals, and placed in boxes darkened by having the lids partly closed. These may be put in a warm room or vinery, whilst others should go into the fruit-room for succession. Treated in this manner the fruit will be superior in flavour to that of those left to ripen fully on the trees, but on pyramid and standard trees such is not the case. Clapp's Favourite, Beurré de l'Assomption, and Beurré d'Amanlis, may also be gathered in small numbers and placed in warmth, in all cases gathering the earliest and finest fruits; and the crop, having been thus lightened, will continue to grow. Batches gathered at intervals of about a week will keep up the supply for a considerable season.

PROTECTING PEARS.—As the time is now approaching when birds, tom-tits in particular, begin to peck the fruit, all trees growing on walls should have netting put over them as early as possible, and bush and pyramid fruit trees of the softer kinds should be treated likewise where practicable. In some gardens, unless protected, the greater portion of the crop will be rendered worthless by being thus pecked. After the blue-headed tits have commenced to peck any particular tree of Pears, it will require very small-meshed or double netting to effectually protect the fruit from them.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

FLOWER BEDS.—Owing to the quantity of rain we have had, beds containing Pelargoniums, especially those of the stronger-growing varieties, as H. Jacoby, Vesuvius, and others, will have become crowded, necessitating the removal of superfluous and weakly growths, or rank foliage, as the case may be, so that the sun and air may have access amongst the plants. A little attention in this way will be found to be well repaid, not only by a larger display of bloom now that it is essential that the flower garden should be at its best, but the cuttings for propagating will be found greatly superior to those from crowded beds, being short-jointed and well matured.

PROPAGATING.—Cuttings may be put in of all Pelargoniums where they can be well spared for a first batch. If Coleus, Alternantheras, Iresines, Mesembryanthemums, &c., are used in the beds, it will be well, where no stock is kept in pots or boxes for this purpose, to take cuttings of these as soon as possible, so that well-established plants may be had before the winter season sets in, which will be sure to winter better than cuttings taken later on.

DAHLIAS.—Attend to the disbudding of these, and take care to securely tie the growths to prevent injury from wind and storm. Remove at the same time any superfluous or weakly shoots, they are of no use for flowering purposes, and merely have the effect of overcrowding the plants. An occasional watering with manure or soot-water will benefit the plants in a large degree. Should it be found necessary, the beds may be lightly forked over before watering. And seedlings which on examination are deemed worthy of keeping, should be distinctly marked, and the heights and colours of any other new varieties on trial duly recorded.

GENERAL WORK.—Take advantage of wet weather to thoroughly roll all walks and drives. Newly-made lawns will be greatly benefited by the same process. All verges, both of walks and beds, should be carefully and truly cut over with edging shears, so that everything may appear as neat as possible.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

CABBAGES.—The earliest plants of these will now be ready for transplanting into reserve beds at 4 inches apart, and this should be done if the plants are standing thickly in the seed-beds, or if the ground they are to occupy is not yet vacant. An occasional but slight dusting of fresh slacked lime and soot should be given to preserve them from the attack of slugs. A further supply of nitrate of soda or a watering of liquid manure may now be afforded to the old stools of plants that were left to give a further supply of Sprouts and Cabbage, and the process may be repeated again later on. By so doing, the produce will be of better quality, and the ground will be in a less-exhausted condition when cleared. It will be well now to sow seeds of Sutton's Earliest Cabbage, a very good and useful kind.

LEEKS AND ONIONS.—Leeks, for a spring supply may yet be planted with the dibber, but trenches are best dispensed with for these late plantings. Add soil to those that require it, and supply stimulants if needed.

SHALLOTS.—In the majority of gardens these will now be sufficiently ripened to admit of the bulbs being pulled, and placed in a sunny place to further ripen. Those showing signs of decay should at once be thrown away. Onions should now have their tops bent over to assist the swelling and ripening of the bulbs, and to give light and air free access to them, as in a dull season like the present, this work is the more necessary.

CARDOONS.—The blanching of the most forward may now be commenced. Draw the leaves together, and place around them hay or straw bands, against which place the soil. Repeat the operation as the inner leaves grow, until they are fit for use; the strongest will be ready in about eight weeks.

ENDIVE.—The earliest plants should now be blanched where they are growing, either by tying up or by drawing the leaves together, and placing over them an inverted flower-pot, stopping the hole to exclude the light. Continue to transplant all that are large enough.

SPINACH.—Make a final sowing with the same care as before, but do not defer this beyond the first few days of September.

RADISHES should be sown for autumn and winter supply in a sheltered warm border, and if the soil be heavy, add some light sandy material. Turnip-rooted varieties and Black Spanish are most suitable.

PARSLEY may be lifted and transplanted with care from last sowing, and small sowings made in sheltered places will produce fresh young leaves next year, when previous sowings will be running to seed. If summer sowings have not been made, a portion of the spring sowing should now be cut over, and a little soot lightly forked-in between the rows to encourage a fresh quick growth.

TURNIPS.—A few seeds may still be sown in favourable positions as a catch crop, for should the autumn be fine and mild, they will come along quickly, and furnish very serviceable roots.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

CALADIUMS.—Plants which were started in January and February will now be showing signs of ripening their bulbs, as indicated by a less vigorous growth, and the older leaves assuming a yellowish tone; and it will be advisable to treat the plants less liberally in regard to root-waterings, it being unwise to urge root action when Nature indicates that a season of rest is essential. The ripening process should be gradual, so that hard, plump bulbs be the result. Keep the plants still in their growing quarters, and when the last leaves are sufficiently matured to admit of their being cut away, the pots should be laid on their sides in shelves, under benches, or in any position in a warm-house, where they will be safe from the syringe or drip. Here they can remain until the remaining batches have been treated similarly, when they may all be shaken out and the bulbs packed in dry cocoa-nut fibre refuse and sand, and stood in stove temperature. This system admits of the stock being readily handled at any time, and its condition accurately ascertained. Later batches, and those recently added to the stock, may still be encouraged to grow, and should be given a little soot-water once weekly.

CANNAS.—Those having exhausted the soil in which they were potted, should be top-dressed with fresh loam, leaf-soil, and Thomson's Vine and Plant Manure, the latter applied at the rate of a 6-inch potful to a bushel of soil. Carefully remove the surface-soil, and make the added compost firm; fill to within three-quarters of an inch of the rim, and water through a rose until fairly settled.

COOL FERN-HOUSE.—This structure will now require a general overhaul, and in the first place see to the packing and making good of moss-clothed walls. The peat and charcoal required should be broken into convenient sizes, and the sphagnum carefully picked over, and laid into trays, that when the work is put in hand it may go on expeditiously. Do not pot any plants if this can be avoided, but any plants, especially those of the filmy section, may have a few pieces of peat and charcoal added to the surface, and a layer of live sphagnum over the whole. Hanging-baskets should have all decayed and decaying fronds cut away, and a similar top-dressing afforded. Regulate the growths of roof-plants, such as Ficus repens, &c. This makes one of the finest wire-plants if trained somewhat loosely. Pans of Nertera depressa will now be an interesting sight, with their miniature red berries, and should be placed in prominent places, that they may be seen to the best advantage. A very pretty variety may well be made in this dull though interesting house, by placing in suitable positions a few tuberous-rooted Begonias; a few well-flowered plants seem to give new life to the whole structure. Coleus may also be used to advantage, but unless these are grown in large quantities, and can well be spared, it would be unwise to use them here, as they lose their bright colouring, without which this subject is next to useless.

WINTER-FLOWERING PLANTS.—Those growing in the open ground, such as Salvias, Eupatoriums, Lantanas, &c., will need to be taken in hand sooner than usual this season, as the top growth is gross and soft, and will require to be matured. The roots should be cut at about 6 inches from the stem right round by a spade, if large pots are to be used; but if they are to be put into 6 or 7-inch pots, then a smaller-sized ball will be better. The incision made in the soil should be left open, that the roots may the more readily come within the reach of solar influence; and should showery weather fill up the void with soil, it may be opened afresh. Pinch and regulate the shoots, thinning out all weak ones, that sun and air may be freely admitted to those which will remain.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

LATE GRAPES.—Careful attention should now be given to Muscats that have nearly completed their ripening, and on no account should they be hurried by much fire-heat, or shanking, red-spider, and other evils will be the result. Give a free circulation of air night and day, but without cold gusts of wind. Muscats delight more than any other variety in a genial warm and steady temperature from 60° to 70° by night according to the state of the weather. It is a mistake to fire hard on a cold night with Grapes at this stage, as more harm is done by this than by allowing a few degrees lower temperature. Very late vineries of Muscats colour and ripen well in October and the beginning of November with a very low night temperature, so long as there are green leaves on the Vines, and the temperature does not fall below 50°. Avoid over-stopping the lateral shoots until the fruit has coloured; so as to keep the roots in action, attend to watering the borders, and on no account let them get dry. Late houses of mixed varieties of Grapes will require attention frequently, to take off gradually the laterals to give the requisite light to the Grapes. White Grapes of the Trebbiano or Royal Vineyard class require more light than black varieties, so there must be no obstruction by lateral shoots or foliage between the glass and bunch but what is caused by the leaves on the shoot carrying the bunch. I recommend a free growth of wood by side or end shoots until the end of the season, but they must not shade the fruit-bearing shoots. Madresfield Court, Muscat of Hamburgh, and Alnwick Seedling, three of the best varieties of black Grapes for autumn and early winter use, succeed well under a free condition of growth. The first-named should be planted in a house by itself, or at the end of the house, so that when watering other Vines in the same house, it may be withheld from this variety, as it is much subject to cracking. Alnwick Seedling comes in very useful in mid-season or early winter; it colours easily, and keeps well up to Christmas. A nice heat should be kept in hot-water pipes in houses of Alicantes, Gros Colmar, Lady Downes', and other late-keeping sorts, and good circulation of air night and day. Attention will be required that the borders do not get dry, and that fruit is examined frequently, taking out at once any berries that are decayed.

GOOD-FLAVOURED VARIETIES.—Ferdinand de Lesseps, raised by the late Mr. Pearson, of Chilwell, a cross, I believe, between the Strawberry-Grape Isabella and Royal Muscadine, is of the most exquisite flavour; it is small in bunch and berry, and very much like the Strawberry-Grape, but the latter is black, and Ferdinand de Lesseps reddish-white. It is not so easy to cultivate as the Strawberry-Grape, but is well worth growing. This latter is not so much grown as it ought to be where Grapes are valued for flavour, its peculiar flavour, sooty-black berries, and large handsome foliage, are very attractive; it is very easy to cultivate, and succeeds well in an early or late vinery.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	Aug. 28	Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

SHOWS.

TUESDAY,	Aug. 28	Brighton and Sussex New Horticultural (two days). Bath Horticultural (two days). Stirling Horticultural (two days).

SALES.

MONDAY,	Aug. 27	Dutch Bulbs, Lilium Harrisii, and Palm Seeds, at Protheroe & Morris' Rooms.
THURSDAY,	Aug. 30	Dutch Bulbs, at Protheroe & Morris Rooms.
FRIDAY,	Aug. 31	Imported and Established Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	Sept. 1	Dutch Bulbs, at Protheroe and Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—60°·5.

The Great National Co-operative Flower Show.

Considering that the first of the series was held in the Royal Horticultural Society's Gardens, at South Kensington, only eight years ago, that is on August 24, 1886, and that the show was little more or better than an exhibition of Potatos, Cabbages, and Broad Beans, and was not supposed to have drawn more than a thousand extra visitors to the gardens in which it was held, the progress made in these great annual musters of the garden produce of workmen's gardens and small holdings has been as gratifying as it is great. The small beginning, a mere shot at a venture as it seemed, from this well-stocked armoury of co-operatives' endeavour has broadened into a national festival of labour and the largest flower-show in the world.

Long before co-operation had leisure or heart to think of such matters, the Hawarden Flower Show had been held, and many others by private individuals in villages and towns, cottage gardeners, or horticultural societies. Some of these have had a useful, though mostly a chequered, career, of nearly half a century's duration. But almost the only one to rise at all in popularity like that of the National Co-operative Flower Show is that of Hawarden, which has existed for nearly twenty years, and which of course owes much of its popularity to the presence and patronage of the great statesman. There were also some thousands of exhibitors at Hawarden. "It certainly is my belief," said Mr. Gladstone, "that much may be done in very many branches of cultivation; much may be done outside what has hitherto been considered the principal pursuit of the farmer, and much may be done for bettering the condition of the agricultural classes, and for enabling the community at large to provide more abundantly by the ample powers with which God has endowed the earth for ministering to the means of our subsistence and enjoyment."

Exactly so. And this is one reason why from the very beginning we have with so much pleasure chronicled the rise and progress of the National Co-operative Flower Show. It not only represents a richer harvest reaped from the teeming earth, but the major portion of the reapers are new to the work, and it brings them unlimited pleasure as well as very substantial profits.

As an old labourer pointed out to the writer recently in Essex—that county of derelict land, amid the splendid crops of his own garden of 40 rods, "There is nothing the matter with the earth, sir—no, nothing. You put the muck, the skill, the work, the seed in, and you are sure of your 'taters,' Cabbages, Beans, Peas, Turnips, coming out, barring the frost." The frost has hit the Apples hard this year, and hence there are fewer Apples than usual. The frost and the cold have also told heavily against the bees, and hence there is no honey, which seemed to cause much disappointment, the writer being asked again and again, "But where, oh where, is the honey?" But the cool dripping summer has been superb for vegetables, and among these there has been a large increase, the collections of vegetables having mounted up from 79 in 1893 to 86 this year. These collections also come from every part of the United Kingdom including Ireland and Scotland.

The entries of Beans were 262 dishes; Peas, 107; Potatos, 357; Onions, 125; Carrots, 124; Beet, 121; Marrows, 107; Shallots, 87; Turnips, 81; Lettuces, 69; Celery, 61; Cucumbers, 59; Cabbages, 52; Cauliflowers, 32; Parsnips, 36. Total entries in the Industrial section of the exhibition 3700. Among these 1371 were vegetables, 679 cut flowers, 194 pot plants, 233 fruit, 9 table decorations, and 127 ladies' and childrens' classes.

The quality of the exhibits has not only risen in regard to special subjects, but all through the show, in every department, there was hardly an exhibit shown this year that was not a credit to the grower and exhibitor. The Roses in the industrial section especially were very creditable to the growers and exhibitors.

In matters of taste, there were two specially deserving of notice in the industrial or workmen's portion of the exhibition; one was passed over by the judges, and the other was awarded the 1st prize in its class. The prize button-hole bouquet was also an exquisite blend of Violas. More prizes for the development of taste among the masses in regard to bouquets, vases, and table decorations, and separate prizes for women and children, are likely to be offered next year.

This great show itself became this year, more than ever before, a great object-lesson in tasteful arrangement, through the energy of Mr. Head, the able superintendent, at the Palace, and Mr. Waugh, the organiser of the great co-operative flower-shows, and their skilful staff of assistants, a re-disposition of tables and products enabled each class of exhibits to be grouped and seen en masse. The plants and cut flowers were also used as very effective table decorations, for the vegetables and fruits flanking them on either side. In other cases there were solid blocks or tables of fruit, vegetables, and flowers. The improved arrangement added greatly to the freshness and interest of the show. Special efforts were also made to afford early and special information to the daily and weekly press. The Friday's show was graced by speeches from Mr. T. A. Brassey, Mr. Holyoake, Mr. Ed. Owen Greening, Mr. D. T. Fish, and Mr. J. Wright; the Saturday's by speeches from Mr. Richard Dean, Mr. Sanders, Mr. Holyoake, and Mr. Tom Mann.

Mr. D. T. Fish also read an address in the Palace, at 6.30, on "Co-operation in its relation to the Gardening of the Masses," under the presidency of Ed. Owen Greening, Esq., who introduced the lecturer in a most genial and complimentary speech. At the close of the address, Mr. Colville Browne, the Principal of the Swanley Horticultural College, moved a hearty vote of thanks, which was seconded by Mr. Hazlett Roberts.

We hear that Mr. Fish's paper is likely to appear in the current week's *Co-operative News*, and in the September number of the *Agricultural Economist;* and that most of his suggestions are likely to be adopted and carried into effect. All these are but symptoms which prove the strength and the reality of the rising tide of horticulture among the masses.

Royal Horticultural Society.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, August 28. Special prizes will be offered by Messrs. Kelway for Gladioli; and at 3 P.M., Mr. Malcolm Dunn will deliver a lecture on "Gardeners and their employers."

Trentham Gardens.—When so many of the famous old gardens of our nobility have suffered severely from the land depression, and from the lack of appreciation on the part of new possessors, for horticulture, as compared with more exciting, sensational, and expensive forms of recreation, we were interested and pleased to note a few days since that the gardens at Trentham, in Staffordshire, appear better cared-for since the present and popular Duke of Sutherland has succeeded to the ownership of this vast estate. The large conservatory has been thoroughly overhauled, and the interior re-decorated, whilst in several other respects there have been alterations and improvements effected in the houses during the past year. Outside, however, much larger improvements are in progress or contemplation. The large and handsome lake was quite emptied of water when we saw it, preparatory to a thorough cleansing; and the river Trent—once clear and bright, but of late years polluted with sewage, and which runs almost under the walls of the hall, is to be diverted into a culvert to be made under the ground. This will be half a mile long, and when it enters the water-course of the river again, it will have passed out of the immediate grounds. The operation will necessitate much labour and expense; but the objectionable state of the water, often offensive even to the smell, rendered such a work imperative, if the present Duke is to spend part of his time at Trentham. The half-mile of river from which the natural water will be shut off is to be filled again with clean water, and by this means the usual appearance of the river, excepting the undesirable features, will be maintained. The very extensive flower garden in front of the hall was looking better than it has done for many years; and we hope that Mr. Blair may be permitted to continue improvements in the fruit and plant department, and that the place where Fleming and Stevens did so much, and were so well known, may never be known as anything than a first-rate garden.

Mr. Gower.—Mr. William Hugh Gower, whose death we recently announced, was born at Norwich on November 6, 1834. In the early part of 1835, his father, Mr. Hugh Gower (who died on March 30 of the present year), having found employment with the late Messrs. Jackson & Sons, removed to Kingston-on-Thames. At the age of ten years, Mr. W. H. Gower commenced work with his father in Messrs. Jacksons' nurseries, where he remained three years. He then entered the nurseries of the late Mr. Christie of Maidenhead until 1849, when he returned to Messrs. Jacksons, to take charge of the Heaths and other hard-wooded plants, for which those nurseries were then very celebrated. In 1852 he was placed in the Earlsmere Gardens at Ashford Park, Surrey, as flower-garden foreman and plantsman. There he remained three years, but subsequently returned to Kingston, as Messrs. Jackson were without a propagator and Orchid-grower. He superintended both these departments for a time, and then took charge of the Orchids permanently. During this period he flowered many new Orchids for the first time in this country, amongst them the beautiful pure white Lycaste Skinneri alba and many others. He was then called to the Royal Gardens, Kew, by the first Mr. John Smith (curator), to superintend the Orchids, of which there was at that time a grand collection, as may be imagined by such rare plants as Cypripedium Fairieanum being there, over 3 feet across. Ultimately he also took charge of the Ferns, Heaths, greenhouse plants, and in fact, the whole of the glass department excepting the large Palm-house. At Kew he remained for several years, when he left to engage himself with the late Mr. B. S. Williams, of Holloway, as traveller, and whilst serving this firm he achieved one of the greatest horticultural successes of the age, by taking and staging at the first great International Exhibition at St. Petersburg, the famous collection of Orchids and other plants belonging to Mr. Robert Warner of Chelmsford, and Messrs. Veitch & Sons of Chelsea. After leaving Mr. Williams' employ, and after a short stay in the country, he returned to London with the late Messrs. Rollisson & Sons of Tooting, in the capacity of manager, and with whom he remained until the winding up of that famous establishment. He then started in business on his own account at Tooting, but several years later, meeting with misfortunes, he gave up business, and was engaged on the staff of the *Garden*, to which paper he contributed regularly upon Orchids and Ferns until his death, which occurred on July 30, 1894. Mr. Gower contributed largely to horticultural literature, taking part in *The Orchid Growers' Manual* and other works. He was also the author of *Orchids for Amateurs*, and for the past several years has been co-editor of *Williams' Orchid Album*. Mr. Gower was a man of considerable attainments and knowledge, for he was not only an authority on Orchids, but was also well known as an entomologist, an ornithologist, and a conchologist, and his collections in each department were extensive. The funds recently collected for the purpose of a testimonial will now be given to the widow, who is in urgent need of assistance; a circumstance which will, we trust, be the means of largely augmenting the fund, of which Messrs. Protheroe & Morris are treasurers.

Stoke Newington, etc., Chrysanthemum Society.—We are informed that the exhibition of Chrysanthemums by this Society, to be held on November 14 and 15, will be opened by the Sheriff of London in his civic capacity.

New Raspberry.—Messrs. Watkins & Simpson, Exeter Street, Strand, send us a punnet of the fruit of a new Raspberry they are bringing out this autumn, called Steel's Victoria. The fruit is of medium size, oblong, and of good flavour.

Hermaphrodite Begonia.—A correspondent signing himself "Begonia" sends us a flower in which both stamens and carpels are present; the latter are free and above the perianth, and their edges have not united, so that the ovules are exposed. The change has become very frequent since the development of the tuberous Begonia. When first noticed, about the time of the first publication of the *Origin of Species*, there was a brisk discussion in our columns on the subject, the principal disputants being Charles Darwin, Sir Joseph Hooker, Dr. Harvey, and Dr. Asa Gray.

American Raspberries.—These form the subject of a *Bulletin* of the State Agricultural College Experiment Station of Michigan. American Raspberries are derived from the wild European Raspberry, Rubus Idæus, from the American Red Raspberry, Rubus strigosus, and the Black Cap, Rubus occidentalis. From these a very large number of forms have been derived, classified as Black Caps, Purple Caps, and Red varieties. The catalogue of sorts, with descriptive notes, occupies no fewer than sixty pages.

Flower-show Practices.—A letter has reached us which, if it were not duly signed with the name and address of the writer, we should decline to insert from a feeling of doubt as to the possibility of the occurrence mentioned. Framers of schedules and judges between them should be able to stop such iniquitous practices if they really exist:—"A person goes the round of the local flower-shows as judge or in some other capacity, and so finds out the capabilities of the growers there. He next turns up as an exhibitor, and getting flowers from the big nurseries and establishments of the country, exhibits them as his own, and sweeps off the prizes."

County Council Appointment.—We are informed that Mr. F. Bright, formerly foreman at Southwark Park, has been transferred to the charge of Meath Gardens, better known as Victoria Cemetery, and on leaving his former place Mr. Bright received a suitable presentation from his fellow-workers as a mark of their respect and good wishes.

Electricity in Horticulture.—In the August number of *Science Gossip* we find a paper by Mr. H. C. Fyfe on this subject, in which he summarises what has been done in this way since 1746. Mr. Fyfe alludes to the experiments of the late Sir William Siemens, to those of Dr. Schübeler and Prof. L. H. Bailey, but omits mention of the experiments made by Dehérain and others in Paris. Things move slowly in this country, and it will take many years, at the present rate of progress, to induce cultivators to see that they have at their disposal a new force, which in a measure renders them independent of sunlight. In America the light is already used for the culture of Lettuces, &c., for market in winter.

Syringa vulgaris chamæthyrsus.—Our excellent friend and colleague, M. Ed. André describes and figures in the last number of the *Revue Horticole*, under this name, a variety of the common Lilac. As we all know too well, the common Lilac sends up numerous suckers, but some years elapse before those suckers produce flowers. In the variety now figured the young shoots are like Asparagus shoots, and each bears a truss of flowers at its extremity on issuing from the ground, so that an appearance is produced as if a bunch of Lilac had been cut off and thrust into the ground. This desirable variety will be sent out by M.M. Machet and Josem, Chalons. We may add, that we have seen a similar production of flowers on the sucker of Ailanthus glandulosa.

New Season's Hops.—We are informed that the first pocket of this season's growth of Worcester Hops arrived at market on the 16th inst., being nineteen days later than last year. It was grown by Mr. James Meek, of Woodsfield, Newland, near Malvern, and sold by him to Messrs. Hand & Co., Hop Factors and Merchants, of the Exchange, Wolverhampton, London and Worcester, at £12 12*s.* per cwt., the quality being exceptionally fine. This is the third year that the same grower has produced the first pocket, and the second year that Messrs. Hand & Co. have purchased it in succession. The first pocket of new Kent Hops arrived in the Borough on the 6th inst., being thirteen days later than last year, and sold for £10 per cwt. The quality was not fine.

Edible Mushrooms.—The United States Department of Agriculture has published under the heading "Food Products," a description of twelve edible Mushrooms from the United States, with directions for their identification and preparation as food. The species are Lactarius deliciosus, Cantharellus cibarius, Marasmius Oreades, Hydnum repandum, Agaricus campestris, Coprinus comatus, Morchella esculenta, Clavaria cinerea, C. rugosa, Boletus edulis, Lycoperdon giganteum, Fistulina hepatica. All these species are European as well as American.

IRIS AND LILY DISEASE.

For several years past, and especially this summer, the Germanica section of Iris and Lilium candidum have suffered from a severe disease. In the case of the Iris, the disease is first manifested in the tips of the leaves, which look yellow, then the whole of the foliage of the plant, or perhaps half of it, turns brown, is more or less spotted, and dies; the disease extending down the shoot, so that the growth is completely killed, and a soft pulpy hole is found at the exsertion of the shoot from the rhizome, whilst abundant fungoid elements are discovered in the foliage. The rhizome is, however, rarely killed, and in time new growths from adventitious buds make their appearance (are, in fact, just now doing so), and the plant, damaged in vitality from the severe shock it has received, grows again, but too weakly to flower the next season; some young plants are, however, quite killed.

In Lilium candidum something similar happens; the foliage is attacked, becomes spotted, turns brown, and dies; the flower-buds wither, the whole stem dries up and perishes. From the report given in the horticultural journals, it seems that some bulbs survive, and flower well the next season, others perish entirely. My view of the disease in both cases is, that it originates in damage done to the foliage by hail or heavy cold rain, followed by low temperatures and driving cold winds, of all of which we have had plenty this spring, hence the greater prevalence of the disease this year.

In this way severe bruising or wounding happens to the outer skin of the foliage (this may be observed in the Potato disease, as a preliminary step to its attack).

Now, it is well known to medical men that a sound healthy skin is the best protection against the introduction of germs, but that given a wound and the exudation poured out for its cicatrisation, there, unless aseptic means be employed, germs will most certainly be deposited, and among these germs some that are hurtful to life; these will grow and multiply first in the very fluids poured out for healing, thence passing into the interior of the living plant or animal affected, the result being severe disease, and possibly death. Now, applying this law to the plants in question, first we have damage done to the cuticle by hail or heavy cold rain, or a lowered vitality, induced by driving rain, followed by severe frost or biting cold winds; secondly, the invasion of germs always at hand to attack the weakened individual, but under healthy conditions unable to effect an entrance; very shortly the whole foliage is, to the naked eye, affected and under the microscope swarms of fungi are evident.

I consider that both in the Lily and the Iris the cause of the disease is identical, though the fungus may be different. The Iris rhizome is not generally killed because it is a perennial and of hard texture, and able by adventitious buds to reproduce growth.

The Lily bulb may die because it is a biennial, or as some say, a triennial, having to reproduce a new bulb annually by its foliage and root-action; its foliage perishing, the root-action may not suffice to form a new bulb.

The remedy that I advise is, at the outset of the attack, in both Lily and Iris, to cut off and burn all foliage that shows signs of trouble, leaving the roots alone, helping root-action later on by liquid-manure, to give greater vigour to renewed root-action. *Alexander Wallace, M.D., Colchester.*

SANSEVIERA CYLINDRICA.

The accompanying drawing (fig. 32) shows the mode of reproduction of Sanseviera from cuttings of the leaves, and also the remarkable transition from what may be termed the juvenile to the mature form of foliage. The leaves of S. cylindrica are quite terete, solid, and when old, furrowed longitudinally. In strong plants they grow to a length of 3 or 4 feet, and become as tough almost as leather. The young plant, developed from the base of a piece of old leaf, has, as represented in the drawing, the first three leaves flattened and channelled above, as in S. longiflora and S. Kirkii, the fourth leaf being terete. A batch of young plants recently raised at Kew from leaf-cuttings of S. cylindrica bore no resemblance in their leaves to the parent until a few weeks ago, when some of them pushed up the terete form. The difference between the leaves of young seedlings and mature plants of the same kind has been treated upon by Sir John Lubbock. It is remarkable that the same difference is observable when old plants are cut down and made to start into fresh growth, where the buds are either latent or have to be newly formed, as, for instance, in Aralias, Eucalypti, Acacias, some Cacti, &c. *W. W., Kew.*

HOME CORRESPONDENCE.

ÆCIDIUM ASPERIFOLII.—This, the Æcidium-form of Puccinia Rubigo-vera, seems exceedingly rare in England, many of our most eminent observers having hardly ever met with it. I have had the good fortune to find a considerable number of Borage plants infested with it this season. At regular intervals I have visited certain clusters of Echium, Myosotis, and Lycopsis since April, and early in May some Wheat at Eltham was well covered with the "spring rust." Just three months later I found an isolated specimen of Lycopsis arvensis with the Æcidium upon it, and a visit to some of my regular patients found them in a similar condition immediately afterwards. I have preserved some specimens, and have made a few experiments. Any positive results I may obtain from the latter I shall be pleased to communicate to you. No specimen of Echium or Myosotis has been attacked by the Borage-blight, and no sign of that blight appeared till long after the Puccinia. *H. Wigley, B.A, Lee, S.E.*

SALPIGLOSSIS SINUATA.—Although useful for filling bare places in the front of shrubs ,&c., or gaps in the herbaceous borders, Salpiglossis are extremely useful if grown in masses for cutting from. The rich and varied funnel-shaped blooms are very pretty when scrutinised, though perhaps at a distance they are less attractive than many other half-hardy annuals. They are elegant also when arranged in glasses with a little Fern or light grass, and will last so for several days. In a moderately rich soil and in a sunny position the plants delight. Mr. Woodward, of Barham Court, grows it in quantity for cutting, and sows the seed broadcast in well-prepared beds, where it does much better than when the plants are raised in boxes. *H. Markham.*

THE WEEPING LIME.—There is a very fine specimen of this handsome tree (Tilia petiolaris) in the garden of the Railway Hotel at Taunton. It has made a very free growth this season, and the pendulous branches are covered with bold leaves, bright green above and pubescent beneath, and they are laden with sweetly-fragrant blossoms. One has only to lift up the sprays to see how plentifully they are furnished with bloom, and unless this is done no adequate conception can be formed of the wealth of bloom the branches carry. The tree is of considerable height and dimensions, and is altogether a unique specimen. Another very fine example can be noted in the principal street in the town. It occupies a place in the front walled-in garden of one of the old residences, and the branches hang over the wall towards the street. In comparison with some examples of the European Lime found in the town, this pendulous form is much more persistent in its leafage. It is indeed a noble tree. *E. D.*

GUNNERA MANICATA.—There is a specimen of this grand plant growing in a ferny valley which forms a portion of the pleasure grounds of Trengwainton House, near Penzance; and it is of such a gigantic size that its dimentions may be worthy of record. It is planted on the edge of a pond, and its leaves cover a surface 15 feet by 11 feet. The leaf-stalks are 5 feet 6 inches long, and have a circumference of 8 inches. The leaves are from 5 feet to 6 feet 3 inches across. There is also a noble flower-spike, 4 feet 6 inches long. *W. T., Hea Moor.*

COLEUS.—It may be news to some persons even now that it is as easy to have a fine batch of Coleus plants of the most varied and beautiful description from seed as from cuttings, without the trouble involved in the latter case of having to keep them in heat through the winter. There are probably few growers of the Coleus who make seed-saving a special business. The seeds are very small, and need very much watchfulness in gathering. It is a work specially suited for female fingers. The plants can only be induced to seed freely under glass, and the houses in which grown must be very light and airy. I saw recently in a long span-roof house at the Sussex Nursery, Farnham, a fine collection of seedling Coleuses, all grown from home-saved seed, and all for seed production. Mr. Mortimer has made the growth of these plants for seeding in the interests of the great Reading seed firm a specialty for several years, and as in that time several crosses with new forms have been made, and all the most varied colours and markings in leafage introduced, the strain is now one of singular excellence and beauty. Out of several hundreds of plants no two are exactly alike, whilst there is almost as much diversity in habit of growth as in colouring. All produce long spikes of blue flowers, only one or two hang a shade darker than the rest, but curiously pleasing do these blue flowers seem to harmonise with the leafage, let colours be what they may. Seed is invariably sown early in March in shallow pans, and in warmth. The seedlings are pricked-off into other pans or in pots when large enough to handle, and thus grown on until finally shifted into 6-inch pots, in which size, standing on an ash-bed, they make beautiful plants, ranging according to habit from 12 inches to 36 inches in height.

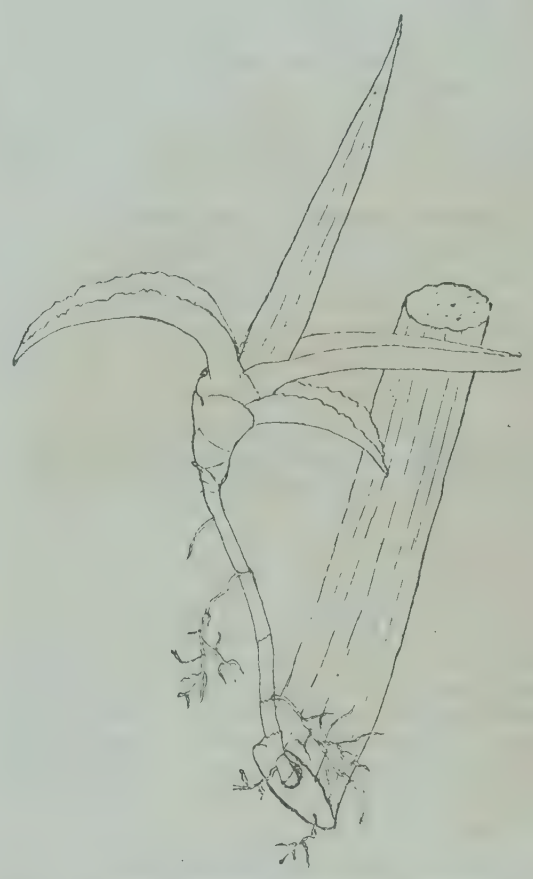


Fig. 32.—Leaf-cutting of Sanseviera cylindrica.

Grown in this free way, how beautiful are they for all sorts of decorative uses! Some of the coloration is indescribable, and wondrously beautiful. Pinched or trained plants may be best for exhibition, but for all ordinary purposes none can be more useful or effective than are plants from seed. *A. D.*

BEDDING PANSY, ECKFORD'S BRONZE PRINCE.—Not only do Sweet Peas occupy a foremost position at Wem, but Pansies are also cultivated there in large numbers for seed, and I was particularly struck with a quantity of bushy plants in full flower in the middle of August of the above variety. It is of compact habit, throws well above the foliage a quantity of well-formed bronzy orange-red flowers, with a dark central blotch. It is a particularly striking and acceptable colour. It is brighter in the bronzy-orange-red rich colouring than that popular old variety, Thomas Granger, esteemed so much for its bright orange-tinted red colour, and also Bronze Queen, a bedding Viola which was esteemed not long since. Mr. Eckford has a fine strain of richly-coloured striped Pansies of medium size and good form, and a selected strain of the distinct Peacock strain, so very rich in blue and violet tints, as well as other shades of colour, each with a distinct wire margin of white. *W. D.*

A SUBURBAN GARDEN.—Mr. Chas. Druery, in your last issue, calls attention to what is possible under unfavourable conditions of a certain class. There is one unfavourable condition in most small gardens, which would totally prevent his example being followed, i.e., want of sufficient knowledge and experience. The average suburban-garden owner does not know how to make his ground, and does not know most of the best plants either by sight or name. Mr. Druery criticises the jobbing gardener with judgment, but what is his employer to do, who knows, as a rule, much less even than the worst jobbing gardener? Gardening is not an art to be picked up as easily as playing skittles. Although I do as Mr. Druery does, on a very much larger scale, I should not care to attempt it if I had only the average, or even the superior jobbing gardener to depend on. The qualification of this species of gardener is, as a rule, that he does not understand his business. A good herbaceous border and rockery requires not only a man who knows every inch of the ground and its contents, but also one who thoroughly understands the habits and necessities of every plant in it; who has not only had years of sound training, but who also has at hand good books of reference to supplement his experience, a fairly educated, all-round man, who is worth a good deal more than a jobbing-gardener's wages. Mr. Druery knows what he is about, and is capable of managing the suburban gardens round him, but no one with such knowledge would care to take odd jobs in fine weather at 3*s.* 6*d.* a day, and get rheumatism on wet days at the same price! I have a faint impression that he can do rather better for himself, and under the circumstances his neighbours show their judgment in laying-out their ground in grass for the delight of the family-dog and the children. The first thing to be done is to educate the gardener, to lift him out of the labouring class, and teach him to make himself worth at least the wages of a skilled artisan. So long as wages are so low, the work can only attract the incompetent, and the whole art of gardening suffers. If gardening is to be satisfactory, the payment of a competent man must be sufficient not only to keep him in decent comfort, but to enable him to save something for the time when he will be unable to work. Failing this, he is only in the position of a casual labourer, and the man who is competent soon finds this out, and looks elsewhere for his living. The trouble starts with the employers, who should expect and be prepared to pay fairly for a higher standard; if this were the case generally, a better class of men would come forward. *Thos. Fletcher, Grappenhall, Cheshire.*

EFFECT OF THE SEASON ON PLUMS.—In no year do I remember having seen such an amount of blossom on growing shoots of fruit-trees. During the end of June and July, Pears, and even Peaches, bloomed on the current year's wood, and set a few fruits, but on Plums the second crop of bloom has been most marked, and especially on "Victoria." Instead of the flowers being produced at the nodes, as is the case with spring-blossom, they have been borne on long peduncles at the ends of the shoots, and some trees are now carrying a fairly good crop of fruit about the size of pigeon's eggs. If we are favoured with warm weather late into autumn, I have no doubt some of the fruits, if not all, will come to

maturity. Growers in the low-lying districts, who lost nearly all their bloom on May 21 and 22 last through the frosts are, in a measure, encouraged by the unexpected appearance of a second crop of fruit, and the possibility of being able to harvest it. I have not heard of any other neighbourhood where a second crop of Plums is so large as in this one, and would like to know if it is more general than I am inclined to think. The matter being worthy of note, perhaps some of your readers will kindly favour us with their observations. *J. Riddell, Castle Howard, York.*

MINA LOBATA.—This very pretty annual climber is very little known and grown, though it is not new. I have recently seen plants of it in pots out-of-doors, trained to a few sticks, and fully in bloom. The leaves have triple acute lobes, and the flowers, which are produced on one side only of the racemes, are long and narrow, opening bright orange-red, and fading to yellow as they get older. *D.*

ARISTOLOCHIA GIGAS STURTEVANTII.—We have this curious climber flowering for the third time this season. It is carrying six expanded flowers, and has two more to open, averaging, with the appendage, 4 feet in length. *Thos. Jago, Gardener, Lostwithiel Gardens, Cornwall.*

MORELLO CHERRIES.—That good crops of fruit are produced upon standards, pyramids, or even bushes, no one will deny, but my experience of these trees is anything but satisfactory. In our case we had abundant crops, but directly the fruit became red the birds took most of them. Situated near woods and tall trees, we perhaps are more troubled with blackbirds and thrushes than "A. D.," and I cut down our trees of this fruit as being useless for the reasons stated. In the case of Morellos, it is worse than the sweet kinds, as the fruit of the former should hang longer on the trees. Undoubtedly, walls afford the best site for Morello Cherries, and not necessarily a northern aspect either. The finest fruit I ever saw was growing against a south wall, the tree was planted against a north-west exposure; some of the branches were trained against the wall named, and magnificent fruit was each year produced. Of course, no one would think of planting Morellos against a south wall. I name this fact simply to prove that Morello Cherries will succeed on other walls than one with a north aspect. *E. M.*

TRELLIS GOOSEBERRIES.—Gooseberries trained in a similar manner to that noted by Mr. Dean, p. 192, are cultivated at Trent Park, near Barnet, but not quite on such a large scale as at Claremont. Mr. Lees thinks highly of the plan in every way, and rightly so, because the system appears to me to meet all the necessary wants of a full Gooseberry crop. Not only is the fruit more easily gathered, but the insect pests, such as caterpillars and red spider, are so much more easily dealt with than when the trees are a mass of shoots, as is the case where trees are allowed to go unpruned for ten or a dozen years, as is frequently the case. *E. M.*



Fig. 33.—LÆLIO-CATTLEYA BROOMFIELDIENSIS ×: LIP DEEP CRIMSON.

LÆLIO-CATTLEYA BROOMFIELDIENSIS ×.

This hybrid, remarkable for the intense coloration of the lip, was shown at the Royal Horticultural Society on August 14, by Mr. Hinds, gr. to Matthew Wells, Esq., Broomfield, near Manchester, and obtained a First-class Certificate. The plant was raised as a cross between Cattleya aurea var. chrysotoxa and Lælia præstans. The plant was described in our last issue, p. 194, and the illustration, fig. 33, shows the general appearance of the flower. The sepals are white flushed with lilac, the petals clear rose. The lip is of a rich deep crimson, much waved at the margin, and marked with yellow lines at the throat.

SOCIETIES.

ROYAL SCOTTISH ARBORICULTURAL.

August 6.—At the annual meeting held in Dowell's Rooms, George Street, Edinburgh, on the above date, Mr. John Methven presided. Sixty-two new members were added to the Society, making a total of 646.

Mr. Methven delivered an able address on the state of arboriculture, and stated that Government would ere long have to face the question of maintaining forests in this country. In the course of his remarks he directed attention to the training of students, and said that nowhere could a knowledge of practical forestry be gained more satisfactorily than in the vast forest district which the Society was to visit the following morning. He spoke of the importance of draining, without which the planting of trees was waste of labour and expense. He also urged the necessity of meeting oftener for the exchange of opinion, and for the discussion of the best method of establishing arboricultural schools in this country.

Among others who spoke were Professor Somerville, and Mr. Watt, of Little & Ballantine's, Carlisle; both gentlemen gave interesting information regarding their travels in German forests. It was resolved in committee, to arrange next year's excursion to Germany.

The Excursion.

Tuesday, August 7, at 4.20 the next morning, about sixty of the Society started from Edinburgh for Rothiemurchies. The numbers were considerably augmented by contingents joining them at Perth and Onviemore. They were met by Mr. Grant, factor for Q. P. Grant, Esq., Rothiemurchies, Mr. Smith, Grantown, factor for the Countess of Seafield, Mr. Grant, factor to the Duke of Richmond and Gordon, Mr. Thomson, wood manager, Grantown, and Mr. Stuart, forester.

Rothiemurchies, etc., to Elgin.

A number of well-equipped brakes were in readiness to convey the party to Rothiemurchies Forest. Loch-an-Elan was reached at 10.30. The party then left the brakes, walking along the north side of the lake past great breadths of Birches, under which the whole surface was covered with Juniper, a shrub perfectly at home in these wilds, giving excellent shelter for game. Some grand specimens of Scots Firs were seen, and much admired; some of the girths being taken indicated 10 feet 7 inches

at 3 feet above ground. A source of special attraction on the lake was the old castle in the centre. A hen osprey was seated on her nest in perfect security. Some splendid Firs at the west end of the lake were seen in a secluded hollow; these giants of the forest appear to do as well on the low ground as on high elevations. Some of these trees are said to be 250 years old. The age of this forest is unknown. Logs which have been buried for centuries are dug out of the peat, which abounds in the district in excellent preservation.

The factor, Mr. Grant of Rothiemurchies, left the party in charge of Mr. Grant, wood manager to the Duke of Richmond. After a drive of an hour or more, through varied and romantic scenery, thickly-wooded Loch Moirlich was reached, where the objects of interest were pointed out. Glenmore Lodge, the shooting lodge of Marquis of Zetland, is close to the lake. The immense acreage of timber at the base of the Grampians, fringing the base of Caringorm, was viewed almost in silence, many of the company who knew little of the Highlands being impressed by the sight of forests, lake, and mountains.

On the return through this forest, Cobblers' Hill was passed, from which a splendid view was had. The valley of the Spey, between Kingussie and Grantown, Aviemore Hill, with its 11,000 acres of trees, was seen on the Seafield property, a vast number of trees having been planted twenty-five years ago. Other grand crops of timber were passed on lands of great altitude, at the base of which the Sluggan Burn flows, and is utilised for floating timber to sawmills at a distance. The company was much indebted to Mr. Clarke for his kindness in supplying information, and pointing out objects of interest. A drive of 20 miles to Loch Garten was very delightful. Among objects of interest was the plantation of Kinbeachie. Mr. Stephen, forester in the Abernethy district, then became guide. On nearing Loch Garten, the stirring sound of bagpipes was heard, heralding the approach of the excursion party. Mr. Hugh Stewart now "screwed his pipes and gart them skirl," which gave great delight to the travellers.

The Countess Dowager Seafield furnished a luncheon, which was partaken of in the forest. Mr. Smith, factor, presided, and some instructive speeches on forestry were given. Mr. Smith stated these were the largest forests in Scotland. Mr. Smith, on the proposal of Mr. Methven, was unanimously elected an honorary member of the Royal Scottish Arboricultural Society. The drive to Nethy Bridge was then commenced. Many of the giant Firs were encompassed with young self-sown saplings, leaving little space for Juniper and Heather. Under the guidance of Mr. Stephen, Torehill was reached, from which splendid views of Seafield and Gordon properties were obtained. A peep of Castle Grant, one of Seafield seats, was had. Some Scotch Firs were measured with girths 13 feet, at 3 feet above ground. The base of one near the ground was 20 feet in girth. Many of the trees in this forest are said to have stood 250 years. Young trees are coming up very plentifully, and the Juniper grows to a height of 11 feet. More than 20,000 trees were blown down in this forest by the gale of last November. At Ferroch plantations some great trees are seen. One measured 13 feet in girth, with a spread of 60 feet of branches. The elevation is 800 feet above sea level. A Weeping Scotch Fir, and the only one in Strathspey, was passed. Many of the trees are over 100 feet in height—perfectly free from branches except at the top. A quick drive brought the company to the Dell Nursery, where arches and banners were placed by Mr. Stephens, and the old piper was again "blowing his chantery." The nursery, perfect in cleanliness, with a fine young stock to meet emergencies, covers over 16 acres. The company spent some time examining stock, and about 7 P.M., started for Broomhill Station to catch the train for the headquarters at Elgin.

Gordon Castle, etc.

On Wednesday, August 8, an early start for Gordon Castle was made. Before entering the magnificent grounds, an inspection was made of Mr. Christie's beautiful nurseries at Fochabers. The guides were Mr. Christie, Mr. Webster, gr. at the Castle, and Mr. Scott, forester. This nursery was much admired for its healthy stock of golden-coloured shrubs and closely-cropped ground, 130 acres being covered. Cullen Wood is entered, where splendid views seaward over immense forests are admired. Silver Firs in this wood are very fine, many being over 110 feet high, and one specimen was measured and found to be about 12½ feet in circumference. The trees stand, on an average, about twenty per acre, and individually are 20 cubic feet. No better timber can be found than this, the cleanness and straightness of stems being very remarkable. Great havoc was made by the gales of last November in this district. Some splendid ornamental planting of Beeches, Scotch Firs, Birches, and Larches, many of the latter having clean stems 40 feet up, and 8½ feet of girth at 5 feet from the ground. Leaving these grand plantations, a visit to the fine gardens was made. The quarry garden was inspected and admired. Neatly-kept shrubs (many golden species), Coniferæ, clumps of Ferns, ornamental summer-house, are among the items which formed a picture justly admired by the company. A handsome Abies concolor was conspicuous which had its top blown off, but was still 50 feet in height. A remarkably neat flower garden was visited, where the flowers were at their best. A conservatory in close proximity was a blaze of inflorescence, Golden Madame Desgranges Chrysanthemums and Zonal Pelargoniums forming a large portion of the display; Fuchsias hanging from the rafters, laden with flowers, were very charming. Beds were passed effectively arranged with Begonias, and a centre plant of Humea elegans.

Messrs. Wedderspoon, Aitken, Scott, and Webster were most kind in pointing out the many objects of interest. Another conservatory was passed, also gay with foliaged and flowering plants. A large slab of timber was shown to the company 4 feet 11 inches in breadth; this was brought from Glenmore forest, and kept as a relic. In a long corridor hung with plants an excellent dinner was provided by the Duke of Richmond and Gordon.

After dinner the splendid castle was inspected, the beautiful Italian flower garden and spacious lawns being of much interest, and quite a change from the other gardens referred to. The bedding plants were at their best, making a brilliant display. The spacious park was traversed, where the trees either stand singly, showing their great dimensions, or are in clumps. Immense Chestnuts, Birches, and Limes were inspected. The Duchess Lime, 16 feet 8 inches in girth at 4 feet from the ground, is truly a grand park tree. Some fine Ashes are in this park of 1400 acres. The vegetable garden is entered, which is extensive, probably 10 or 12 acres within the walls. As might be expected, the collection of fruit trees is of the choicest description. The late Mr. Webster, who added so largely to cultural knowledge of fruits, and by raising seedlings, is well remembered by many fruit-growers far from the gardens where he worked so assiduously for the advancement of horticulture. His son, the present gardener, is full of enthusiasm, and the management is likely to be well maintained at Gordon. Crops of Peaches (Royal George, Hale's Early, and Bellegarde) and Apricots on the walls were abundant, but time was too limited to note details. In the glass structures crops of Peaches were also large, also Grapes. Figs grown in pots are of special interest. Melons were excellent crops. Tomatos and Pines were turning in well to meet requirements.

The society had reluctantly to leave to catch the return train for Elgin, where the annual dinner was held in the evening, and at which Mr. Methven presided, and was supported by the provost and magistrates of the town.

(To be continued.)

CLAY CROSS FLORAL AND HORTICULTURAL.

August 14.—The thirty-seventh annual exhibition was held on the above date, and the attendance was good. The principal feature of the show was the group, arranged for effect, for the 200-feet group, and brought forward six competitors, while that for the 100-feet had nine, thus filling one large tent. Mr. Joseph Ward, gr. to J. H. Oakes, Esq., Riddings House, Alfreton, secured the 1st with a grand arrangement; his foliage plants, especially the Crotons, were as good as any we have seen. It was a well-balanced group, very bright, and exceedingly effective. He was closely followed by Mr. Edmonds, The Gardens, Bestwood, Notts, whose arrangement was a trifle heavy.

For the 100-feet groups, Mr. Mee, Sherwood, Notts, was 1st for a nice neat arrangement. Mr. Haslam, Harstoff, was a very close 2nd. Specimen plants we have seen better, but six well-grown Ferns came from Mr. Joe Ward, who was easily 1st; 2nd, Mr. Nelson, Chesterfield. For six table plants, a good half-dozen from Mr. Ward was 1st; 2nd, Mr. Edmonds, Bestwood, also good. Fuchsias, Begonias, and Coleus, were shown in quantities, but call for no special comment.

In the cut flower section, the class for twenty-four distinct Roses was won by Mr. Machin, who had a clean neat lot, but small. A splendid lot of cut stove and greenhouse flowers from Mr. J. Ward easily secured him the 1st prize. These were nicely put up.

Bouquet and Epergne: for three bouquets Messrs. Pearson & Son, Chilwell, were easy 1st; and for Epergne, Mr. Haslam, Hardscroft.

The best collection of fruit, including eight distinct kinds was from Mr. Edwards, Bestwood, Notts, who won in a strong competition; 2nd, Mr. J. Ward, likewise good.

Mr. Read was 1st for a collection of hardy fruits, with a nice clean lot; closely followed by Mr. Mee.

Grapes were poor, being small in bunch and berry except the Black Hamburgh, shown by Mr. Ward which were well finished, and obtained an easy 1st.

Muscats were indifferent, the 1st being awarded to Mr. Nelson, Chesterfield.

Peaches, Apricots, and Nectarines were fairly good, Mr. Jeal, Matlock Bath, was 1st for the former, while Mr. Mee was easy 1st for Apricots; and Mr. Grimes, Taplow House, secured 1st for Nectarines. Pines and Melons were poor.

Vegetable collection.—A collection of vegetables of twelve distinct kinds was well shown by Mr. Neal, Burton-on-Trent; while that for six distinct sorts went to Mr. Jeal, Matlock Bath.

The cottagers and amateurs showed well in the classes devoted to them, their exhibits being very meritorious.

The show is well supported by the Clay Cross Company. Mr. J. P. Jackson, J.P., the respected manager of the Company, takes a great interest in the Society, and liberally supports it, encouraging the tenants of the Company, especially the cottagers, by offering liberal prizes to encourage gardening amongst them.

SEVENOAKS HORTICULTURAL.

August 15.—The annual exhibition was held on the above date in Knole Park, in adverse weather. Flowering plants were not quite up to their usual excellence, fruit was good, and cut flowers and vegetables equal to the very high standard of last year.

For six distinct varieties of exotic flowering plants, Mr. Gibson, gr. to F. Burnaby Atkins, Esq, Halstead Place, was well to the fore, showing fresh and well-flowered Dipladenia Brearleyana, D. amabilis, Allamanda magnifica, Ixora Dixiana, and I. Fraseri; the 2nd prize went Mr. to Hatton, gr. to Mrs. Swanzy, The Quarry.

For six ornamental foliage plants, Mr. Gibson was 1st, with his well-known Cycas revoluta, Seaforthia elegans, Croton Sceptre, &c.; Mr. Hatton was 2nd.

Mr. Talage, gr. to Miss Hodgson, was 1st for four distinct Caladiums; and Mr. Hatton 2nd.

For six hardy Ferns: 1st, Mr. Talage; 2nd, Mr. G. Fennell, gr. to C. Cazalet, Fairlawns Park, Tonbridge. Mr. Hatton was first for six exotic Ferns.

In the collection of plants arranged for effect there were six competitors. Mr. Fennell was a good 1st, with a neatly-arranged lot of nice clean plants; 2nd, Mr. Heath.

Mr. Heath was 1st for a group of Ferns with exceptionally fresh, neatly-arranged plants; 2nd, Mr. Hatton. Mr. Gibson took the first place for the best specimen plant in the show; Mr. Sutton, gr. to the Countess of Stanhope, Chevening, was 1st for a single flowering specimen plant, and Mr. Hatton for ornamental foliage plants. Cut flowers were well represented: for table decorations there were six entries, Mr. R. Potter, gr. to Sir Mark Collett, St. Clere, Kemsing, was placed 1st with a very pretty arrangement; 2nd, Mr. Cook, Rosefield.

For a collection of fruit of six kinds (Pine excluded), Mr. Potter led with good Grapes and Peaches, highly-coloured Nectarines, Melon, and large ripe Pears; 2nd, Mr. Osman, Chertsey. Mr. Earl, gr. to Sir Julian Goldsmid, was a capital 1st for three bunches of black Grapes, showing very fine Hamburghs, beautifully finished and fresh; 2nd, Mr. Osman, who had white Grapes, three bunches. Mr. C. Sutton was a good 1st for three bunches of white Grapes, showing ripe and well-coloured Muscat of Alexandria; 2nd, Mr. Bury, Forest Hill. For three distinct varieties of Grapes, Mr. Bury took the lead with fine Gros Maroc, Hamburghs, and Muscat of Alexandria. The best-flavoured Melon came from Mr. Hilling, who showed Sutton's A 1; 2nd, Mr. A. Hatton, with Hero of Lockinge.

Peaches, Pears, Apples, Cherries, &c., were well represented. There were also numerous classes devoted to cut blooms, vegetables, fruit, plants, &c., for amateurs and cottagers, and they were well filled. Mr. Cannell of Swanley gave prizes: 1st, a Star of Honour, together with £4, £3, and £2, as 1st, 2nd, and 3rd, for the best twelve dishes of fruit, twelve dishes of vegetables, and a box of cut flowers. There were three competitors. The 1st prize fell to Mr. Potter, for a very meritorious collection; 2nd, Mr. Edwards; 3rd, Mr. Hatton.

Of miscellaneous exhibits, there was a large and excellent display. Messrs. Seale had a fine and extensive belt of Palms, Dahlias and other mixed plants, and cut flowers. Other fine groups were from Messrs. Williams, Holloway; Messrs. J. Peed & Sons, Upper Norwood; Messrs. Cutbush & Sons; Mr. Gillett, Sevenoaks; Messrs. Cannell & Sons, and Mr. Edmonds. Fifty dishes of Apples and Pears came from Messrs. Bunyard & Co., Maidstone.

HASTINGS HORTICULTURAL.

August 15.—This was held in the Alexandra Park, and although an excellent show, did not strike us as being so good as usual. Fruit and vegetables were very satisfactory, so were cut flowers and table decorations, but Roses were few and poor.

For plants and cut flowers, stove and greenhouse, Mr. T. Portnell, gr. to Sir A. Lamb, Bart., was 1st in the classes for eight and six varieties; but Mr. J. Warren, Handcross Park Gardens, Crawley, beat him for variegated and ornamental plants, and also for exotic Ferns. The 1st prizes for a collection of six plants, a specimen foliage plant, and a specimen plant in bloom also went to Mr. Warren.

In a class for Ericas, Mr. T. Portnell had to take 2nd place, but he was a capital 1st for twenty-four varieties of cut flowers.

Mr. E. C. Gilbert, Springfield Nursery, Hastings, was before Mr. A. Gadd for a group of plants.

Mrs. Gilmour, Hawkhurst, was 1st for table decorations, and Mrs. Morris 2nd; but the last-named beat Mrs. Gilmour for buttonholes, and was also 1st for ladies' sprays.

Mr. Portnell and Mr. Snow were 1st and 2nd for a collection of eight dishes of fruit; Mr. J. Blake, gr. to Mr. Roper, Polegate, being in front for dessert and cooking Apples.

Mr. W. Avis was well in front for both white and black Grapes, while Mr. Gore of Polegate won for Muscats.

Mr. T. Portnell and Mr. J. Warren were very prominent in the lower division for plants; and Mr. F. Morris, gr. to C. J. Ebden, Esq., Hastings; Mr. J. Blake, gr. to F. S. Roper, Esq., Polegate; Mr. C. M. Carter, gr. to Freeman-Thomas, Esq.; Mr. J. Helman, gr. to Viscount Gage, Firle; and Mr. Jupp, gr. to G. Boulton, Esq., Eastbourne, were the most successful with fruit in the same division.

CUCKFIELD HORTICULTURAL.

August 15.—This is essentially a cottager's show, and includes the districts of Hayward's Heath, Balcombe, Bolney, &c. In several of the classes for vegetables there were no fewer than six prizes, and this number was justified, for twenty-two competitors came forward for a tray of six varieties, the 1st prize going to Mr. T. Young, Anstye, Cuckfield. Mr. A. J. Chapman, Bolney, was 2nd. So close was the competition that there was but little difference between that awarded the 6th prize, from Mr. J. Hall, and the 1st.

Throughout the show, vegetables were the leading feature, and the classes were very numerous. The most successful competitors were Messrs. Young, Chapman, Vincent, Lelliott, Upton, King, Gasson, Macro, Roland, Grevatt, and Stedman.

Fruit was fairly good, but poorly contested compared with some ten years back. One of the best features was the hardy Ferns, Mr. M. Lelliott and Mr. W. Vincent being very close. This is a class which deserves greater encouragement in country shows. A collection of such plants was sent by Mr. J. Haslett, florist, Bolney, but among them we saw Adiantum pedatum, which cannot rank as hardy.

Pelargoniums, Balsams, Cockscombs, Fuchsias, &c., were well shown; so also were small groups of plants, the winning stand, from Mr. Stringer, gr. to R. A. Bevan, Esq., Cuckfield, being well arranged, and consisting of small but well-finished Crotons, Caladiums, Palms, Dracænas, &c.

Dahlias, Marigolds, and the general run of country flowers were very prominent. Marigolds are a specialty in this district, but the hideous way of staging these greatly detracts from their beauty.

There were a large number of special prizes, amateurs and nurserymen contributing liberally.

Herbaceous cut flowers, if not numerous, were very good; so, too, were the collections of plants, not for competition, contributed by gentlemen in the district.

Altogether, the show was a great success, though there were five or six shows in the neighbourhood upon the same day!

WILTS HORTICULTURAL.

August 15.—The exhibition held in Wilton Park on the above date, may be described as one of the best hitherto held by the society; a circumstance highly satisfactory to the committee, honorary secretary (Mr. Charles G. Wyatt), and assistant-secretary (Mr. H. Nicholson).

Plants.—£15, £10, and £5, were offered as prizes for twelve stove and greenhouse plants, distinct, six foliage, and six flowering, and these were secured by Mr. James Cypher, Cheltenham, Mr. W. Finch, gr. to James Marriott, Esq., Coventry, and Mr. James Mould, Pewsey. The 1st prize lot, which was well in advance of the other collections, consisted of Latania borbonica, of immense dimensions; Kentia Belmoreana, K. Fosteriana, Croton Johannis, C. angustifolius, both plants being beautifully coloured; a grand Cycas circinalis, Stephanotis floribunda, grandly-flowered; Erica MacNabiana, in fine condition; Phœnocoma prolifera Barnesii, of great size and beauty; Statice profusa, Ixora salicifolia, and Erica obbata purpurea.

In the class for nine stove and greenhouse plants, four flowering and five foliage, Mr. Thomas Wilkins, gr. to Lady Theodora Guest, Inwood House, Blandford, led the way with good specimens of Kentia Belmoreana, Alocasia Thibautiana, Croton Mortfontainensis, Bougainvillea glabra, &c.; Mr. Wills, Shirley, Southampton, and Mr. Peel, gr. to Miss Todd, Sidford Lodge, Southampton, being accorded equal 2nd, both showing well.

Mr. Thomas Wilkins had the best six plants of Exotic Ferns, showing large, fresh, well-grown specimens of Gymnogramma peruviana argyrophylla (heavily coated with silver); Nephrolepis Davallioides, Asplenium Nidus avis, very fine indeed; Davallia Mooreana, Adiantum cuneatum, and A. Farleyense; Mr. James Evans, gr. to Lady Ashburton, Melchet Court, Romsey, was a good 2nd.

Begonias were well shown by Mr. Arthur Robey, gr. to Captain Greenwood, Harnham Cliff, Salisbury, who was a good 1st for six distinct varieties, showing good-sized, even, well-flowered, fresh plants; Mr. A. G. Bedford, Harnham Nurseries, Salisbury, was a creditable 2nd. Mr. Robey was also awarded 1st position in a similar class, confined to amateurs.

Mr. Bedford secured 1st for six Fuchsias, staging fresh, well-flowered, pyramidally-trained plants, between 5 and 6 feet high.

Groups.

Out of six excellent groups of miscellaneous plants, arranged for effect, in a semicircle (of 12 feet in diameter), Mr. Wills, Mr. Robey, and Mr. E. Carr, gr. to A. Gillett, Esq., Bishopstoke, won in the above order.

Mr. Wills' group had a nice Palm in centre of background, with "dot" plants of Cattleyas, brightly-coloured Crotons, Caladium argyrites, Anthuriums, Ixoras, Francoa ramosa, and Lobelia cardinalis, the pots being completely hidden in a groundwork of Maidenhair Fern, including six small, irregular mounds, with a small Palm and Asparagus tenuissimus in the centre of each.

In the class confined to gentlemen's gardeners, Mr. Carr was a good 1st, being closely followed by Messrs. Peel and Wilkins, with good arrangements. The Silver Cup, value £5, given by the Mayor of Salisbury (Charles Haskins, Esq.), for a group arranged for effect on a semi-circle of 10 feet by amateurs residing within six miles of Salisbury, was secured by Mr. Edward Ford, gr. to J. M. Swayne, Esq., The Island, Wilton.

Cut Flowers.

These made a good display, Dr. Budd, Bath, and Dr. Daniel, Bitterne, were respectively 1st and 2nd for twenty-four Roses, single trusses, distinct varieties, both putting up good solid fresh even blooms. Messrs. Wilkins and J. Evans were 1st and 2nd respectively for eighteen bunches of cut flowers, distinct kinds.

Fruit and Vegetables.

The several classes devoted to fruit were well filled, and the exhibits throughout were of a high order. Six collections of eight kinds (Pine-apple excluded) were staged, the prize going to Mr. H. W. Ward, gr. to the Right Hon. the Earl of Radnor, Longford Castle, Salisbury, Mr. Evans, and Mr. George Inglefield, gr. to Sir John Kelk, Bart, Tedworth House, Marlborough. Mr. Ward's collection contained good Muscat of Alexandria and Black Hamburgh Grapes, large Sea Eagle Peaches, Lockinge Hero Melon, Moor Park Apricots, Williams' Bon Chrétien Pears (artificially ripened), Dryden Nectarines, and Figs. Messrs. Ward and Evans were 1st and 2nd for one Pine-apple, both staging medium-sized Queens. For three bunches of Muscat of Alexandria Grapes, six collections were staged, the prizes going to Mr. H. W. Ward, and Mr. Charles Warden, gr. to Sir F. H. Bathurst, Bart., Salisbury. Eleven stands of Black Hamburgh were shown (with one exception) in fine condition. Mr. Frowd, gr. to Canon Coventry, Worcester, was placed 1st for medium-sized handsome bunches, consisting of average-sized berries, beautifully coloured; Mr. Fewtrell, gr. to C. C. Tudway, Esq, The Cedars, Wells, was an excellent 2nd, with larger bunches, finer in berry, and nearly, if not quite as well coloured.

In the any other Black than Hamburgh class, Mr. Fred Smith, gr. to the Lord Bishop of Salisbury, won with Madresfield Court, fine in berry and colour, and carrying a good bloom; Mr. Frowd taking 2nd. Mr. Warden was 1st in any other white than Muscat class, and Mr. F. Smith was 2nd, the former staging Buckland Sweetwater, and the latter Foster's Seedling.

Mr. Henbest, gr. to E. J. Marshall, Esq., Crawley Court, Winchester, was 1st, and Mr. Ward 2nd, for Melons, with Carter's Blenheim Orange and Sutton's Hero of Lockinge.

Messrs. Ward and Inglefield secured 1st and 2nd honours in the Peach class, staging grand fruits of Sea Eagle and Walburton Admirable.

Mr. Evans and Mr. Henbest had the best dishes of Nectarines, showing good examples of Pine-apple.

Mr. Fewtrell and Mr. Brown, gr. to the Hon. Percy Windham, Salisbury, were respectively 1st and 2nd for Apricots.

Plums were a good class. Mr. Ward and Mr. George Fulford, gr. to the Earl Nelson, Trafalgar Park, Salisbury, won in that order, the former showing extra large Green Gage.

Mr. F. Smith and Mr. Ward were 1st and 2nd for three dishes of dessert Apples, the varieties shown being Beauty of Bath, Irish Peach, and Red Astrachan. Mr. Smith was also 1st for a like number of dishes of culinary varieties; Mr. Evans taking 2nd honours.

In the class for four dishes of Pears, distinct varieties, eight good lots were tabled, Mr. Ward leading with clean, even fruits of Durondeau, Beurré Clairgeau, Marie Louise, and Williams' Bon Chrétien; Mr. Wilkins was 2nd.

Only two collections of twelve kinds of vegetables were staged, and these were fine in every respect, especially the 1st, belonging to Mr. Thos. Wilkins.

Miscellaneous.

Messrs. Keynes, Williams & Co. staged a fine lot of Roses, also a fine assortment of Sweet Peas, and various types of Dahlia were well represented, including several seedlings of merit. Mr. B. Ladhams, Shirley, Southampton, had a good collection of herbaceous flowers, &c., on view. Mr. Bedford (Harnham Nurseries), in addition to arranging an effective group of miscellaneous plants, contributed other plants, &c., all of which helped to add to the attraction of the show.

CARDIFF HORTICULTURAL.

August 15, 16.—The sixth annual exhibition took place as usual in the Sophia Gardens. The weather was very boisterous on the first day, and there was danger at times some of the tents would come down. Later in the day the weather improved, and a large attendance was seen on the second day. Mr. H. Gillett and his staff of assistants carried out the arrangements in a very satisfactory manner.

A number of groups, arranged for effect, filled one large tent, and great interest appeared to be taken in them. In the open class, Messrs. Case Bros., Nurserymen, Cardiff, were placed 1st with a very effective arrangement, though a little overdone with white Lilies; Colonel Page being 2nd with a lighter

group, though heaped up in the centre too much with Ferns, and some of the subjects employed lacked quality. With a smaller group, Mr. Marcus Gunn, Llandaff, was 1st; and Sir E. Hill, Rookwood, 2nd. There was yet a smaller group, and here Mr. C. Waldron, Llandaff, was 1st, and Colonel Page 2nd.

Stove and greenhouse plants in bloom, shown in twelves, brought Mr. James Cypher, of Cheltenham, who had Ericas æmula and tricolor vera, Bougainvillea glabra, a fine example of Cypher's variety of Anthurium Scherzerianum, Statice Gilberti, Allamanda Hendersoni, &c. Messrs. W. Heath & Sons, Cheltenham, were 2nd with smaller specimens. For four Orchids Mr. Cypher was 1st, staging very good examples. Messrs. Heath & Son came 2nd. Fuchsias were in the form of large, freely-grown bushes, the 1st prize going to Sir E. Hill; and the 2nd to Mr. T. Hillard, sen., a Cardiff working man, who grows these and zonal Pelargoniums, as well as other things in fine character. With six zonals, large, freely grown, and finely bloomed, Mr. Hillard was 1st; and Sir E. Hill 2nd. Tuberous-rooted Begonias were also finely shown. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, taking the 1st prize with excellent specimens; Mr. E. Lewis being 2nd.

In the amateurs' division, Mr. W. J. Buckley was placed 1st with four very creditable stove and greenhouse plants in bloom; Sir E. Hill being 2nd. Tuberous-rooted Begonias in collections of six, nicely grown and flowered plants, came from Mr. A. Whitefield, Cardiff, and Mr. E. Lewis. Zonal Pelargoniums were again very good, Sir E. Hill taking 1st prize with four admirable specimens. Fuchsias were also good in this division, Sir E. Hill being again to the fore; and some good specimen greenhouse plants were staged.

The open class for eight fine foliaged plants brought two fine collections from Messrs. Heath & Son, and J. Cypher, the former being placed 1st with four finely-coloured Crotons, all good examples; also Kentia Fosteriana, K. Belmoreana, Phœnix rupicola, and Cycas revoluta.

Sir E. Hill had the best eight stove and greenhouse Ferns; and Mr. C. E. Jenkins was 2nd. Table plants were a good feature, shown in collections of twelve. In the amateur's division good foliaged plants came from Mr. Buckley and Mrs. Kelly. Also Ferns from Col. Page, and Sir E. Hill, and there were also Caladiums and table plants.

Cut flowers were a fine feature, Roses being somewhat extensively shown. Mr. S. Treseder, Cardiff, had the best twelve trebles, Mr. R. Crossling Penarth, coming 2nd; and Mr. Treseder was also 1st with twelve Teas in trebles, Mr. A. H. Gray, Bath, taking the 2nd prize. With twenty-four varieties, Messrs. J. Townsend & Son, Worcester, were 1st, having some very good blooms for the season of the year; Mr. S. Treseder was 2nd. With eighteen varieties of Tea Roses, Mr. A. H. Gray was 1st and Messrs. Keynes, Williams & Co., Salisbury, 2nd.

In the amateurs' division for twelve varieties, Mr. Thos. Hobbs, Bristol, was 1st, and Mr. A. H. Gray 2nd; but in the class for twelve Teas, the positions were reversed.

With twenty-four Dahlias, Messrs. Keynes & Co. were 1st, and Messrs. Heath & Son 2nd; the former also taking the 1st prize for twelve bunches of Cactus varieties; Messrs. Townsend & Son 2nd. Dahlias were also shown by amateurs.

Asters were scarcely up to the mark, owing to the season. There were some fine bunches of hardy perennials; while Gladioli, stove and greengreenhouse cut flowers, Carnations, zonal Pelargoniums, &c., were good.

In the way of table decorations, Messrs. Case Bros. of Cardiff, scored heavily with very fine exhibits of Bride's and Ballroom bouquets, button-holes, and sprays, wreaths and crosses taking the 1st prizes in all the classes with work calling for the highest praise; Mr. W. Treseder was 2nd in most of the foregoing. The best table arranged for eight persons was set up by Messrs. Case Bros., light, graceful, and well finished; Mr. G. W. Hunt, Queen's Hotel, Cardiff, was 2nd, and Miss Constance Hill, 3rd.

Fruit was well represented, though not equal in quality to that of last year. The best six dishes came from V. Stuckey, Esq., Yeovil (J. Lloyd, gr.), who had Madresfield Court Grapes, Bellegarde Peaches, Pine-apple, Nectarines, Moor Park Apricots, Jefferson Plums, and Melons; 2nd, Captain Malling. The best six bunches of Grapes came from — Franklin, Esq., St. Hiliary (T. E. Silk, gr.); Mr. J. Lloyd, 2nd. Mr. Silk was in such good form that he took the 1st prizes for three bunches of Black Hamburgh, the same for Muscats, also for any other black, having Gros Maroc; and for any other white, having Foster's Seedling. There were also classes for single bunches in which other exhibitors contended. Very good dessert and culinary Apples were staged, in collections of six and also single dishes. Melons, Peaches, Nectarines, Cherries, Gooseberries, Currants, &c., were all represented; and Apricots were particularly fine.

Of vegetables there were enormous quantities, and they were fine throughout.

Then in the cottagers' division there were plants, cut flowers, fruit, and vegetables, and a tent set apart for honey, a good deal being staged.

Fine groups of cut flowers, not for competition, were sent by Mr. T. S. Ware, Tottenham; W. Clibran & Son, Altrincham; Kelway & Son, Langport; and by local nurserymen.

MAIDENHEAD HORTICULTURAL.

August 16.—This was one of the most attractive exhibitions yet held in Maidenhead, and took place in the grounds of Curtisfield, the residence of Mrs. Pocock, a very suitable spot indeed. The arrangements made by the Chairman of the Committee and Mr. C. A. Vardy, the Secretary, were very satisfactory.

Specimen plants were one of the chief features, Mr. A. Aitken, gr. to Major Meeking, Ritchings Park, Slough, showing fine subjects in the class for six stove and greenhouse plants, having two splendid Crotons, Thrinax elegans, Schubertia grandiflora, Allamanda grandiflora, and Clerodendron Balfourianum; Mr. A. Gillies, gr. to Sir R. G. Harvey, Bart., Langley Park, was 2nd.

The best specimen in flower was Allamanda Hendersoni from Mr. Aitken; Mr. R. Camphell, gr. to the Duchess of Sutherland being 2nd, with an admirably-grown deep-coloured small-flowered Bougainvillea species. Mr. Aitken had the best foliage plant in a superb Croton Queen Victoria. With twelve handsome-foliaged plants in 8-inch pots, Mr. J. Tulford, gr. to F. D. Lambert, Esq., was 1st, having nice Crotons, Palms, &c., all well-grown; Mr. Aitken coming 2nd. With six stove and greenhouse Ferns Mr. Aitken was an easy 1st, having a fine lot of well-grown plants, Microlepia hirta cristata, Gymnogramma chrysophylla, Davallia Mooreana, and D. fijiensis plumosa being very good.

Tuberous Begonias were a good feature, the best six came from Mr. Deadman, gr. to Mrs. Higgin; Mr. G. Goodman, gr. to Miss Hammersly, Bourne End, being 2nd. Fuchsias, zonal Pelargoniums, Cockscombs, Coleus and excellent table plants were shown in good character by various exhibitors.

Groups of plants arranged for effect were so numerous that they quite filled the floor of one tent. The best group filling a space of 120 feet came from Mr. Aitken, set up with his usual good taste; Mr. J. N. Richardson being 2nd. In the smaller group of 30 feet, too small to make a really effective display, Mr. E. Johnson, gr. to A. Gilliat, Esq., was 1st; and Mr. T. Cresswell gr. to A. Gold, Esq., 2nd. Specimen plants, generally small in size, but nicely grown, were also shown by amateurs, and consisted of Ferns, Begonias, Pelargoniums, Fuchsias, &c.

Cut flowers made an attractive feature. Of Roses the leading class was for twenty-four varieties. Mr. W. Tayler, nurseryman, Hampton, was 1st; and Mr. F. J. Fletcher, Cox Green, 2nd. With twelve Dahlias, Mr. J. Walker, Thame, came 1st with some very good flowers; Mr. J. R. Tranter, Henley-on-Thames, 2nd. Asters were also well shown by Messrs. Walker and Tranter. The best twelve Roses in the amateurs' division came from Mr. Fulford, Mr. McPhan, gr. to D. Winton, Esq., being 2nd. Dahlias, both show and Cactus, Asters and Zinnias were also staged.

In the classes for fruit, Mr. G. Goodman had the best six dishes, Mr. E. Johnson being 2nd. Grapes, Peaches, Plums, Apricots, were all good. Mr. J. Marcham, gr. to Mrs. Travers, had the best four dishes, Mr. D. Paxton being 2nd. Good Black Hamburgh Grapes were shown by Mr. Marcham and Miss Ridge, Alicante by Messrs. C. Mills, and Goodman's Muscats by Messrs. Mowbray and Johnson. In the class for any other white, Mr. Mowbray was 1st with good Foster's Seedling, and Mr. Wood 2nd with Buckland Sweetwater. Peaches, Nectarines, Melons, Apples, dessert and culinary, were also shown.

Vegetables in such a district are invariably good, and the special prizes offered by Messrs. Sutton & Sons, Webb & Sons, Carter & Co., Mr. Broughton, and Mr. W. H. Fitt, brought good competitions of fine quality.

Mr. R. Owen offered special prizes for plants of his strain of Begonias, but only one competitor put in an appearance.

Table decorations found a place in the schedule, and a very tastefully-arranged epergne won the 1st prize for Mrs. C. Herrin, of Dropmore; bouquets, sprays, and button-holes were also staged.

Cottager's produce in the form of fruits and vegetables was shown on a large scale, and generally of an excellent character.

Among miscellaneous contributions, Mr. E. T. Such, Maidenhead, had a large collection of hardy flowers, Dahlias, &c. Mr. R. Owen, Castle Hill Nursery, a group of new dwarf Cannas, of a very attractive character Messrs. Veitch & Sons, a large collection of hardy fruits, and also cut flowers from their Langley Nurseries; Messrs. Standish & Co., Ascot, a tastefully-arranged group of plants, and also charming bouquets; Messrs. J. Laing & Sons, Stanstead Park Nurseries, Begonias and other cut flowers; Mr. Charles Turner, Slough, cut flowers, including Ware's new white Cactus Dahlia, Mrs. Peart; and Messrs. Broughton, Maidenhead, and Masson, of Colnbrook, smaller collections.

DEVON AND EXETER HORTICULTURAL.

August 17.—The annual summer exhibition was held on the grounds of Northernhay, Exeter. This was the 179th display by the Society, and was a great success in every way. The groups of plants staged for effect were one of the most attractive features of the exhibition. The fruit classes attracted competition, but the quality generally was not good. Vegetables were excellent.

For forty-eight Gladioli (open).—1st, Mr. G. Hawkins, gr. to W. H. Fowler, Esq., with a magnificent lot of spikes, fresh, and varied in colour.

For twelve Roses, H.P.'s, distinct (open).—1st, Curtis, Sandford & Co., who had a superb lot, including Marchioness of Londonderry, Madame Victor Verdier, Marie Baumann, Charles Darwin, Paul's Early Blush, Margaret Dickson, John Laing, Queen of Queens, Fisher Holmes, and Charles Lefebvre; 2nd, G. Hawkins. Mr. Hawkins was also 1st for twelve Teas.

In the class for a miscellaneous collection, or group of plants, arranged for effect in an oval space, 12 feet by 16 feet (open), Mr. Rowland, gr. to W. Brock, Esq., was 1st with a very tastefully-arranged group; and Mr. T. E. Bartlett, gr. to Lady Duckworth, was 2nd.

For twelve stove and greenhouse plants, six flowering and six foliage: 1st, Mr. Rowland, with a fine plant of Stephanotis, Ixora Williamsii, Rondeletia speciosa, Clerodendron Balfouri, Allamanda Hendersoni, Dipladenia amabilis, Croton Andreanus, C. Disraeli, and C. Johannis, Dicksonia antarctica, Latania borbonica, and Seaforthia elegans. 2nd, Mr. W. Madge, gr. to T. Turner, Esq. The same exhibitors succeeded in the other important plant classes.

Mr. Barnes was placed 1st for six stove or greenhouse Ferns, showing a splendid lot of well-grown plants.

Miscellaneous group of plants arranged for effect, 12 feet by 16 feet: 1st, Mr. Barnes, with a very skilfully-arranged collection. 2nd, Mr. Rowland. Mr. W. Madge was 1st for a similar group, 12 feet by 8 feet.

Mr. Rowland, was 1st for six Fuchsias, and Mr. J. Bawden for Cockscombs. The best tuberous-rooted Begonias (double) were from Mr. A. Kneel; and the best single from Mr. Symes, gr. to Col. Halford Thompson. Mr. Barnes was 1st for Dracænas.

In the cut flower classes, Mr. Foster, gr. to O. Hammond Spencer, Esq., was 1st for Dahlias and Carnations; Mr. G. Emmett, gr. to T. Knapman, Esq., for Roses and Gladioli; Mr. F. Prothero for Pelargoniums; Mr. Gibbings, gr. to the Rev. J. L. Gibbs, for Zinnias; and Mr. James, gr. to Mrs. Macalish, for annuals and herbaceous flowers.

Fruit.—For a collection of fruit, ten dishes, distinct, Mr. Jas. Lloyd, gr. to V. Stucky, Esq., was 1st, with a collection including some good ripe Muscat Grapes; 2nd, Mr. W. Martin, gr. to Lord Poltimore. Mr. R. Grigor, gr. to Sir J. Heathcote-Amory, was 1st for six dishes (Pines excluded); 2nd, Mr. G. Foster.

For three bunches of Black Hamburgh Grapes, Mr. Wm. Sweetzer, gr. to J. W. Washington, Esq., was 1st, with fine, superbly finished fruit; 2nd, Mr. R. Pike.

For three bunches of Muscat of Alexandria, Mr.

Lloyd was 1st, and Mr. Conelly 2nd. Mr. R. Pike was 1st for Madresfield Court, and Mr. H. W. Ward for Buckland Sweetwater Grapes. Mr. H. W. Ward, with fine bunches of Pearson's Golden Queen was 1st for three bunches of any variety.

Mr. W. H. Ward was 1st for Peaches, and Mr. Lloyd for Nectarines. The best green or white-flesh Melon came from Mr. W. H. Ward, who had Hero of Lockinge; and the best scarlet from Mr. W. R. Baker, gr. to Sub-Dean Acland, who had Pride of Stourbridge. Mr. Maris was 1st for Apricots, and Mr. Ward for Figs.

The best Pears were from Mr. Ward, and the best Apples from Mr. W. Martin, who had Irish Peach. Mr. Barnes had the best yellow Plums, and Mr. Ward the best red or purple with Pond's Seedling. Greengages were shown best by Mr. Conelly, Cherries by Mr. S. Stark, red Currants by Mr. Maris, white Currants by Mr. W. R. Baker, and Gooseberries by Mr. Maris.

Vegetables were of capital quality, the best collection of twelve kinds coming from Mr. Maris, gr. to Sir John Shelley, who included Dobbie's Champion Leek, Sutton's Prize Winner Runner Beans, Veitch's Redglobe Turnip, Veitch's Autumn Giant Cauliflower, Sutton's Peerless Cucumber, Perfection Tomato, Veitch's Exhibition Brussels Sprouts, Ailsa Craig Onion, Satisfaction Potato, Alderman Pea, Veitch's new Intermediate Carrot, and Dobbie's Invincible White Celery. He was also awarded the prize for the best arrangement. The smaller classes were almost invariably good; 2nd, Mr. W. R. Baker.

Miscellaneous groups were varied and beautiful. Messrs. Veitch & Sons, Royal Nurseries, Exeter, had a magnificent display of Japanese Maples, Orchids, Palms, Ferns, Lilies, Cannas in great variety, as well as good Dahlias and Carnations, and a good display of alpine and other rock plants, including the lovely new white Platycodon Mariesi album.

Messrs. Sclater (Lucombe, Pince & Co.) had a large exhibit of remarkably healthy Palms, Stephanotis, Bougainvillea, &c., with floral wreaths, crosses, and bouquets. Mr. Randall, Exe Bridge, staged a choice collection of plants, with boxes of various kinds of cut blooms. Mr. Godfrey, of Exmouth, put up a grand lot of plants and cut blooms of his Carnation Mrs. May Godfrey, pure white, and Reginald Godfrey, pink. He had also boxes of Dahlias and other seasonable flowers in great variety.

Messrs. Jarman, of Chard, had collections of Carnations and herbaceous flowers, with some of their noted Onions, and several dishes of Apples. Mr. G. Kerswell, of the Bonhill Nurseries, had a stand of excellent decorative plants. Messrs. Curtis, Sandford & Co., of Torquay, staged several boxes of Roses. Mr. W. B. Smale had nice boxes of Gladioli and Dahlias; especially good was the box of his new white Cactus F. C. Smale, a perfect white Juarezii.

SHROPSHIRE HORTICULTURAL.

August 22, 23.—The Shropshire Horticultural Society, favoured with delightful weather, on Wednesday last added another substantial link to the chain of successful shows hitherto held by this prosperous and well-managed society.

The annual show, taking it altogether, was the best the society has ever held, the entries were more numerous, and the exhibits in several classes eclipsed in size and quality any previously staged in The Quarry, the society's own beautiful grounds. The committee, and indefatigable and courteous hon. secretaries (Messrs. Adnitt and Naunton), are to be congratulated.

Plants.

For a group of miscellaneous plants, arranged to produce the best effect, and occupying a space of 300 feet, the prizes being £20, £16, £14, and £12, there were four very good arrangements put together. Mr. Edmonds, gr. to the Duke of St. Albans, Bestwood, Nottinghamshire, was 1st, for a good group, consisting of hills and valleys, the pots being covered with moss, central plants of Palms, Crotons, Grasses, &c., surrounded with Anthuriums, Caladiums, bridal wreaths, Odontoglossum crispum, Pitcher-plants (the pitchers being very large indeed), Cattleyas, &c. Mr. Cypher was placed 2nd, for a lighter and decidedly prettier arrangement; his group consisted of a good background of Crotons, Palms, Lilium candidum, Ixoras, Maidenhair and Silver Ferns, the body and foreground consisting of mounds of Cattleya Dowiana, Dendrobium Phalænopsis Schroderianum, Odontoglossum crispum, Oncidium incurvum, Caladium, &c., with a Palm or Croton in the centre of each mound. 3rd, Mr. C. Roberts, for a good arrangement; Messrs. Jones & Sons, Shrewsbury, being an excellent 4th.

For twenty stove or greenhouse plants, in bloom or foliage, not fewer than twelve in bloom, only two lots were shown for the prizes of £25 and £20, Mr. James Cypher, Cheltenham, being easily 1st for a grand lot of healthy, well-grown plants of Erica obbata purpurea, E. Antoniana, Allamanda Hendersonii, Phœnocoma prolifera Barnesii (grand plant, measuring some 10 feet over), Croton Queen Victoria, C. angustifolius, Kentia Fosteriana, Latania borbonica, Cycas circinalis, Croton Sunset, Statice prolifera, Erica Austiniana, Ixora Regina, Allamanda nobilis, and Stephanotis floribunda; Mr. Finch, gr. to James Marriott, Esq., was a creditable 2nd.

In the class for six plants in flower (Orchids excluded), Mr. James Farrant, gr. to Mrs. Juson, Monklands, Shropshire, was 1st with good Allamanda Hendersoni, Ixoras, &c.; Mr. Lambert, gr. to Lord Harlech, Oswestry, was a capital 2nd, showing in his half-dozen a finely flowered plant of Ixora Williamsii and Dipladenia amabilis.

In the class for six exotic Ferns, Mr. Thomas Stevenson, gr. to Mrs. J. H. Slaney, Wellington, was a good 1st, his lot including a fine plant of Nephrolepis exaltata; Mr. S. Bremmell being a fair 2nd.

In the class for six Dracænas, in variety, Mr. Lambert was well to the front; Mr. Farrant being 2nd.

For a group of Orchids of not fewer than twenty varieties, Mr. Cypher was easily 1st. His collection included Oncidium incurvum, Dendrobium Phalænopsis, D. superbiens, D. formosum, D. Dearei, Cattleya aurea, C. gigas, C. Gaskelliana, C. Leopoldii, Epidendrum O'Brienianum, Lælia elegans, Catasetum Bungerothii (fine), Cypripedium Harrisianum, C. Crossianum, Odontoglossum Harryanum, O. crispum, &c. Altogether a bright and telling collection in every way. Messrs. Charlesworth, Shuttleworth & Co., Bradford, Yorks, were 2nd, with a good lot of smaller plants.

Cut Flowers.

Roses.—For a collection of Roses, in a space 8 feet by 6 feet, open to nurserymen only, five good lots of various designs were put up, Mr. Edwin Murrell, Shrewsbury, being a good 1st; Messrs. Harkness & Sons, Bedale, were 2nd.

Dahlias.—Collections of Dahlias, space 10 feet by 6 feet, open to nurserymen only, six lots were arranged, premier position being secured by Messrs. Keynes, Williams & Co., Salisbury, with a grand arrangement of fine blooms, consisting of three pyramids in back and two smaller ones in front, with the intervening spaces filled with blooms in boxes; 2nd, Messrs. Cheal & Son, with a very good arrangement.

In the class for twenty-four cut blooms, show varieties, Messrs. Keynes, Williams & Co. were a good 1st, showing, among others, Duke of Fife, Miss Cannell, Peacock, &c.; 2nd, Messrs. Harkness & Sons.

For a collection of hardy border flowers in variety (annual bulbous-rooted plants excluded), four good lots were put up. Messrs. Harkness & Sons were 1st with a grand lot, rich in variety, fresh, and the colours well intermixed; 2nd, Messrs. Dicksons, Chester, with a fine lot.

Messrs. Dicksons were 1st for a collection of bulbous and tuberous-rooted border flowers, showing a fine assortment of Lilium auratum, L. Harrisii, &c.

Gladiolus.—For a collection of Gladiolus, in variety, to cover space 12 feet by 5 feet, Messrs. J. Burrell & Co., Cambridge, were 1st, withlarge spikes of well-developed flowers; 2nd, Messrs. Harkness & Son; six lots were staged.

The class provided for a display of floral arrangements in a space of 10 feet by 4½ feet, was an excellent one. Out of the four lots arranged, Messrs. Perkins & Sons, Coventry, were a good 1st. Messrs. Jones & Sons, Shrewsbury, were a capital 2nd.

Fruit.

Fruit, as usual, was shown extensively and well. Three collections of twelve kinds were staged for the prizes of £10, £7 10*s.*, £5, and £2 10*s.* Mr. Goodacre, gr. to the Earl of Harrington, Elvaston Castle, Derby, was 1st, with a good all-round lot. His collection contained finely-coloured Barbarossa Grapes, large in bunch and berry; medium-sized Muscat of Alexandria, full, and well coloured; grand bunches of Black Hamburgh Grapes, fine in berry and finish; and good Trebbiano Grapes; good Countess Melon; Morello Cherries, medium size; fresh Cayenne Pine-apple, Barrington Peach, Moor Park Apricots, grand Elruge Nectarines, large well-coloured fruits of Kirk's Plum; 2nd, Mr. Gleason, gr. to C. Keyser, Esq., Stanmore, Middlesex, who had good Muscat of Alexandria, Cannon Hall, Madresfield Court, and Black Hamburgh Grapes, Negro Largo Figs and Violette Hative Peach (this was the first time that Mr. Greason has been beaten). 3rd, Mr. Bannerman, gr. to Lord Bagot, Rugely.

In the class confined to exhibitors residing in Salop, seven good lots were staged. Mr. Bellis, gr. to Sir C. H. Rouse Broughton, Ludlow, was 1st, with an even nine dishes; 2nd, Mr. Roberts, gr. to C. H. Wright, Esq., Halton Hall, Oswestry.

Grapes.—Nine stands of Black Grapes in three varieties, two bunches of each, were put up for the prizes of £10, £7 10*s.* and £5, the 1st prize going to Mr. Craven, gr. to J. Grant Morris, Esq., Allerton Priory, Liverpool, with fine Madresfield Court, Black Alicante and Alnwick Seedling, one double bunch and one single, and good in shape and beautifully coloured. Mr. Lambert, gr. to Lord Harlech, Oswestry, was 2nd, with, in our opinion, slightly better exhibits. He had grand bunches of Madresfield Court, even in size, and well coloured, good Black Alicante and Gros Maroc Grapes, fine in every respect.

Eight stands of Black Hamburgh were tabled, and these were good in quality throughout. Mr. Brownhill, gr. to J. C. Sinclair, Esq., Rock Ferry, Birkenhead, was 1st; 2nd, Mr. Pilkington, gr. to R. Pilkington, Esq., St. Helens.

Fifteen stands of any other Black than Hamburgh were staged, the 1st prize going to Mr. Craven for fine examples of Madresfield Court; 2nd, Mr. Langley, gr. to Rev. T. M. Bulkeley, Oswestry, who also showed Madresfield Court.

In the class for four bunches of white Grapes, in two varieties, nine stands were put up, Mr. Craven securing 1st position for good examples of Muscat of Alexandria and Buckland Sweetwater; Mr. Elphinstone taking 2nd place with Trebbiano and Muscat of Alexandria.

Ten stands of Muscat of Alexandria were shown. Mr. A. H. Hall, gr. to J. Daintry, Esq., Congleton, Cheshire, was 1st for three fine bunches, good in berry and well-coloured; Mr. Middleton taking 2nd place.

In the class for any other white, Mrs. Meakin, Stafford, was 1st with Foster's Seedling, rather small in the berry, but well ripened; Mr. James Crawford, gr. to James Thorpe, Esq., Newark, was a good 2nd.

In classes confined to the county of Salop, Mr. Langley was a good 1st, out of six good lots, for two bunches, with compact, well-finished examples of Black Hamburgh; Mr. W. Sutton, Hawkestone, being 2nd with the same variety.

In the class for two bunches of any other black, Mr. Lambert was a long way ahead, staging grand bunches of Madresfield Court, fine in berry, and well coloured; Mr. H. France, Hayhurst, Wellington, being a good 2nd. Mr. Lambert was again to the front with two bunches of Muscat of Alexandria, Mr. Weeks taking 2nd honours with two bunches of any other white. Mr. William Weeks, gr. to Mrs. Donaldson-Hudson, Market Drayton, was 1st, showing tapering bunches of small round berries of Doctor Hogg, Mrs. Sutton taking 2nd place with Duke of Buccleuch. Altogether, 330 bunches of Grapes were shown.

Melons.—Fifteen good fruits were staged. Mr. J. Gray, gr. to Sir G. Meyrick, Bt., Bodorgan, Anglesea, was 1st, for a handsome fruit of Sutton's Hero of Lockinge; Mr. Charles Bellis was 2nd, for Best of All.

Plums.—Out of thirteen dishes of kitchen Plums, Mr. Goodacre secured chief honours, with fine fruits of Kirk's; Mr. Waite, gr. to Col. W. P. Talbot, Glenhurst, Esher, being 2nd.

Mr. Waite had the best dish of dessert, with Jefferson's; 2nd, Mr. Bremmell, Wellington, with Washington.

Apricots.—Fifteen dishes of Apricots were shown. Mr. James Tindal, gr. to C. Williams Wynne, Esq., Coedy Maen, Welshpool, was 1st; Mr. Bremmell 2nd.

Nectarines.— Nineteen good dishes of six fruits were staged. Mr. Wallis, gr. to Ralph Sneyd, Esq., Keele Hall, Newcastle, led with grand fruits of Elruge, large, even, and beautifully-coloured fruits 2nd, Mrs. R. Darby, Adcote.

Peaches.— Twenty-one dishes were shown. Mr. Gillman, gr. to the Earl of Shrewsbury, was 1st, for grand fruits of Barrington; Mr. J. T. Harris, Stone, taking 2nd, with Prince of Wales.

Vegetables.

Twelve varieties only, distinct: this class brought out a magnificent display of exhibits, Mr. T. Wilkins, gr. to Lady Theodora Guest, Inwood House, Blandford, gained the point; it is doubtful if he has ever surpassed this effort. His dishes were Ailsa Craig Onion, large, clean, and weighty, magnicent-sized Leeks, fine Early Rose Celery, and Autumn Mammoth Celery. Large and shapely examples of red intermediate Carrot, and The Student Parsnip, good Tomato Perfection, and Pragnell's Exhibition Beet, a huge pile of Green Globe Artichokes, and good dishes of Windsor Castle Potatos, Duke of Albany Peas, and Ne Plus Ultra Beans; 2nd, Mr. R. Milner, gr. to Miss Talbot, Penrice Castle, Swansea; Mr. W. Pope, gr. to the Earl of Carnarvon, Highclere Castle, was an exceedingly close 3rd.

For a collection of six distinct varieties of vegetables, open to the county of Salop only, Mr. S. Burnell, gr. to H. W. Fraser, Esq., Hayhurst, Wellington, was 1st. 2nd, Mr. J. Abbot, gr. to J. Guise, Esq., Hadnall.

For a collection of six varieties of Potatos the competition was extremely spirited, Mr. Hathaway, gr. to the Earl of Lathom, Lathom House, Ormskirk, was 1st; 2nd, Mr. G. W. Shorting, Broxley.

In the class for three varieties, Mr. Hasham was again 1st, Mr. C. Waite, gr. to the Hon. W. P. Talbot, Glenhurst, Esher, 2nd.

Twenty lots were tabled in the class for a single dish, the 1st prize going to Mr. S. Grant, gr. to J. Waters, Esq., Berwick, for a magnificent dish of Satisfaction; 2nd, Mr. Charms, gr. to Sir Colley Scotland, Shrewsbury.

Twelve single dishes of Tomatos were put up, and Mr. Gilman was 1st with Webb's Sensation; 2nd, Mr. Goodacre. Twelve lots were also put up in the class of single dish of Peas, Mr. Hathaway winning with Sutton's Matchless; Mr. F. Dobson, Keele, Staffordshire, being 2nd with same variety.

For a single dish of French Beans, Mr. Waite won, and Mr. Wilkins 2nd. Mr. A. H. Hall was 1st for a brace of Cucumbers; Mr. Pope 2nd.

Three heads of Cauliflowers.—1st, Mr. Townsend, with Sutton's Autumn Mammoth; 2nd, Mr. Hathaway. Mr. Townsend also won for three heads of Celery; while Mr. J. Clowes, gr. to G. F. Ward, Esq., Hadnap Hall, was 2nd.

Mr. J. Birch was 1st for Parsnips, Mr. Winter occupying the same position in the class for Carrots, and Mr. R. G. Townsend, Ewing, for six Turnips.

Onions were a very strong feature. Mr. Wilkins was 1st in the classes for both spring and autumn-sown Onions, in the former with Inwood Favourite, and in the latter with Record.

For a dish of Runner Beans, Mr. Waite was 1st.

Messrs. Webb & Sons, Wordsley, Stourbridge, Messrs. Sutton & Sons, Reading, Messrs. Carter, High Holborn, Messrs. Johnson & Wheeler, and Messrs. Clibran, Altrincham, offered special prizes for vegetables, all the classes of which were well contested.

Non-Competitive Exhibits.

These made a grand display. Prominent among them was a bank of miscellaneous plants, about 50 yards long, in one of the large tents, Lilium auratum in several fine types, Begonias, Crotons, &c., tastefully arranged by Messrs. Prichard & Sons, Shrewsbury, Messrs. Dicksons, Chester, Kelway & Sons, Langport, Dickson & Robinson, Richard Smith & Co., Worcester, B. S. Williams & Son, Cutbush & Sons, London, Murrell & Sons, Shrewsbury, Cannell & Sons, Swanley, Mr. Albert Myers, Shrewsbury, Mr. Davis, Yeovil (who had a grand lot of Begonia blooms set in Maidenhair Ferns), Messrs. Hewett & Son, Solihull; Mr. Septimus Pye, Garstang, Lancashire; Jarman & Sons, Chard; and Messrs. Edward & Sons, Wordsley, one and all putting up extensive and very attractive collections of their respective specialties.

GREEN MANURING.

"A somewhat interesting form of manuring, or rather of clearing the fields of deleterious weeds, chiefly Algæ and other inferior forms of vegetable life, was made known by the writer (Dr. Watt) in the *Selections from the Records of the Government of India for* 1888-9, pp. 67-81. He dealt with the subject under the botanical name of the plant used (Adhatoda vasica), and the original article should be consulted for full particulars. It may briefly be stated in the words of the original note that, 'During a brief botanical excursion to Suni, in the Sutlej valley (north of Simla), the writer witnessed the cultivators scattering the leaves of this plant over recently-flooded fields, which were being prepared for the Rice crop. Concluding that the same ideas prevailed in the Sutlej valley as in Oudh, with regard to some special virtue over any other plant, which the leaves and twigs of this bush possessed as a green-manure, the cultivators were asked whether the manure they were adding was only given to Rice-land or to other crops as well. The question seemed to afford amusement, for the cultivators hastened to explain that the Básútí was not given alone as a manure, but also as a medicine or poison to kill the aquatic weeds that otherwise would greatly injure the Rice crop. They pointed to fields that had been treated in this way; and there could be no mistake these were clean or free from the green scum caused through floating Lemnæ (duckweeds) and submerged Charæ. It was further explained that, before flooding the field, it was carefully manured with farmyard manure, then flooded. The water in a few days, it was explained, became green through the growth of the weeds. When all the weeds which the soil or water were likely to produce had sprung up, a cultivator, with a large apron in front of him, full of the cuttings of Básútí, each about 6 inches in length, walked through and through the flooded field, sowing or scattering the Básútí until at a distance the field looked as if a crop of some plant, not unlike Tobacco, was being grown in water. After a time these twigs are supposed to impart an objectionable flavour to the water, which completely kills the aquatic weeds. The Básútí is then gathered off the field, and the Rice crop sown or transplanted into it, as the case may be. Sometimes the Básútí is ploughed into the soft mud, and thus made to act as a manure. Instead of Básútí, when a green manure alone is desired, the leaves of the Toon (Cedrela toona) or Nim (Melia azadirachta) are utilised; but these, with the Básútí, are the only plants employed as green-manure in the Sutlej valley. In all these cases it will be observed that plants which possess powerful properties are resorted to in place of numerous other weeds, which might more conveniently be used. This same idea seems to prevail in many other parts of India—as, for example, the almost universal opinion that the leaves of Calotropis gigantea, the Ak or Madár (a plant with a most powerful milky sap), is valuable manure for the Rice-land, and a specific against the injurious growth of Reh efflorescence. It is difficult to understand what particular merit that green-manure could have, over any other green-manure, in neutralising the reh salts, but, as remarked, the idea that it does possess some such property is very widespread in India. It is thus noteworthy that the green-manures in most general use in India are, like the Básútí, as far removed chemically and botanically as they well could be from the crop intended to be cultivated, and are plants with powerful active principles.'

"It has occurred to the writer that it may be possible the same practice, and with the same object as recorded in the Sutlej valley, may be followed in Oudh and in other parts of India, and that the merit attributed to the Básútí as a green-manure is not, strictly speaking, deserved. It, at least, seems more natural to suppose that the strongly fœtid-scented leaves, would impart an injurious flavour to the water, sufficient, as believed in the Sutlej valley, to kill aquatic weeds, than that a few twigs of this plant could have a special merit as a manure. If this supposition prove correct, it may further be found that the habit of using the plant in the construction of wells (a use reported in the *Oudh Gazetteer*) may be connected with the knowledge that the green scum so common on every sheet of water in India, will not be formed in the presence of a few twigs of this plant. This idea is, however, only thrown out as a suggestion, in the hope of directing attention to the subject; for it may be found that a plant with such strong properties should, in the construction of wells, rather be discouraged than encouraged—at least in the case of wells intended for drinking purposes. If it be the case that the Básútí leaves have the power to destroy the injurious weeds found in submerged fields, it would seem desirable to make this fact known, since, as far as the writer is aware, this property is not understood outside the limits of the Sutlej, or perhaps of one or two neighbouring valleys in the North-West Himálaya. Indeed, it is quite possible that this extremely plentiful plant, when its properties are fully examined, may prove to be capable of further development. For example, a decoction of it might be found useful in destroying animal pests to other crops, such as sugar-cane, tea and coffee.

"In the meanwhile it seems desirable that enquiries should be made in different parts of India regarding the practice of applying the plant to the fields; and the reason why it is so used, and why, also, it is chosen to bind the sides of wells."

It may be added, that since the above was first published the writer has accidentally come across one or two passages in Dr. J. E. T. A. Aitchison's *Kuram Valley Flora*, which are of interest as pointing to the belief in the special merits of Adhatoda as a manure being held by the people of certain portions of Afghánistán. Again, of Thal and Badish-khel he writes: "The young leaves of Adhatoda vasica are largely collected and mixed with the grain in the Rice-nurseries, to hasten the process of germination by the heat generated during their decomposition." In nearly every province of India certain cultivators put great faith in green-manure for Rice; and in most districts the grain is frequently made to sprout before being sown. Some interesting information of this nature will be found in the *Mysore Gazetteer*, vol. i., pages 52, 110, 112, and 113—the plants specially mentioned being Calotropis gigantea, Dodonæa viscosa, Mirabilis, Datura, Solanum, and Ocymum.

Antiseptic.—The antiseptic property of the plant in killing minute organisms, while being harmless to higher forms of life, thus established by native opinion, has been abundantly shown in a recent paper by Mr. Hooper in the *Pharmaceutical Journal and Transactions* (April 7th, 1888). Mr. Hooper writes of the chemistry of the leaves: "A well-defined alkaloid appears to be the most important constituent; it constitutes the bitter principle, and, to all intents and purposes, is the active principle. It occurs in white transparent crystals belonging to the square prismatic system, without any odour, but with a decidedly bitter taste. It is soluble in water with an alkaline reaction, and in ether, but more so in alcohol." It would be beside the present purpose to give here the whole of Mr. Hooper's analysis of the substance. The above passage shows that simple maceration in water suffices to extract the active principle, and Mr. Hooper's practical experiments with it may therefore be preferentially cited here. "A sample of pond-water," he writes, "containing Spirogyra and numerous animalcules was mixed with a few drops of a strong infusion of Adhatoda leaves. The chlorophyll gradually disappeared from the weeds, and the cells became broken up. The oxygen was given off with less frequency, and at length ceased, some insect pupæ rose to the surface of the water and there died. Numerous Paramæcia remained active for some time, but eventually succumbed to the action of the poison. In 24 hours the beaker containing the water that had been thus treated showed only a brown mass lying at the bottom; while some water in a beaker by its side without this treatment, contained the green aquatic weeds evolving oxygen, and the animalcules alive."

"An aqueous solution of the alcoholic extract of the leaves was tried upon flies, fleas, mosquitos, centipedes, and other insects, and in every case the application met with poisonous results. The solution appeared to kill them without previous intoxication. On the higher animals the leaves do not seem to have such an effect. A quantity of the alcoholic extract representing 15 grains of the leaf was given to a small dog, and the administration was not attended with any inconvenient symptoms. These experiments show that the reputed use of the leaves in destroying injurious weeds in submerged fields is founded upon very scientific principles." "The poisonous properties of the Adhatoda on the lower orders of animal life will, perhaps, find for it a use in destroying insect pests, and make it an important addition to the *Materia Agricolarum* in India."

Mr. Hooper thus concluded his remarks in almost the same words as used by the writer fully a year before the date of the article in the *Pharmaceutical Journal*, viz., that a "decoction of it might be found useful in destroying animal pests to other crops, such as Sugar-cane, Tea, and Coffee." The chemical investigations thus briefly reviewed have placed the utility of Adhatoda beyond any possible doubt, and its extended use should, therefore, not only be strongly urged on the attention of Rice cultivators of India wherever aquatic weeds prove troublesome, but the subject should commend itself to Tea, Coffee, and Indigo planters as well worthy of their consideration. Not only so, but it is probable we have in Adhatoda an antiseptic at the door of every Indian peasant which, if not found useful in the treatment of sores

on his own person, could, at all events, be extensively used in the cure of the troublesome maggot-infested wounds of his cattle. *Condensed from the Proceedings of the Agricultural and Horticultural Society of India*, 1894.

COLONIAL NOTES.

TRINIDAD.

A recent number of the *Bulletin* of the Royal Botanic Garden contains a note on some correspondence between Dr. Herman Cruger, the former Government Botanist of Trinidad, and Charles Darwin, with special reference to the connection between insect visitations and the peculiar form of the anthers in Melastomaceæ. There is also a note on four Trinidad Epidendrums, viz., Epidendrum Schomburgkii, E. fulgens, E. Hartii sp. n., and E. elongatum. E. Schomburgkii has deep crimson flowers, and is of a rather straggling habit of growth, but is easily cultivated, and its handsome flowers repay any trouble taken by the cultivator. The roots form a large ball, looking at a distance like a bird's-nest on the tree, and the plants can more frequently be discovered by examining such appearances than by looking for the leaves and flowers. E. elongatum can be depended on for cut flowers, as a succession of flowers is produced during three months. It grows on the rocks exposed to sun, wind, and salt-laden air.

Hong Kong.

In Mr. Ford's annual report he laments the damage done by the servants of residents at the Peak in their search for flowers wherewith to decorate their employers' apartments. The worship of ancestors by the Chinese is also a source of danger from fire to the plantations. The rainfall for 1893, 300 feet above sea level, was 112·29 inches. In July 24 inches fell; in January only 1·50.

Calcutta.

Dr. King's annual report gives an interesting account of the operations during the past year. A severe storm occurred in May, and though in the conservatories little damage was done, several trees outside were completely uprooted. Among the principal improvements effected during the year may be mentioned the repairs to Colonel Kyd's monument—a beautiful urn and obelisk—raised in memory of the founder of the garden. Attention was given as usual to the cultivation and distribution of plants having an economic value, which are suitable for cultivation in the plains of India. Of these the principal were plants of the Rhea, of Sissal Hemp, of the Cola-nut; seeds of Bhabar-grass (Ischæmum angustifolium) and Coca. Efforts to extend in Bengal the cultivation of the Japan-paper Mulberry tree have met with some success, as this tree (of which a small stock still is available) provides an admirable fibre for paper.

Natal.

Mr. Medley Wood, to whose energy botanists and horticulturists are under so many obligations, has just issued a *Preliminary Catalogue of Indigenous Natal Plants*, which will be very serviceable, as no such list has been previously issued. The plants are arranged according to Bentham and Hooker's *Genera*, and there also is an alphabetical index. The number of natural orders is 129, of genera 828, of named species 2216, and of unnamed or doubtful ones 391. Mr. Medley Wood is very modest in his estimate of the value of his catalogue, but we do not think those who know the circumstances of the case will be other than grateful for it.

CALIFORNIAN ORANGES AND LEMONS.

Much useful work is being accomplished by the Agricultural Experimental Stations of the University of California, and the year's report recently issued is teeming with instructive matter. We desire especially to call attention to the article on Oranges and Lemons by George E. Colby, Ph. B., Chemist in the Viticultural Laboratory. In this are given descriptive notes upon Citrus fruits of the crop of 1892, and tabulated proximate analyses of eighteen samples of Oranges and nine samples of Lemons of the crop of 1892, and for comparison the averages of analyses of the crop of 1891, together with the ash analyses of eleven Oranges and four Lemons.

Oranges.

Proportion of Rind to Flesh.—Considering the matter, first, from the standpoint of the consumer, it seems that although the Navel is the largest of Oranges, it has, contrary to the popular impression, no advantage with respect to the proportion of skin to flesh, over the seedlings, St. Michael, Mediterranean Sweet, or Malta Blood. The average Navel can very fairly be considered as made up of 72 per cent. of flesh, with 28 per cent. of rind; the average Seedling 75 per cent. of flesh and 25 per cent. of rind; the average Mediterranean Sweet and Malta Blood, like the Navel, with 72 per cent. of flesh, and 28 per cent. of rind; the average St. Michael with 80 per cent. of flesh and 20 per cent. of rind, representing the Orange containing the least waste.

Juiciness or Proportion of Juice to Flesh.—A comparison of the results, especially the average, shows that, of the named varieties examined, the Navel is the driest, and while the St. Michael has the largest proportion of juice, it is closely followed in that respect by the Mediterranean Sweet and Malta Blood.

It is interesting to note that the King Orange, one so much admired in Southern California, seems to promise to equal, if not exceed, the St. Michael in juiciness.

These facts will be better understood by reference to the table following, which gives the percentage ratios of rind to flesh, with the proportion of pulp to juice in the flesh:—

Average Percentage Ratios.

Variety.	Proportion of Rind to Flesh.		Proportion of Pulp to Juice in Flesh.	
	Rind.	Flesh.	Pulp.	Juice.
Navels.				
Crop of 1885	29·0	71·0	37·0	63·0
,, 1891	28·4	71·6	39 0	61·0
,, 1893	28·2	71·8	41·0	59 0
Average	28·5	71·4	37·4	62·5
Seedlings.				
Crops of 1880–85	26·0	74·0	26 0	74·0
Crop of 1892	24·0	76·0	37·0	63·0
Average	25·0	75·0	31·5	67·5
Mediterranean Sweet.				
Crops of 1885–86	30 0	70·0	25·0	75·0
Crop of 1891	27 0	73·0	33·0	67·0
,, 1892	30·0	70·0	41·0	59·0
Average	28 8	71·1	33 0	68·0
St. Michaels.				
Crops of 1885–86	19 0	81.0	23 0	78·0
Crop of 1891	19·0	81·0	31·0	69·0
,, 1892	22·0	78 0	40·0	60·0
Average	19·5	80·5	29·1	71·2
Malta Blood.				
Crop of 1885	27·0	73·0	30·0	70·0
,, 1891	31·0	69·0	36·0	64·0
Average	30·0	70 0	34·5	65·5
King.				
Crop of 1887	23·2	76·8	23 0	77·0
,, 1892	49·3	50·7	50·0	50·0
Average	31·9	68·1	32·0	68·0

Evidently the hard and solid, although thin, rind of the Navel is heavier than the more "corky" one of the seedlings, and nearly equal to that of the Mediterranean Sweet. The study of the conditions contributing to thinness of rind will be of high commercial importance.

Sugar Contents of the Juice.—The results for sugar contents in the juice show that the navels, seedlings, and St. Michael's of the crop of 1892 are higher on the average than those for the same varieties of 1891. A seedling from Englewood has the maximum sugar of 14·7 per cent.

To what extent the proportion of cane-sugar determines the sweetness to the taste is a matter not yet fully understood; the proportion between the other two sugars (grape and fruit), not yet determined, being an essential factor in the case.

Average Percentages of Sugar and Acid in different varieties of Oranges.

Variety.	Sugar.	Acid.
	Per cent.	Per cent.
Navels	10·42	1·02
Seedlings	11·11	1·17
Mediterranean Sweet	9·80	1·30
St. Michaels	9 30	1·16
Malta Blood	10·30	1·56
King	13·17	1·49

The study, limited as yet, of the King, Tangerine, and Mandarin Oranges, points to interesting results. The King of 1887 averaged 13·95 per cent. of sugar; for the crops of 1887 and 1892 an average of 13·17 per cent. was established. In this respect, therefore, the King claims superiority over the other varieties. It is unfortunate that this King Orange possesses other qualities which do not recommend it for growers' uses. It is said to be a good bearer, but more than common is susceptible to frost; it is set as thickly as a vine with thorns. The fruit is rather lacking in uniformity, usually below medium size, but large in case of short crop. The peel is coarse, rough, and has a generally unattractive appearance, which is against it for market purposes. It attains its best quality in summer and autumn, when its thoroughly ripened acids and sugar blend to form the most piquant and refreshing of Citrus fruits.

Amount and Composition of Ash.—The results showed that the average ash percentage in Oranges is only four-fifths of that in Lemons; also, that the average Orange is somewhat richer in potash and in phosphoric acid than the Lemon; but the latter takes up materially more of lime and less of magnesia. Potash is the prominent ash ingredient most heavily drawn upon from the soil. The following table will show the draught upon the soil ingredients in the cultivation of the Orange and the Lemon:—

Ingredients withdrawn from the Soil by the growth of Citrus Fruits.

	Total Ash.	Potash.	Phosphoric Acid.	Nitrogen.
Oranges.	lb.	lb.	lb.	lb.
European (seedless)—				
Crop of 1000 lb.	6·07	2 78	0·67	2 69
,, 20,000 lb.	121 40	55·60	13·40	53·80
California—				
Crop of 1000 lb.	4·32	2·11	0·53	1·83
,, 20,000 lb.	86·40	42·20	10·60	36 60
Florida—				
Crop of 1000 lb	9·16	4·76	0 79	1·24
,, 20,000 lb.	183·20	95·20	15 80	24 80
Lemons.				
California—				
Crop of 1000 lb.	5·57	2·69	0·61	1·51
,, 20,000 lb.	111·40	53·80	12·20	30·20

It thus appears that so far as Oranges are concerned, the California fruit draws materially less upon all the soil ingredients (nitrogen excepted) that have to be replaced by fertilization; while as regards the Lemon, it approaches closely to the European standard for the Orange, except in the much smaller demand upon nitrogen.

Potash is seen to be the predominating ingredient, amounting to quite half of the weight of the ash; it is therefore highly important that the supply of this substance should be kept up, if a full yield of fruit is to be maintained.

Phosphoric acid is not very heavily drawn upon, but it is probable that it should constitute a large proportion of any fertilizer used in the Orange orchard.

Nitrogen—as the demand made by the Orange upon this element is very heavy, it will always be among the first to be currently supplied.

As regards other ash constituents, the results show that lime is the one most heavily drawn upon next to potash, although its percentage varies widely, from 16·37 to 37·53 per cent.

The not inconsiderable demand of the Orange for sulphuric acid, suggests that gypsum will be acceptable in this as in other respects as a fertilizing ingredient. *J. J. Willis, Harpenden.*

THE ROCK GARDEN.

TCHIHATCHEWIA ISATIDEA.

THIS novelty, for which we are indebted to the liberality of Mr. Max Leichtlin, has been flowering for about a fortnight past in the Cambridge Botanic Garden. It is quite uncommon in appearance, and cannot easily be compared with any other Cruciferous plant. The genus is placed between Peltaria and Clypeola, but does not suggest either of those genera, so far as the cultivated species are concerned. The plant now in flower forms a flat rosette, rather more than 10 inches across, and bears a terminal inflorescence 3½ inches in diameter, nearly flat over the surface, and rising not more than about 2 inches above the ground. It has the appearance of a biennial. The outer leaves are spatulate, about 1½ inch broad, thick and fleshy, coarsely toothed, and thinly clothed with bristle-like hairs. Towards the centre the leaves decrease in size, becoming oblong and pointed. The flower-head consists of about twelve branches closely set together; the flowers are very numerous, about half an inch across, and of rosy-lilac colour, with slight perfume. They slightly resemble those of Matthiola, but the petals are narrower. It is altogether a distinct and interesting plant, and the flowers in mass are pretty and attractive. Its culture does not appear to be difficult. Seeds were sown about twelve months ago, singly, in small pots, and probably not one that grew has since failed. They were placed in a greenhouse, near the glass, and good plants were ready for planting on the rockery this spring. It was recommended that the plants should be on a rocky face, so that the rosette would approach the vertical; but experimentally this was varied, and the first plant in flower is nearly on the flat. It is between three large stones, with an open fissure in front, so that drainage is perfect. The soil provided was sandy loam, and with the other conditions above-mentioned, appears to have afforded the plant complete happiness. It is a native of Armenia, and with such a generic name, it cannot be regretted that this is the only species! *R. J. L.*

MARKETS.

COVENT GARDEN, August 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, half-sieve	1 9	2 6
Figs, per dozen	1 0	1 6
Grapes, 1st quality, black English, per lb.	1 0	1 6
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	2 0
,, Muscat, 2nd quality, per lb.	0 9	1 0
Grapes, Guernsey, per lb.	0 5	0 9
Melons, each	1 0	1 6
Peaches, large, p. doz.	4 0	6 0
,, small, per doz.	1 0	
Pears, p. sieve, small	2 0	2 6
,, (Dessert), half-sieve	3 0	4 0
Pine-apples, St. Michael, each	5 0	7 0
Plums, half-sieve	2 0	3 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	2 0	4 0
Asters, doz. bun.	2 0	6 0
— French, p. bun.	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	0 6	1 0
— doz. bun.	2 0	6 0
Chrysanthemums, p. 12 blooms	0 6	1 6
— p. 12 bunches	3 0	8 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	1 0	4 0
Gaillardias, dz. bun.	1 6	3 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	4 0	12 0
Iapageria, 12 blooms	0 6	1 0
Lavender, 12 bunches	4 0	6 0
Lilium Harrisii, doz.	2 0	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9	1 6
Maidenhair Fern, per 12 bunches	3 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	1 0	3 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
— 12 sprays	0 4	0 6
Pinks, doz. bun.	1 6	4 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	4 0
— red, per dozen	0 6	1 0
— outdoor, doz. bun.	3 0	9 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Asters, per dozen	3 0	6 0
Balsams, per doz.	3 0	6 0
Calceolarias, per doz.	3 0	6 0
Campanulas, p. doz.	6 0	12 0
Chrysanthemums, p. dozen	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	6 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	3 0	6 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Pelargoniums, dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0	6 0
Nasturtiums, p. doz.	1 6	4 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	6 0	10 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, half-sieve	2 0	2 6
,, Runners, half-sieve	2 0	2 6
Cauliflowers, p. doz.	1 6	3 0
Cucumbers, per doz.	1 6	2 6
Marrows, per doz.	0 9	
Mushrooms, per lb.	0 8	0 9
Peas, per bushel	4 0	5 0
Tomatos, per lb.	0 3	0 4

POTATOS.

Trade this week not quite so good. Prices:—Snowdrops, 4*s.* to 5*s.*; Hebrons, 3*s.* to 4*s.*; Giants, 2*s.* 6*d.* to 4*s.* per cwt.

SEEDS.

LONDON: *August* 22.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, report a quiet steady demand for those seeds needed for autumn sowing. Trifolium, Rye, Mustard, and Rapeseed, are obtainable at unprecedentedly low figures. The late excitement in America over Clover seed has met with no response in England. Canary-seed keeps strong. Liverpool reports large and numerous transactions in the article at full prices. Hempseed and Buckwheat tend upwards. Linseed also is firmer.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *August* 21.—Quotations:—Cabbages, 1*s.* 6*d.* to 4*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.*; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Parsley, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Scarlet Beans, 3*s.* 6*d.* to 5*s.* 6*d.*; French do., 3*s.* to 4*s.* 6*d.* per bushel; Onions, 1*s.* 9*d.* to 3*s.* 6*d.* per dozen bunches; Horse Radish, 1*s.* 3*d.* to 1*s.* 9*d.* per bundle; Apples, English, 2*s.* to 6*s.* per bushel; Pears, 1*s.* to 3*s.* per ½-sieve; Plums, 1*s.* to 3*s.* 6*d.* do.

STRATFORD: *August* 22.—Quotations:—Cabbages, 2*s.* to 3*s.* 6*d.* per tally; Cauliflowers, 1*s.* to 2*s.* per dozen; do., 5*s.* to 8*s.* per tally; Plums, 2*s.* to 3*s.* 6*d.* per half-sieve; do., 4*s.* to 6*s.* per flat; Green Gages, 2*s.* 3*d.* to 3*s.* 3*d.* per half-sieve; do., 4*s.* 6*d.* to 6*s.* per flat; Pears, 1*s.* to 2*s.* 6*d.* per half-sieve; do., 1*s.* 6*d.* to 4*s.* 6*d.* per flat; Tomatos, English, 6*d.* to 8*d.* per lb.; Scarlet Beans, 4*s.* to 5*s.* per bushel; French do., 3*s.* to 4*s.* do.; Cucumbers, frame, 1*s.* to 3*s.* per dozen; do., field, 6*d.* to 8*d.* do.; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, 45*s.* to 50*s.* per ton; Onions, Oporto, 5*s.* 6*d.* to 6*s.* per case; Apples, English, 3*s.* to 7*s.* 6*d.* per bushel.

FARRINGDON: *August* 23.—Quotations:—Cabbages, 4*s.* to 5*s.*; Collards, 2*s.* 6*d.* to 3*s.*; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 1*s.* 9*d.* to 2*s.* 6*d.*; English Onions, 1*s.* 9*d.* to 2*s.* per dozen bunches; Plums, Victorias, 3*s.* 6*d.* to 4*s.*; Apples, 4*s.* to 4*s.* 6*d.*; Pears, 2*s.* 6*d.* to 4*s.* per bushel; best Beetroot, 4*s.* to 5*s.* per cwt.; Marrows, 1*s.* to 1*s.* 6*d.* per dozen.

POTATOS.

BOROUGH AND SPITALFIELDS: *August* 21.—Quotations ranged between 60*s.* and 85*s.* per ton.

STRATFORD: *August* 22.—Quotations:—Dark-soil Magnums, 45*s.* to 52*s.* 6*d.*; Upland do., 50*s.* to 65*s.*; do. Bruces, 50*s.* to 65*s.*; Snowdrops, 60*s.* to 80*s.*; Hebrons, 55*s.* to 65*s.*; Early Puritans, 60*s.* to 70*s.*; White Elephants, 55*s.* to 60*s.* per ton.

FARRINGDON: *August* 23.—Quotations:—Essex: Bruces, 60*s.* to 70*s.*; Hebrons, 55*s.* to 75*s.*; Snowdrops, 65*s.* to 80*s.* per ton. Bedfordshire: White Hebrons, 70*s.* to 80*s.*; Red do., 70*s.* to 80*s.*; Snowdrops, 75*s.* to 85*s.*; Magnums, 55*s.* to 65*s.*; Reading Giants, 50*s.* to 60*s.* per ton.

LONDON AVERAGES: *August* 22.—English Kidneys, 60*s.* to 70*s.*; Snowdrops, 70*s.* to 85*s.*; Hebrons, 65*s.* to 80*s.*; Rounds, 55*s.* to 70*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 120*s.*; do., new, 75*s.* to 130*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 140*s.*; do., inferior, 60*s.* to 100*s.*; do., new, 70*s.* to 90*s.*; Mixture, 90*s.* to 130*s.*; and Straw, 43*s.* to 60*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 18, and for the corresponding period in the preceding year:—1894: Wheat, 24*s.* 5*d.*; Barley, 16*s.* 5*d.*; Oats, 18*s.* 9*d.* 1893: Wheat, 26*s.* 5*d.*; Barley, 22*s.* 5*d.*; Oats, 19*s.* 6*d.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending August 18.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 —	80	0	+ 324	— 51	16 +	149	37·0	19	35
1	1 —	92	0	+ 29	+ 8	9 +	136	25·5	31	35
2	2 —	99	0	+ 96	— 51	1 +	135	16·8	31	33
3	2 —	114	0	+ 116	— 100	2 —	126	15·8	39	36
4	2 —	107	0	+ 124	— 79	3 —	128	15·6	29	33
5	2 —	124	0	+ 132	— 119	2 —	124	17·8	33	37
6	1 —	99	0	+ 100	— 69	5 +	146	33·6	29	33
7	2 —	105	0	+ 202	— 120	2 +	143	22·9	22	33
8	2 —	109	0	+ 129	— 81	3 —	142	24·2	32	38
9	2 —	96	0	+ 76	— 33	0 aver	159	26·5	16	30
10	2 —	104	0	+ 120	— 67	5 —	148	26·5	20	32
*	2 —	123	0	+ 218	— 18	4 —	144	22·9	39	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 18, is furnished from the Meteorological Office:—

"The *weather* during this week continued in a cold and unseasonable condition generally. Heavy rain was experienced over all the more northern and north-western districts, and frequent showers in the other parts of the Kingdom. Thunderstorms were experienced at some of the northern stations during the earlier or middle part of the week, and in the neighbourhood of London on the 16th.

"The *temperature* was below the mean in all districts, the deficit being 1° in 'Scotland,' and 2° over 'England and Ireland.' The highest of the maxima were registered on the 14th, and ranged from 79° in 'England, S.,' and 78° in 'England, E.,' to 65° in 'Scotland, W. and England, N.W.' On several occasions the daily maxima—especially during the latter part of the week—did not much exceed 60°. The lowest of the minima were recorded on the 17th, when they ranged from 41° in 'Scotland N. and E.,' to 48° in 'England, N.W.,' and to 54° in the 'Channel Islands.'

"The *rainfall* was much in excess of the mean in 'Scotland,' and rather in excess over 'England, N.E. and N.W.' In 'Ireland, N.' the fall just equalled the normal, while in the other districts it was rather less.

"The *bright sunshine* was very deficient in most parts of the Kingdom, but was somewhat in excess

in 'Scotland, N. and E.' The percentage of the possible amount of duration ranged from 39 in 'England, E. and the Channel Islands,' and 32 to 33 in 'England, S.W. and S.,' to 19 in 'Scotland, N.,' and to 16 in 'Ireland, N.'"

GARDENING APPOINTMENTS.

Mr. George Curtis, for the last nine years Gardener to W. Hemsley, Esq., The Manor House, Ashby-de-la-Zouch, as Gardener to F. Charrington, Esq., Netherseale Hall, Ashby-de-la-Zouch.

Mr. Donald Henderson, of the Vineries, Wokingham, has been appointed Gardener to General Crutchley, Sunninghill Park, Ascot.

Mr. Henry Wilson, late Gardener at Easthorpe House, Ruddington, Notts, has removed with F. Abel Smith, Esq., to Papplewick Hall, Notts.

Mr. George Henderson, late Foreman at Easthampstead Park, has been appointed Gardener to Major Walter, North Court, Finchampstead, Berks.

Mr. Joseph Barclay, Gardener to the late H. Rowland, Esq., Manchester, as Gardener to F. Walker, Esq., Southfield, Bolton-le-Moors.

Mr. G. Langstone, late Gardener to E. Elsey, Esq., Flintham Hall, Newark, Notts, has been retained as Gardener to T. B. T. Hildyard, Esq., at the same address.

CATALOGUES RECEIVED.

Little & Ballantyne, Carlisle—Bulbs.

Jno. Laing & Sons, Forest Hill, London, S.E.—Bulbs, Fruit Trees, Roses, Shrubs, Begonias, &c.

William E. Martin, 20, Market Place, Hull—Bulbs.

Jas. Douglas, Edenside, Great Bookham, Surrey—Carnations, Picotees, and Auriculas.

Robert Veitch & Sons, 54, High Street, Exeter—Dutch Bulbs.

Chas. E. Orfeur, Colne Banks Works, Colchester—Horticultural Buildings, &c.

Jules de Cock, Ledeberg, near Belgium, Ghent—Plants.

Ellwanger & Barry, Mount Hope Nurseries, Rochester, N.Y.—Pot-grown Strawberries, Bulbs, Hardy Plants, &c.

Dickson & Rochester, Manchester—Bulbs and Roses.

J. R. Pearson & Sons, Chilwell Nurseries, Nottingham—Bulbs, &c.

Jas. Carter & Co., High Holborn, London—Bulbs.

E. P. Dixon & Sons, 16, Wellington Street, Hull—Bulbs.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

Agaricus.—The specimen you send is the "Horse" or "Meadow" Mushroom," largely sold in the markets for the purpose of making catsup.

"Botanical Magazine": *J. S.* The earlier volumes are not expensive, and can be had of any second-hand bookseller, or by way of an advertisement. The entire series costs about £100.

"Garden Flowers:" *T. W. P.* We have no doubt the framers of the schedule meant flowers grown outside, in the garden, as distinguished either from flowers grown under glass, or wild flowers. Our opinion is, that the judges should have disqualified the group with the Lilium auratum that was acknowledged to have been grown inside.

Grapes: *J. M.* Your Vine leaves are covered with red-spider, thrips, and mildew, so that they are quite destroyed for this season, and the berries are splitting and rotting from excessive damp and wet, following the destruction of the leaves. Cut off your crop, destroy the insects, &c., by thoroughly syringing every part.

Imported Orchids: *C. H. J.* The treatment you have afforded Dendrobium Jamesianum is right, but you may now maintain an increased amount of moisture in the atmosphere, and occasionally—on warm sunny days only—syringe the plants overhead. As the season advances, and cold nights are expected, care must be taken that they have sufficient warmth, viz., about 50° to 55° during the winter months. Oncidium Jonesianum is always difficult to keep in good health for any length of time. We would advise you to give the plants a slightly warmer atmosphere, and to keep them dry until growth commences. In the mean time, should flower-spikes appear, they should be cut off, as the plants are not yet sufficiently established to carry them without check.

Insects: *G. Abbey.* The name of the beetle on Carnations is Meligethes viridescens, common on various flowers, and hardly likely to occasion any perceptible damage. Its larva feeds in the unopened flower-buds of cruciferous plants, and is thus injurious. *R. McL.* We do not know what is meant by Beech-miner. The Radish and its grub did not arrive.

Names of Fruits: *Q. R.* Plum, very probably correct, Prince Englebert.—*H. R. H.* Nectarine is Pitmaston Orange; Peaches, not certain, some were crushed.

Names of Plants: *D. D.* Eryngium amethystinum; *J. R.* 1, Vaccinium ovatum; 4, Helichrysum (Swammerdamia antennarifolium).—*L. & B.*, a species of Salix, probably S. babylonica.—*W. P.* Crupina vulgaris.—*A very Old Subscriber.* Brachypodium sylvaticum.—*Edinburgh.* Doubtless Nertera depressa is meant. It is a Chilian Rubiaceous plant.—*C. R. H.* Centaurea Scabiosa, seedling variations. No doubt by sowing seed of each, persistently selecting what you wish, and eliminating the rest, you will in time get "a pure stock." The white one would make a good garden plant.—*A. B.* Lonicera sempervirens.—*G. H. S.* 1, Acanthus spinosus; 2, Polygonum; 3, Glaucium luteum; 4, Impatiens Roylei; 5, Lysimachia ciliata; 6, Solidago, perhaps S. canadensis; 7, Asclepias incarnata; 8, Epilobium hirsutum.—*E. F.* Ceanothus azureus.—*M. C., Notting Hill.* Rhus Cotinus.—*F. N. Evesham.* 1, Spiræa callosa; 2, Hippophae rhamnoides; 3, Taxodium distichum; 4, Pernettya mucronata; 5, Syringa Josikea. *W. S. G.* Your Genistas are covered with a species of dodder Cuscuta, probably introduced with the peat. Burn it as far as possible.—*H. M. E.* 1 is, we suppose, Hieracium pilosella, but it has no flowers; 2, Echium vulgaris; 3, Epilobium parviflorum; 4, Picris hieracioides. The secretary of the Gardeners' Orphan Fund is Mr. Barron, Royal Horticultural Society's Gardens, Chiswick, W. We shall be happy to send any contributions to him.—*P. McO.* Melaleuca acacioides.

Pandanus Veitchii: *W. G.* Polynesia is rather an extensive area, but we cannot tell you more.

Place for Further Improvement: *A. J. H.* Much depends upon the department in gardening you intend to pursue, as it would be useless to fill another appointment in a private place unless you intend to become a private gardener. If this is your intention, it will be best to get into a good garden where fruits and vegetables are well grown, and you would get such a situation most easily by going to a first-class nursery for a time, or by advertising. If you wish to acquire a knowledge of plants, and of botany, you could apply to the curator of the Royal Gardens, Kew, for a situation in the gardens there.

Rose Pests: *J. L. B.* Will you send us some shoots with the white fungus upon them? Regarding the Aquilegia trouble, and that of the Marrows, we would prefer to see specimens before hazarding an opinion as to the cause in either case. The Cercis would be best budded on the Acacia, or some other leguminous plant.

Tobacco Plant: *Rose.* Yes, your plant appears to be the species that furnishes the Tobacco of commerce—Nicotiana tobaccum. Before the leaves are fit for use they have to go through an elaborate process of drying, to do which successfully, you would require experience in the matter. The white flowering one is probably N. affinis. Rose, next week.

Vine Disease: *Wm. Gould.* The Vine is attacked by a fungus, Sclerotinia Fuckeliana, De Bary. This is closely related to the fungus causing Onion disease, described in *Gardeners' Chronicle*, p. 160, 1894, and the treatment there given should be followed. The mass of mould is the conidial form of the fungus, and should be removed and burnt. If the first appearance of this mould in the forthcoming season is washed with potassic permanganate solution, its spread will be checked. It appears in the leaves and twigs first. *G. Massee.*

Communications Received.—G. M.—Sir W. H. F.—C. W. D.—C. N.—W. G. S.—J. B.—Ch. de B.—J. W.—A. F. M.—T. C.—D. T. F.—R. D.—J. D.—W. D.—H. M.—F. M.—M. T.—A. D.—F. W. S.—J. S.—E. T. C.—S. W., Danby.—N. E. B.—H. & S.—W. Hender & Sons.—W. T.—Brighton Hort. Soc.—W. S.—Protheroe & Morris.—J. G. B.

Photographs, Drawings, &c., Received with Thanks.—C. N.—W. G. S.—C. N.—Arney—W. T.

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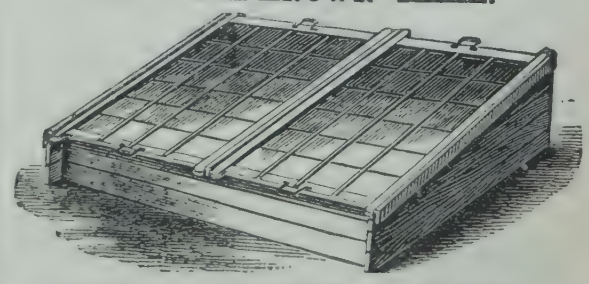
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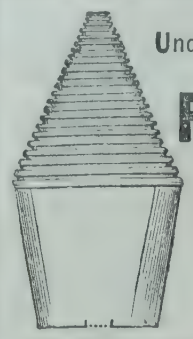
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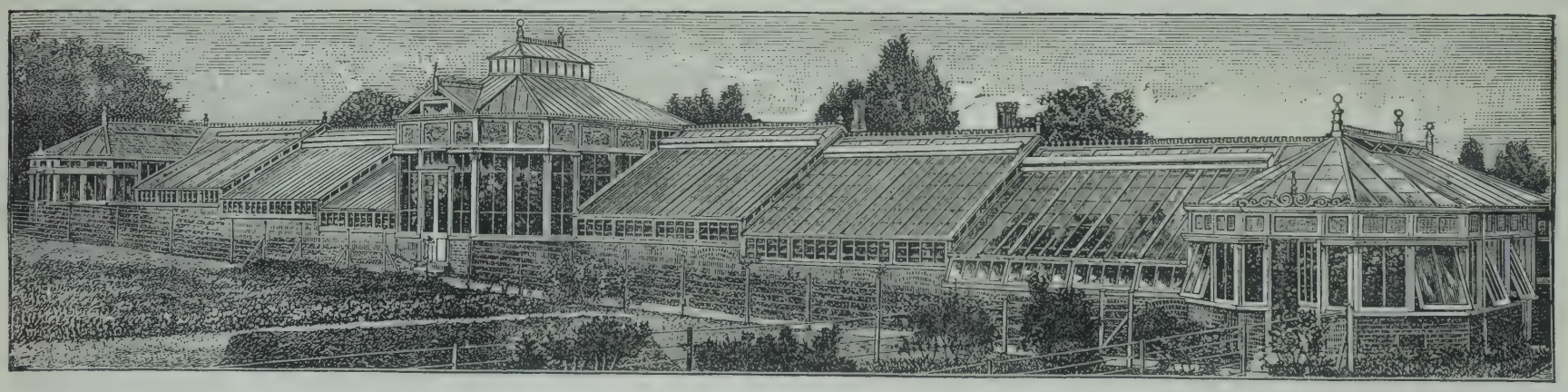
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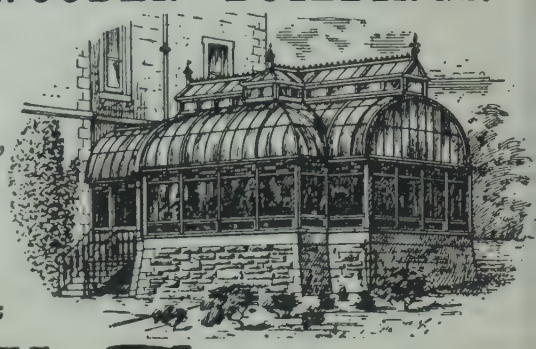


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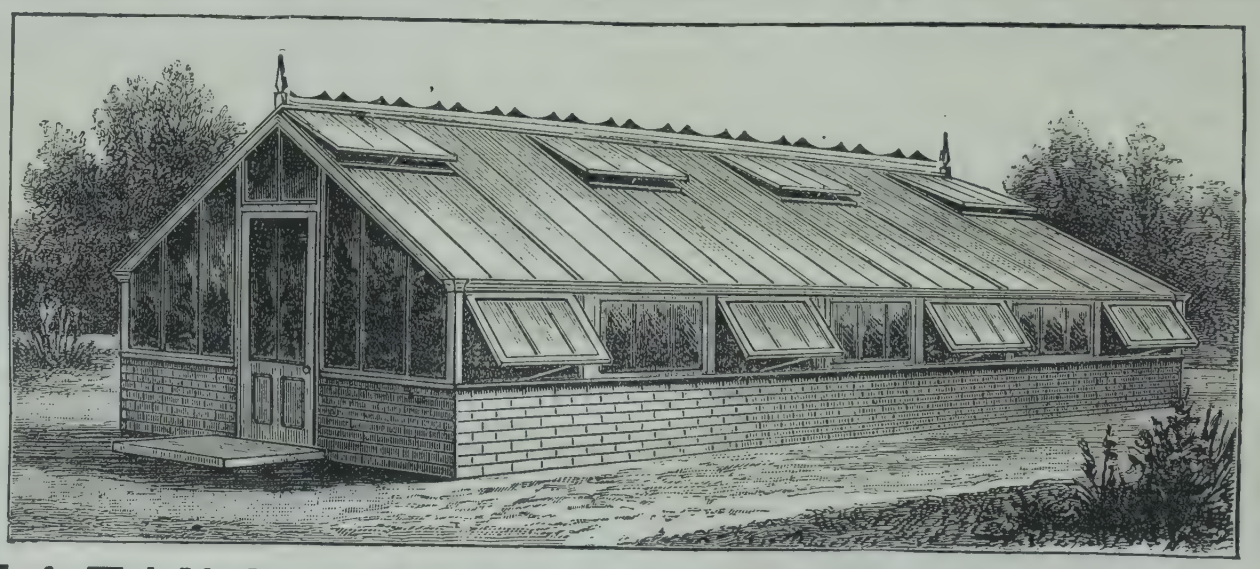
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P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

Peaches, Nectarines, and Melons.

JOHN NATHAN, Jun., Long Market, Covent Garden, is open to RECEIVE CONSIGNMENTS of the above on COMMISSION. Terms 5 per cent. References, any London Fruit Broker, or London & County Bank, C. G. Branch.

WANTED, 2,000 GERANIUM CUTTINGS of the following kinds:—Henri Jacoby, Flower of Spring, Red Vesuvius, White Vesuvius, Christine, Crystal Palace Gem, Bijou, and Mrs. Turner, 250 of each kind. State price to G. COOK, The Gardens, Welton Manor, Louth, Lincs.

WANTED, GERANIUM CUTTINGS,—Vesuvius, West Brighton Gem, Chelsea Gem, and Mrs. Lever. Price per 1000.
GOLD, Southfields Nursery, Wandsworth.

WANTED, IVY MADEIRENSIS VARIEGATA. State height, price, and quantity, to—
W. NEAVE, Hampton Court, Middlesex.

FOR SALE, 30 Plants of EUCHARIS, in 11-inch pots, showing flower. What offers?
W. A. MILLER, Underley, Kirkby Lonsdale.

WILD GARDENING.—Plant Hartland's Cheap Offer of Von Sion and Irish Princeps Daffodils, Blue Bells, &c., at very low prices. Apply to—
WM. BAYLOR HARTLAND, Seedsman, F.R.H.S., Cork.

NEW STRAWBERRY.—Royal Sovereign, in pots, £4 per 100; from ground, £2 per 100. Many other varieties, including Sensation, John Ruskin, Competitor, and Noble.—JOHN PEED AND SONS, The Nurseries, Mitcham Road, Streatham.

LOVELS' YORKSHIRE STRAWBERRIES.
Rooted Runners of
Thury, Noble, Paxton, President, and others.
500, 20s.; 100, 4s. 6d.; 20, 1s., carriage paid for cash. List free.
W. LOVEL AND SON, Driffield.

FOR SALE, to make room.—2 Alsophila australis, 2 Phœnix reticulata, 2 Chamærops humilis, and 1 Asplenium Nidus; this is a most splendid specimen, and they are all very large plants.—Apply to Mr. HOPKINS, The Gardens, Barton Seagrove Hall, Kettering.

ROMAN HYACINTHS, 4¾ to 6 inches, impossible to surrass, 10s. 6d. per 100. SPANISH IRIS, 1s. per 100. GLADIOLI, The Bride, 1s. 3d. per 100. BULB LIST free. Samples on receipt of postage.
WALSHAW AND SON, Scarborough.

GAY LILIES of sorts, for Conservatories, Garden Parties, or any other decorations. Thousands are now in flower in pots, and coming into bloom, at WILLIAM BULL'S Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

KRELAGE'S PARROT TULIPS
(See *Gard. Chron.*, May 12, 1894).
And all DUTCH BULBS, and new or rare BULBOUS PLANTS, true to name and of the best quality only, at cheap prices. Descriptive CATALOGUE now ready, and may be had free on application to E. H. KRELAGE AND SON, Bloemhof Nurseries, Haarlem, Holland. Established 1811.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchant, Southgate, N. Established 1797.

CROSS'S GARDEN FERTILISER.—For Vines, Pot Plants, Fruit Trees, Vegetables.
MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.
ALEXANDER CROSS AND SONS, 79, Mark Lane, London.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers,

CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Hillingdon Heath, near Uxbridge.

(Two miles from West Drayton Station.)

TRADE SALE of beautifully-grown STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Wm. Whiteley to SELL by AUCTION, on the Premises, Whiteley's Nurseries, Hillingdon Heath, Uxbridge, on THURSDAY NEXT, Sept. 6, at 11 o'Clock precisely, in consequence of the large number of lots,

15,000 FLOWERING and FOLIAGE PLANTS and ORCHIDS, in excellent condition, comprising—

3000 Palms	2000 Orchids
4000 Ferns	2000 Double White Primulas
1000 Carnations	100 Eucharis
1000 Roses	500 Crotons
500 Euonymus	100 Gardenias

Also Pancratiums, Ficus, Pandanus, Chrysanthemums, Imantophyllums, Hydrangeas, Grevilleas, Coleus, &c.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B. — Conveyances will meet certain trains at West Drayton on morning of Sale (see Catalogue), to convey intending purchasers to the Nurseries.

Friday Next.—Without Reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by S. G. Lutwyche, Esq., of Eden Park (who is contemplating making alterations to his Glasshouses), to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 7, at 12.30 o'Clock, 100 lots of choice, clean, well-grown Orchids in vigorous and robust health, without reserve. Amongst them will be found :—

Dendrobium Wardianum album	Lælia elegans
,, crassinode album	,, anceps Fostermanni
,, nobile nobilius, extra fine piece from original plant	Cattleya Lawrenceanum
	,, Warnerii, dark var.
	,, Schofieldiana
,, hybrid Rœbelingianum, very rare	Lycaste plana rubroglossa
	Lycaste Skinneri alba, large flowered variety
,, hybrid splendidissimum fine piece	Vanda Denisoniana
	,, teres
,, nobile, with pure white sepals and petals	Cypripedium Charlesworthii, in flower
,, hybrid Lutwycheanum (Wardianum Lowii × splendidissimum superbum)	,, Seegerianum
	,, insigne fuscatum
	,, Dantheri superbum
	,, Rothschildianum
,, nobile Cooksonii	,, Schrœderæ
,, nobile Sanderæ	,, Javanicum superbiens
,, hybrid Dominianum	,, Lathomianum
,, hybrid Cassiope	Masdevallia hybrid Falcata
,, hybrid Melanodiscus	,, hybrid Hincksiana
,, hybrid Owenianum	,, hybrid Heathii
,, hybrid Melanopthalmum	,, Veitchii grandiflora
Cattleya aurea, in sheath	,, Roezlii, true

Also 350 Lots of Established Orchids from Messrs. W. L. Lewis & Co., and others.

On view morning of Sale, and Catalogues had.

Upper Edmonton.

Five minutes' walk from Angel Road, and eight minutes' from Silver Street Railway Stations.

NINTH GREAT ANNUAL UNRESERVED TRADE SALE of POT-PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY, September 10, at 11 o'Clock punctually (there being upwards of 1500 lots), the following unusually

WELL-GROWN STOCK :—

TEA ROSES, in Pots, the grandest lot ever offered, including extra strong well ripened plants of M. Niel, W. A. Richardson.

CLIMBING NIPHETOS, CLIMBING PERLE DES JARDINS, and other best sorts for forcing, these are especially fine.

CRIMSON RAMBLER.

FERNS, many thousands, in various sizes.

TREE CARNATIONS, including Duke of York (fine new crimson), Winter Cheer, Miss Joliffe Improved, Mrs. A. Hemsley, and other best winter-flowering sorts, also large quantities of Old Crimson Cloves, &c.

BOUVARDIAS, large quantities of all the best sorts.

FICUS ELASTICA VARIEGATA, an extra fine stock of this beautiful plant.

CROTONS, a splendid lot of beautifully-coloured plants.

PALMS, consisting of fine specimens of Kentias, Arecas, Cocos, Geonomas, &c., also great quantities of smaller plants.

GENISTAS, unusually fine bushy stuff.

SOLANUMS, bushy and well-berried.

CYCLAMEN, DOUBLE PRIMULAS, EUPHORBIAS, POINSETTIAS, AZALEAS, CAMELLIAS, and other useful Flowering Plants.

HYDRANGEAS, well-ripened for early forcing.

LAPAGERIAS, AMPELOPSIS and PASSIFLORAS.

CLEMATIS, JACKMANI SNOW WHITE, JACKMANI, and other leading sorts.

IVIES, choice Variegated sorts.

ASPIDISTRAS, ARAUCARIA EXCELSA, FICUS ELASTICA, GREVILLEAS, ARALIAS, and a great variety of other useful flowering and foliage plants. Large quantities of small Heaths, Genistas, &c., for growing on.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE.

To commence punctually at 11 o'Clock, there being upwards of 1400 Lots.

The Stock being of the same exceptionally high-class always offered at this Nursery.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. B. Maller & Sons to SELL by AUCTION, on the Premises, the Burnt Ash Road Nurseries, Lee, Kent, S.E., adjoining Lee Railway Station, and within a mile of Blackheath or Grove Park Station, S.E. Railway, on TUESDAY, September 11, at 11 o'Clock precisely, without reserve, a remarkably well-grown stock of WINTER-FLOWERING HEATHS and other—

STOVE and GREENHOUSE PLANTS,

Consisting of—15,000 Erica hyemalis, 2000 Erica gracilis, 1000 Erica Cavendishii, 600 Erica Caffra (all well set with bloom-buds), 2000 Ampelopsis Veitchii, 1500 Epacris to name, 1000 Boronia megastigma, and others; 1000 Grevillea robusta, 4000 Genistas, 5000 Solanum capsicastrum, well berried; 1000 Adiantum cuneatum, 1000 Lomaria gibba, 800 Tea Roses, in pots; 2000 Bouvardias, of sorts; 1000 Palms, of sorts; 1000 Cyclamen persicum, 500 Crotons, beautifully coloured; 1000 Aralia Sieboldii, 1000 Double Primulas, with a large quantity of young Erica hyemalis, gracilis, and other sorts; Aralia Sieboldii, Ferns, and Genistas, all in 60-pots for growing on.

The Stock is now on view. Catalogues may be had on the Premises; at the Seed Warehouse, 61, High Street, Lewisham; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

South Woodford, George Lane Station.

UNRESERVED ANNUAL SALE.

The Plants offered in this Sale are of superior quality. They have been grown in New Greenhouses, in the pure air of Epping Forest, and cannot fail to give purchasers entire satisfaction.

A Catalogue of many thousands of

WINTER-FLOWERING & OTHER PLANTS

including

20,000 Erica hyemalis	10,000 Clematis Jackmannii and other best named sorts
3,000 Erica hyemalis alba	
2,000 Erica Caffra	200 Maréchal Niel Roses, 10 to 12 feet
3,000 Tree Carnations	
4,000 Erica gracilis	1,000 Tea-scented Roses, in pots
10,000 Genista fragrans	
6,000 Ampelopsis Veitchii, 3 feet	1,000 Deutzia gracilis, established in pots, for earliest forcing
2,000 Lapageria rosea superba	
6,000 Cyclamen persicum (Fraser's superb strain)	10,000 Bouvardias, including a lot of "President Cleveland"
2,000 Passiflora, Constance Elliott and cœrulea	5,000 Solanums, beautifully berried
6,000 Variegated and other Ivies	1,000 Ceanothus in variety
1,000 Climbing Roses, in pots	

Together with considerable quantities of ARAUCARIA EXCELSA, LONICERAS of sorts, Scarlet Trumpet HONEYSUCKLES, Hardy FUCHSIAS, White JASMINES of sorts, Turner's new sensational ROSE, CRIMSON RAMBLER. Also a large number of small ERICAS and GENISTAS for potting on; several lots of fine specimen GREEN HOLLIES of various kinds, and Austrian PINES.

Which will be SOLD by AUCTION, by

MESSRS. PROTHEROE AND MORRIS, on the Premises, the Nurseries, South Woodford, Essex, on WEDNESDAY, September 12, at 10 for 11 o'Clock precisely, by order of Mr. John Fraser (without reserve), in consequence of the number of lots.

May be viewed the day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

Extract from the Great Eastern Time Table.

Fenchurch St.	8 50	...	9 51	...	1013	1115	...	1225	...	...	
Liverpool St.	8*41	9 21	...	1011	...	...	1148	12*8	1 3	1 43	
George Lane	9 22	9 52	1023	1037	1046	1149	1219	1258	1 26	2 13	

* Change at Stratford.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sales, and Catalogues had.

Friday Next.—Without Reserve.

A CONSIGNMENT, RECEIVED DIRECT, OF

150 DENDROBIUM CRUENTUM,

Probably the finest lot ever imported, large and small plants alike, and all in perfect condition, and will soon flower. Some plants are extraordinarily fine; bulbs nearly 2 feet long, thick, and plump. Every plant is offered, and all will be sold on the tree branches, as they were found growing.

Also 12 Plants of a DENDROBIUM not known; flowers pink, and sometimes white with crimson labellums in clusters of fifty or more. Very free-blooming bulbs, 3 feet long.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, September 7, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Enfield Highway, N.

The Brimsdown Nurseries, adjoining Brimsdown Station, G.E.R.

TWENTY-SIXTH ANNUAL TRADE SALE of STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. John Maller, to SELL by AUCTION, at The Brimsdown Nurseries, Green Street, Enfield Highway, N., on THURSDAY, September 13, 1894, at 11 o Clock punctually, in consequence of the unusually large number of 1300 lots, without reserve, about 60,000 remarkably well-grown

STOVE and GREENHOUSE PLANTS,

Mostly in 48-pots, and fit for immediate Sale, consisting of

20 000 WINTER-FLOWERING HEATHS,

Including Hyemalis, Gracilis, Willmoreana, Hybrida, Candidissima, Ventricosa, &c.

3000 TREE and other CARNATIONS,

Including Winter Cheer, Mrs. Moore, Joliffe Improved, La Neige, Prince of Orange, &c. Also a fine lot of Mdlle. Thérèse Franco, Duke of York, Mrs. Hemsley, &c.

1500 TEA ROSES, IN POTS,

Consisting of The Bride, Niphetos, C. Mermet, Maréchal Niel, Climbing Niphetos, Gloire de Dijon, Mme. de Watteville, Perle des Jardins, W. A. Richardson, L'Idéale, Madame C. Testout, &c. 150 Turner's New Rose "Crimson Rambler." 5000 Solanums, exceptionally well berried; 1000 Ferns, Adiantums, Polypodiums, &c.; 500 Aspidistra; 3000 Bouvardias, leading sorts; 1000 Ampelopsis Veitchii, Clematis Jackmani, &c.; 5000 Genista fragrans; 10,000 young Heaths and Genistas, in 60-pots, for growing on; 500 Crotons, beautifully coloured; 1000 Palms, in variety; 1000 Zonal Geraniums, new and leading varieties; 200 Bougainvillea glabra and Sanderina; 600 Epacris, to name; 1000 Grevillea robusta; 1000 Passifloras, large quantities of Ficus, Begonias, Poinsettias, Euphorbia jacquinæflora, Callas, Aralias, Abutilons, New Hybrid Crassulas, &c.; also Stove Climbers, including Taxonias, Stephanotis, Allamandas, &c.

DIPLADENIA BREARLEYANA, and OTHERS.

May be viewed any day prior to Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The whole of the Stock is in first rate condition. The Ericas and Solanums are unquestionably the finest lot offered at this Nursery for many years; the former being very well set for flower, and the Solanums unusually well berried.

Sidcup, Kent, S.E.

About ten minutes' walk from the New Eltham (late Pope Street) Station, S.E.R.

GREAT ANNUAL TRADE SALE of WINTER-BLOOMING HEATHS, particularly well-grown and beautifully set with flower, ROSES, and other stock.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Longlands Nursery, Sidcup, S.E., on FRIDAY, SEPTEMBER 14, at 11 o'Clock, by order of Messrs. Gregory & Evans, an enormous quantity of unusually well-grown plants, comprising—

30,000 WINTER-BLOOMING HEATHS,

In excellent condition, and particularly well set with flower-buds, including :—

10,000	Erica hyemalis	5,000	Erica Cavendishi
2,000	,, ,, alba	1,000	,, coccinea minor
5,000	,, gracilis	2,000	,, magnifica
1,000	,, Wilmoreana	2,000	,, Caffra
		2,000	,, Spenceri

An unusually grand lot of

10,000 CLIMBING and other ROSES, in pots, 12 to 15 feet, exceptionally well-grown, and unquestionably the finest ever offered at this Nursery, consisting of the following :—

Climbing Perle des Jardins	Climbing Cheshunt Hybrid
,, Niphetos	,, Maréchal Niel
,, Queen of Queens	,, W. A. Richardson
,, L'Idéale	,, Gloire de Dijon
,, Madame Berard	

Also Niphetos, White La France, and many other notable varieties.

5,000 BOUVARDIAS	4,000 Double White PRIMULAS
5,000 SOLANUMS	3,000 FERNS.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—The stock of Plants this season will be found well up to their usual standard, special attention being invited to the Heaths and Genistas, also the Solanums and Roses, which are probably the best ever offered at this Nursery.

Thursday, September 13.

LARGE CONSIGNMENT OF

30,000 LILIUM HARRISI,

RECEIVED DIRECT.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY, September 13, at 3 o'Clock.

On view morning of Sale, and Catalogues had.

PRITCHARDIA GRANDIS,

ONE OF THE MOST MAGNIFICENT OF ALL KNOWN PALMS.

IMPORTANT to the TRADE.

70,000 SEEDS

OF THIS GRAND PALM. ALSO—

20,000 CORYPHA AUSTRALIS,
18,000 ARECA BAUERI.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE of BULBS immediately following the large consignment of LILIUM HARRISI on THURSDAY, September 13.

On view morning of Sale, and Catalogues had.

Monday, Wednesday, and Thursday Next.
DUTCH FLOWER ROOTS.
IMPORTANT TO THE TRADE AND OTHER LARGE BUYERS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, WEDNESDAY, and THURSDAY NEXT, September, 3, 5, and 6, at half-past 12 o'Clock precisely, grand IMPORTATIONS of BULBS, from leading Farms in Holland, in the finest possible condition, and specially lotted for the Trade and other large Buyers.

On view mornings of Sale, and Catalogues had.

Wednesday Next.
FRENCH FORCING BULBS.

30,000 Early White ROMAN HYACINTHS, 10,000 Paper-White NARCISSUS, 5,000 Double ROMAN NARCISSUS, 2,000 LILIUM CANDIDUM; also 50,000 FREESIA REFRACTA ALBA, LILIUM HARRISI, IRIS, SCILLAS, DAFFODILS, and NARCISSUS, from Scilly.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, September 5.

Ketton Hall, near Stamford.
Highly Important SALE of STOVE and GREENHOUSE PLANTS, ORCHIDS, PALMS, FERNS, BULBS, ROOTS, &c.

MESSRS. REEDMAN AND SON have received instructions from J. T. Hopwood, Esq., to SELL by AUCTION, on THURSDAY, September 6, 1894, about 120 Choice and Vigorous ORCHIDS, 400 Stove and Greenhouse Plants, healthy and strong; 100 Stove and Greenhouse Ferns, including some fine Specimen Ferns, about 800 Iris (roots) in variety, 6000 Bulbs Narciss., 600 roots of the popular Carnation Ketton Rose, and several fine Palms, &c.

Owing to the great number of lots, the sale will commence at 10 for 11 o'Clock.

Descriptive Catalogues to be had of the Auctioneers, 45, Broad Street, Stamford, and of Mr. G. DRABBLE, Ketton Hall.

The Plants may be viewed by applying to Mr. G. DRABBLE, Head Gardener, Ketton Hall, from Monday, September 3, up to the morning of Sale.

The Gardens are within 5 minutes' walk of Ketton Station, on the Midland and London & North-Western Railways.

East Bedfont, Middlesex.
Close to the High Road, and about 12 miles from Covent Garden Market, and 4 miles from Kew Bridge.
Daniel Phillips, Esq., Deceased.—By Order of the Executors.
MARKET GARDEN GROUND AND FRUIT LAND.

MR. WOODS has received instructions to LET by AUCTION, at the Red Lion Hotel, Hounslow, on WEDNESDAY, September 5, 1894, at 2 for 3 o'Clock precisely, in the afternoon, all that MARKET GARDEN GROUND and FRUIT LAND, comprising about 59 Acres (little more or less), situate as above, 20 Acres planted with Fruit Trees, the remainder open land (now in the occupation of Mr. Edwin Barnham), for 7, 14, or 21 years, from September 29, 1894, in One Lot.

May be viewed by permission of the Tenant, and Particulars obtained of Messrs. CREE & SON, Solicitors, 13, Gray's Inn Square, London, W.C.; or, Mr. Woods, Auctioneer, Church Parade, Hounslow.

FOR SALE.—NURSERY, 3½ acres; seven miles from Covent Garden; four 100-feet Houses, Pits, Lights, &c., well stocked.—Particulars of—
X. Y., 6, Malta Road, Leyton, Essex.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

LEE.—TO BE SOLD, a Compact Leasehold NURSERY, with House, Cottage, Stables, and Outhouses, in all about 3½ acres. Price £4250.

For further particulars, apply to Messrs. PRALL, Estate Agents, Dartford, Kent.

KENT.—SWANLEY.—TO BE SOLD, a compact FREEHOLD NURSERY, with 5,400 feet run of Glass-houses (heated), some with well-established Vine, in full bearing; also a good Residence, Stabling, and Outhouses, the whole comprising about 8 acres. Capital Water-supply.—Apply to—
Messrs. PRALL, Estate Agents, Dartford, Kent.

FELTHAM, MIDDLESEX. FOR SALE.—The valuable FREEHOLD ESTATE known as Blaize Farm, High Street, Feltham, comprising about 20 acres of very productive Market Garden Land. Possessing valuable Frontages and now ripe for development as a Building Estate, together with eleven-roomed House and Farm Buildings. Particulars of Messrs. S. WALKER AND RUNTZ, Auctioneers and Surveyors, 22, Moorgate Street, London, E.C.

TO BE SOLD, with Immediate Possession, a SMALL NURSERY, with 360 feet-run of Glass upon it. Modern-built. Ten minutes' from Station. Good Water-supply. 21 years' Lease. Nominal Ground-rent of £4. Room for large development. Price for the whole, £250. Stock at Valuation.—Apply to Messrs. CRAWTER, Land Agents, Cheshunt, Herts.

NURSERY FOR SALE.—A compact Nursery, doing good business in one of best suburbs of London, Surrounded by Gentlemen's houses; quantity of glass all in good order. Pits, sheds, and stabling. Very long lease and low ground rent. Price £800; part could remain—H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FLORIST'S BUSINESS, close to London; under 5 miles west of Piccadilly.—Nursery of 1½ acres, 10 Greenhouses, &c.,; Stabling for 4 Horses; Offices, &c. All well stocked. Rent £85. Price, all at, £300.—Apply to—
R. TYSER AND CO., 360, High Road, Chiswick, W. Telephone 8772.

FRUITERER'S and FLORIST'S, in high-class District, for Disposal. Doing good Family and Ready-money Trade. Inspection invited.—Apply, on the premises, to G. TAPLIN, High Street, Wanstead, E.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at
67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

JULES DE COCK'S NURSERIES,
Ledeberg, Ghent (Belgium).
30,000 Azalea Indica, 12,000 A. mollis, 50,000 Begonia Bulbs, 3,000 Dracæna Bruanti, 2,000 D. discolor, 4,000 D. indivisa, 2,000 D. lineata, 2,000 rubra, 10,000 Gloxinias, 30,000 Spiræa japonica, 4,000 S. j. aurea reticulata, 10,000 Palms in variety, with characterised leaves; 2,000 Ficus elastica.

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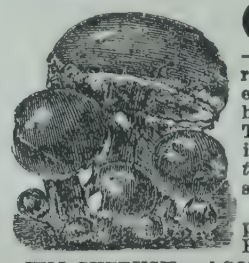
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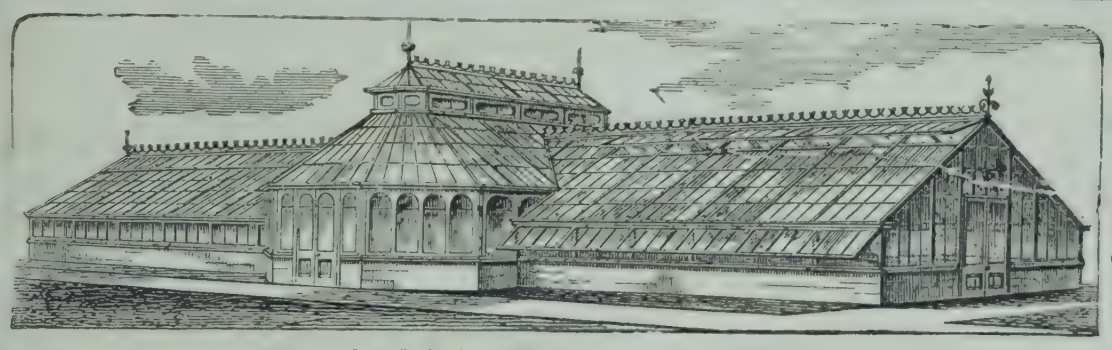
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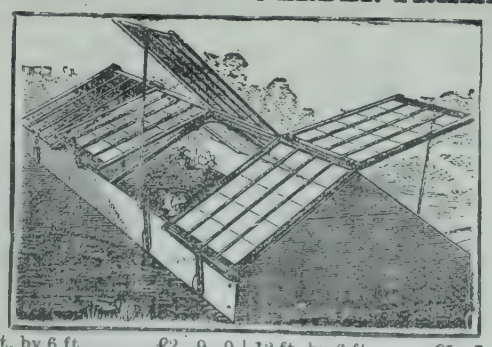
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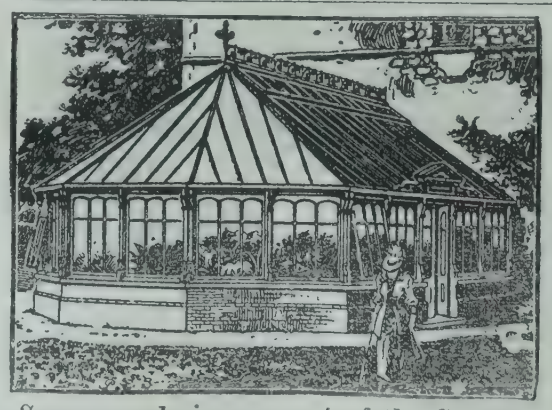
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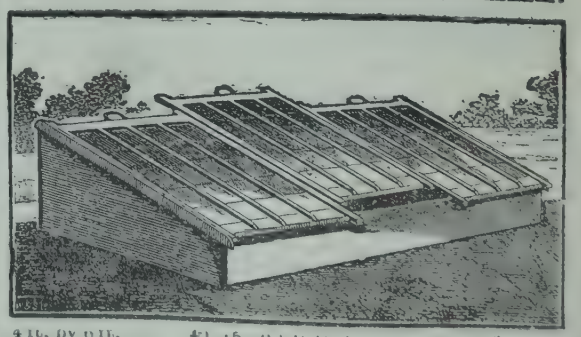
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THE
Gardeners' Chronicle.
SATURDAY, SEPTEMBER 1, 1894.

MUSAS.

"IN spite of their value as food plants, and their wide distribution, Musas have not hitherto by any means been studied carefully, and there is no standard work existing giving an adequate account of their history, origin, and distribution in various parts of the world. The information respecting them is scattered through numerous books, which are seldom accessible except in large libraries." This was true a month ago, but it is so no longer, the August number of the *Kew Bulletin*, briefly noticed by us recently, being devoted exclusively to an exhaustive account of the species and principal varieties of Musa. This number is exceptional, both in regard to its size—eighty-six pages, and the botanico-commercial interest of its contents. The descriptions of the thirty-odd species known are in English, and all the varieties which bear edible fruits, or yield valuable fibre in their leaves, are fully described and commented upon. Notes on the best approved methods of cultivation in different tropical countries, as well as in England, fill ten pages, and there are chapters on the diseases, economic uses, and commercial position of the various sorts cultivated. The treatise is far more than it professes to be—a summary, for it contains all that is worth knowing of what has been written in relation to the Musas, viewed botanically and commercially. This number should be secured by every cultivator of tropical plants and by every planter of, and every dealer in, the products of Musas. It can be purchased at the entrance gates of the Royal Gardens, or from the printers, Messrs. Eyre and Spottiswoode, Fleet Street, E.C., its price being fourpence.

Few persons know Bananas as they ought to be known, as by one who has lived, say, in Ceylon, Singapore, or other tropical regions. In England, the Banana, as sold by the greengrocer, is often a somewhat unpalatable-looking fruit, astringent in its effects, and fit food only for pigs. Good Bananas, such as are grown at Kew or Syon, are compared with these fruits for the gods, Figs of Paradise, as they have been named. They differ as much in flavour and quality as a Mentmore or Frogmore Pine-apple differs from the Pine-apple on the coster's barrow. Many of the Bananas grown in the tropics for home consumption are inferior sorts, just as in England one may find even now orchards of Apples, Pears, &c., scarcely fit to eat. A good ripe Banana is more refreshing, and is better food, than the best of Pears or Peaches; and if our fruit-sellers could only secure them for us, the Banana as a dessert-fruit would have no rival.

The qualities of the best sorts of Bananas are set forth in the *Kew Bulletin*, and we learn that for several years now plants of some of them have been distributed to various tropical colonies from Kew.

Only the best sorts should be grown for export, and the fruit should not be cut before it is half-ripe. Much of what we get now is inferior, from being cut long before it is matured. This is said to be necessary for the safe and easy carriage of the fruit. But why carry the whole bunch? The fruit might be cut separately from the stalk, packed in flat boxes, and sent long distances with facility, and thus treated they would improve rather than deteriorate in flavour, Bananas ripening better in the dark than in light. We have very good reasons for believing that properly-ripened fruits of such sorts as Champa, Pisang Medji, and Ram Kela, three of the best varieties of M. sapientum, arranged tastefully in boxes as we do choice fruits of Peaches, Apples, &c., would not only be more alluring, but when once tasted they would be much more greatly valued than is possible now. Doctors say that a fresh egg properly cooked is, as food, not dear at sixpence, and the same value may be attributed to a good Banana.

There is a gold mine in Bananas for the planter who would grow only the best sorts, grow them well, harvest and pack them properly, and judiciously place them upon the European and American markets. Certainly it is time this was done if we are to realise the full value of the Banana as a food. The information givenin the *Kew Bulletin* under notice, supplies all that is needed to enable any smart enterprising man to do this.

In tropical countries the Banana and Plantain constitute not only a staple food, but a luxury as well. The plants are easily cultivated, and under favourable conditions a stem will yield a bunch of fruits weighing from 30 to 80 lb. in about a year from the time of planting. All the edible sorts sucker freely, and the suckers if severed from the old stock when about 6 feet high and planted in fresh soil will fruit within the year.

The only species cultivated for their fruits are M. sapientum, all the varieties of which are true Bananas, whose fruits are eaten raw; M. paradisiaca, the true Plantain, now reduced to a subspecies of M. sapientum, the fruit of which must be cooked before it is eaten; and M. Cavendishii, the Chinese Banana, which has a shorter stem than M. sapientum, and which has been known to produce in England bunches of fruits weighing 100 lb. At Syon this species is grown exceptionally well. The fruits of the best varieties of Plantain, when properly ripened, are as good as those of M. sapientum. Other species said to have edible fruits, but about which, as yet, very little is known, are M. acuminata, varieties of which are supposed to be largely grown for their fruits in the Malay Archipelago; M. Fehi, a native of Fiji; M. discolor, of New Caledonia; and M. maculata, cultivated in Mauritius. These all mature seeds in their fruits, and on this account are unlikely to find much favour. The Turnip-like rhizome of M. oleracea, of New Caledonia, is roasted and eaten like a Yam, and the "Cabbage" of M. ensete is eaten in Abyssinia.

The varieties of M. sapientum that are preferred in different parts of the tropics are enumerated in the *Bulletin*, and statistics are given showing the cost of cultivation and the sum realised by the fruit when sold. To those who have only tasted a Covent Garden Banana, the description of these choice varieties will be a revelation.

The Plantain is not known in Europe, except as a curiosity, but in the tropics it is probably of even greater value as food than the Banana. They are not separated from each other by any distinctive characters beyond that of the fruit the Plantain being eaten only after it is cooked. There is a parallel to this in the case of our dessert and cooking Apples. Some of the varieties of Plantain produce fruits of large size, a foot, or even more in length and correspondingly thick. Stanley states in *Darkest Africa*, that in Yambuya he found a Plantain which bore bunches of from 50 to 140 fruits, each 22 inches long. Plantains supply the staple food of millions of people in tropical America, 6½ lb. of the fruit, or 2 lb. of the dry meal, with a quarter of a pound of salt meat or fish being the daily allowance for a labourer; and this is true of the Plantain in the topics generally.

The fibre value of Musas is a subject which has previously been treated upon in the *Kew Bulletin*, and it again receives its full share of attention in the number under notice. M. textilis, the source of Manila Hemp, and of which twelve varieties are known, is fully described and illustrated. Hitherto, all attempts to establish this industry in English colonies have ended in failure. It is at present the monopoly of the Philippine Islands, whence it is said, 50,000 tons of fibre, to the value of £3,000,000 sterling, are annually exported.

The growth of the Musa is peculiar. The true stem is an underground rhizome not unlike that of the common Flag. Upon this buds are formed, which push up numerous leaves with sheathing bases, which form what is commonly called the stem, but which is no more a stem than is the bulb of a Crinum or an Onion. The flower-bud remains dormant at the base of this pseudo-stem until the growth has matured, when it pushes rapidly up through the centre, and on emerging at the top, generally curves downwards. The flowers are hermaphrodite in structure, but are rendered monœcious by abortion. The pistellate flowers are on the lower or basal part, and these develop into fruits, the staminate which are borne on the upper part falling off. It is remarkable that the cultivated Bananas and Plantains never set seeds, though their fruits grow to full size. The fruiting of a "stem" terminates its existence, but suckers are pushed up from the rhizome, and these will fruit the following year if the conditions are favourable. "When once planted, the produce of Banana trees on a small area is exceptionally large, hence Humboldt has calculated that, although less nutritious than Wheat or Potatos, yet the space occupied by their culture, and the care required, render the produce of Bananas, compared to Wheat, as 123 to 1; and to that of Potatos as 44 to 1."

This, and much more, information of a similar character is given in No. 92 of the *Kew Bulletin*, by Dr. Morris. The Banana is Nature's richest gift to man in the tropics, but man in the temperate regions has a claim—at any rate, he asserts one—to the good things of tropical lands; and if he wishes to make the best possible use of the Banana, he cannot do better than begin by a careful study of the contents of this publication.

NEW OR NOTEWORTHY PLANTS.

GITHOPSIS SPECULARIOIDES, *Nuttall*.*

THE illustration by Mr. John Allen of a plant in the Royal Gardens, Kew, will sufficiently show the habit of this plant (fig. 34). In general appearance it is like the Venus' Looking-glass, but differs in the technical character that the pod opens by a pore at the apex within the calyx at the base of the style. The flowers are blue. The plant is an annual, and is a native of California and Oregon. It must not be confounded with the Spanish Campanula specularioides, which is an entirely different plant.

HYPOCYRTA PULCHRA, *N. E. Br.* (*n. sp.*).

A pretty little Gesneraceous plant discovered in Columbia by Mr. Burke, when collecting there for Messrs. J. Veitch & Sons, with whom it flowered in July of last year. There are not many species of this genus in cultivation, and the present one is well distinguished from all hitherto known, by the corolla being nearly regularly inflated with a very slight indication of a gibbosity on the lower side slightly below the middle. Stem stout, herbaceous, clothed with purple hairs; leaves opposite; petioles ¾ to 1½ inch long, rather stout, densely clothed with bright purple hairs; blade 4 to 5 inches long, 2¾ to 3 inches broad; elliptic or elliptic-ovate, acute, rounded in from the middle to an obtuse or slightly cordate base, crenate; upper surface somewhat rugulose-bullate, from the veins and veinlets being depressed, densely papillate-pubescent, rich bronzy-green with a velvety sheen, caused by the short glassy hairs that terminate the papillæ; margin shortly ciliate with purple hairs, under-surface of an uniform bright purple, strongly reticulate with the prominent veins, pubescent; flowers solitary in the axils of the leaves; pedicels 1½ inch or more long, about 1 line thick, clothed with purple hairs; calyx 5 lobed almost to the base, the lobes 4 to 5 lines long, and about the same in breadth, broadly ovate subobtuse, the base subcordate with an outward fold formed by the mutual pressure against one another of two adjoining lobes; margin slightly crenate and ciliate, surface pubescent, entirely of a deep scarlet-red colour; corolla 10 lines long and about 5 lines in its greatest diameter at the middle of the inflated tube, which is ovoid and slightly compressed, scarcely gibbous on the lower side, and at the base for about ⅛ of an inch is abruptly contracted into a cylindric glabrous part, the rest of it being densely tomentose. At the apex it is contracted into a very small mouth only ⅒ of an inch in diameter with five very short subtruncate, spreading lobes, forming a limb 2½ lines in diameter; the colour is bright orange-yellow passing into orange-red towards the apex. Columbia, province of New Grenada. *N. E. Brown.*

TYLOPHOROPSIS YEMENSIS, *N. E. Br.* (*new genus*).

From a horticultural point of view this new genus of Asclepiadaceæ is not of very much interest, but botanically it is so, since it is one of those puzzling plants concerning which a botanist always feels in some doubt as to whether it should constitute a new genus or be squeezed into an old one. The plant is a native of Yemen in Arabia, and is in cultivation with Messrs. Dammann & Co., who sent it to Kew for a name. It has been described by Defiers in his *Voyage au Yemen*, p. 165, as Tylophora yemensis, and indeed, it bears some resemblance to that genus, but its pendulous pollen-masses place it in another division of the order. In floral structure it is identical with an Abyssinian plant that was originally described by A. Richard as Tylophora heterophylla, and afterwards placed in the genus Vincetoxicum by Vatke. These two plants are certainly congeneric, and quite distinct from either of the genera under which they have been placed, but have a very close affinity with Astephanus, and possibly it will hereafter be found that they must be included in that genus. But they differ from all the species of Astephanus in having a distinct corona and a truncate apex to the style, which is not produced beyond the anthers, whilst in Astephanus there is no corona, and the apex of the style

* *Githopsis specularioides*, Nuttall, *Trans. Amer. Phil. Soc.*, n. ser., viii., 258; Gray, *Bot. Californ.*, i. 446, and *Synoptical Flora of N. Amer.* (1878), ii., p. 10.—"Small annual, 2 to 10 inches high, hirsute or glabrate; leaves small, linear-oblong, coarsely-toothed, sessile; flowers simply terminating the stem or branches, or becoming lateral, strictly erect; tube of the calyx club-shaped, strongly ten-ribbed, adnate up to the very summit of the ovary, limb of five long and linear foliaceous lobes; corolla blue; tubular, campanulate, five-lobed; capsule club-shaped, tapering into a very short and stout peduncle.

is produced into a long beak much beyond the tips of the anther-membranes. A further distinction is found in the inflorescence, the peduncle bearing two to three, more or less distant, sessile, umbel-like cymes scattered along it in a racemose manner, whilst in Astephanus the peduncle bears but one terminal umbel. The following are the generic characters, with a specific description of the cultivated plant:—

Tylophoropsis, N. E. Br.—Calyx five-lobed almost to the base. Corolla deeply five-lobed, campanulate or rotate-campanulate, the lobes overlapping to the left in the bud. Corona arising from the very base of the staminal column, of five thick fleshy lobes, opposite the anthers, and entirely adnate to the filament part of the staminal-column (forming the inner corona), and with five minute teeth alternating with them, and connecting them at their base, representing a rudimentary outer corona. Staminal-column arising a little above the base of the corolla. Anthers erect, short and broad, obtuse, with a membranous appendage inflexed over their apex. Pollen masses pendulous, solitary in each cell of the anthers, attached in pairs to the pollen-carriers by moderately long horizontal caudicles. Apex of the style truncate (the central part slightly convex, and its five angles slightly raised), not exceeding the anthers. Follicles smooth, seeds crowned with a tuft of hair.

Species 2.—Perennials with twining stems, opposite leaves, and the peduncles lateral between the bases of the petioles, bearing two or more sessile umbel-like cymes of small flowers, racemosely scattered along the peduncles.

T. yemensis, N. E. Br.—Stem twining, glabrous, with a pubescent line down one side alternating at the nodes. Leaves 1 to 2 inches long, ¼ to 1 inch broad, on petioles ⅛ to ½ inch long, oblong-lanceolate or ovate-lanceolate acuminate, truncately rounded at the base, glabrous, except for some hairs on both sides of the midrib, and a very few on the veins beneath, ciliate, as are also the margins of the channel of the petiole. Peduncle ¾ to 1 inch long, with a hairy line on one side, bearing two to three sessile umbel-like cymes of three to eight flowers. Bracts ⅛ to ¾ line long, ovate-lanceolate acute, ciliate. Pedicels 2½ to 3 lines long, glabrous. Sepals 1 line long, ovate-lanceolate acute, glabrous, or with here and there a hair. Corolla dull purple, 2½ lines long, and about the same in expanse, the lobes 1½ line long, ovate-lanceolate, acute, glabrous outside, very shortly villose-pubescent with white hairs within, and ciliate along one margin. Corona of five fleshy, deltoid, purplish lobes, entirely adnate to the basal half of the ⅔-line long staminal-column, gibbous at the base, and there connected together by five minute denticles that alternate with them, and represent the outer corona. I have not seen the follicles, but they are described by Defiers as about 2½ inches long, ⅓ inch thick, oblong, acuminate, smooth, or sparsely and minutely verrucose-papillate, glabrous; seeds, ¼ inch long, 1 line broad, ovate, flattened, narrowly margined, glabrous.—Tylophora yemensis, Defiers, *Voyage au Yemen*, p. 165.

The only other species known to me is *T. heterophylla*, N. E. Br., distinguished from T. yemense by its more cordate-ovate leaves and larger flowers, the corolla-lobes being 2½ lines long. Synonyms Tylophora heterophylla, A. Richard, *Flora Abyssinica*, vol. ii., p. 41, t. 71 (the pollen-masses incorrectly figured as erect). Vincetoxicum heterophyllum, Vatke, in *Linnæa*, vol. xl., p. 212.—Abyssinia, *Schimper*, Nos. 394! 833!

*

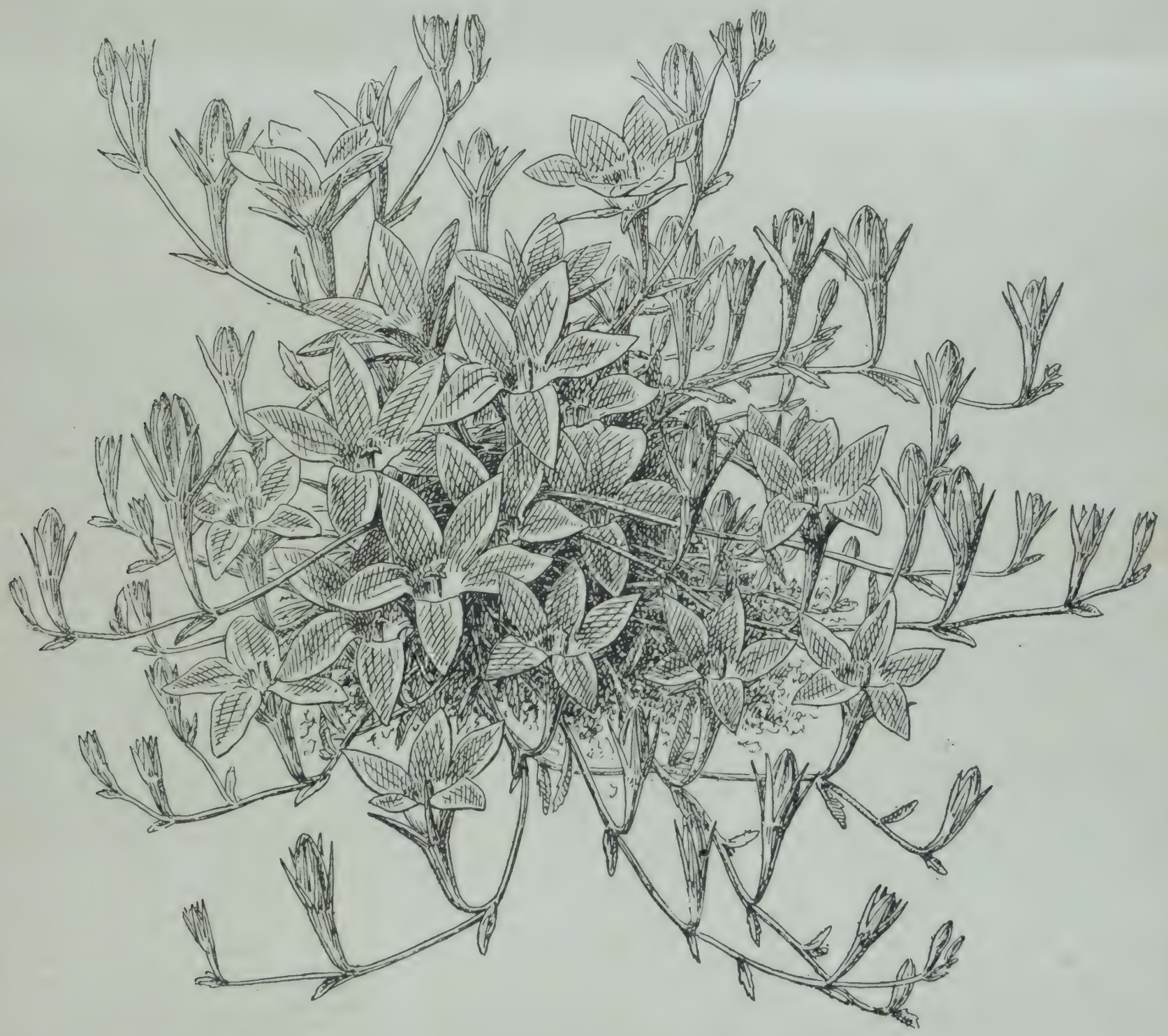


Fig. 34.—Githopsis specularioides. (see p. 244.)

Orchid Notes and Gleanings.

Cœlogyne speciosa.

This very interesting species of Cœlogyne was first found by Blume on the Salak Mountains, Java, at some 4000 to 5000 feet elevation. He first figured it in his contributions to the *Flora of Dutch India* by the name of Chelonanthera speciosa, and under this name it long remained a puzzle to orchidologists; but at last it cropped out that the plant was a true Cœlogyne, and a genus founded by Lindley some two years previously. It was first introduced to our gardens in 1846, and Mr. Thomas Lobb found it again in the same locality in which it had been originally discovered. Cœlogyne speciosa is almost a perpetual bloomer, the broad white front lobe of the lip rendering it very conspicuous. The plant here figured was finely in flower in the month of September in our own Orchid collection, and from which our artist, Mr. J. N. Fitch, made the accompanying drawing; from that time to the present we have noticed various plants flowering in different collections. This is a plant which thrives best in a shady, cool position in the Cattleya-house. The plant usually produces several buds besides the two which ultimately develop, and could we but induce the plant to open its other buds, we should have a specimen as remarkable for its beauty as the famous C. cristata and its varieties. It is a plant of very free growth, and remarkable for the depth of colouring in its foliage, which at once proclaims it to be a lover of moisture and shade, and under these conditions it thrives well. We have not tried the experiment as to whether the plant would develop more buds on the peduncle by giving it more heat, or if more flowers would arrive at maturity under a cooler regimen; but it is a subject worthy of the trial. This plant may be grown in a hanging-basket, or as a pot-specimen; but in either case it requires to be well drained, for as the plant likes an immense quantity of water, it must be allowed to run away quickly. The soil best adapted for its culture is good brown peat fibre, from which the fine soil has been shaken or beaten, mixed with chopped sphagnum moss, and to which may be added a few broken nodules of charcoal when potting. The temperature of the Cattleya-house suits it best, but care must be taken to maintain a good moist atmosphere during the winter months. *Orchid Album*, vol. xi., part 124.

Aërides quinquevulnerum

is of easy culture, and enjoys an abundant supply of heat and moisture, especially during the growing season. At this time a temperature of about 70° or 80° Fahr. will suit it admirably, but it must be shaded from the sun's rays. When resting, which is from about November to March, the temperature should be slightly less, with plenty of moisture about their roots, excepting in dull weather, when too much should not be given. They produce thick fleshy roots, and can be grown either in baskets or pots, the former being preferred by many growers. The best soil for them is sphagnum moss, and care must be taken to have the drainage well seen to, even more so than in many other Orchids, the pots or baskets requiring to be about three-parts filled with potsherds. As many of the roots proceed from the upper part of the stems, and consequently remain in mid-air, an abundant supply of moisture in the atmosphere is very necessary. *Orchid Album*, vol. xi., part 124.

Cypripedium Stonei platytænium.

This variety cannot be called the poor man's Orchid, for we know of one or two specimens which exist which cannot be purchased under four figures, and we scarcely envy the position of those having such valuable plants under their care, for sometimes they become diseased and soon drop off, and all efforts to temporise or to stay the effects of the disease are quite unavailing. This plant has never been imported more than once. It was an accidental sport we should imagine, for we do not consider there is any reason to suppose it is a hybrid. A plant of it realised 140 guineas at the sale of the late Mr. Day's collection in 1881. A little later on a plant was again sold for 120 guineas, the first one in the first collection, and the second one in the second collection.

The variety was imported with a lot of Cypripedium Stonei from Sarawak, in 1863, by Messrs. Low & Co., of Clapton. Some of the plants of this importation were purchased by the late Mr. Day, and amongst them—unknown to himself at the time—this superb variety, which for several years afterwards consisted of a single specimen, the only one known to have been imported.

It flowered for the first time in Mr. Day's collection in 1867, whence subsequently it became very sparingly distributed by division of the original plant. On the dispersion of Mr. Day's plants in the spring of 1880, they were acquired by Sir Trevor Lawrence, Bart., and Baron Sir J. H. W. Schroder; the last-named gentleman has since added several others of a small size to his collection, so that the majority of this plant is retained in these two magnificent collections.

The specimen here figured flowered in the fine collection of Baron Sir J. H. W. Schroder, under the care of his able gardener, Mr. Ballantine. It is a grand flower, which has only on one occasion run back (the broad petals of this variety reverted to the original form), so that its durability remains fixed. This plant, like the typical one, is a native of Borneo, having been found in the neighbourhood of Sarawak, just over thirty years ago; and this superb plant passed into the hands of Mr. Stone, who then had the charge of Mr. Day's fine collection, where it flowered in 1867. It is exactly like the typical plant in growth, the only difference being in the broader and shorter petals, and in their higher colour. It requires the warmth of the East Indian-house in which to grow and develop its shoots, where it should be well exposed to the sun and light, and the atmosphere must be kept well charged with moisture. The pot for its reception should be well drained, using for soil some good light loam, mixed with a little leaf-mould or peat, and some charcoal added; and we prefer the plant to be raised a little above the pot's rim when potted, in order to allow all water to pass quickly away from it. *Orchid Album*, vol. xi., part 124.

Remarks on the Fruit Crops of 1894.

[*For Tabulated Summary, see p.* 119]

(*Continued from p.* 216.)

7. England, N.W.

Lancashire.—The fruit crops in this district are good, with the exception of Apples and Strawberries. The latter were much damaged by the late frosts, and were a very poor crop. Some varieties of Apples, such as Golden Spire, King of Pippins, and King's are fairly good; other varieties very scarce. *J. Hathaway, Lathom, Ormskirk.*

—— The Apple crop was partly gone before the frost on May 21 and 22, the flowers having been shrivelled up by the east wind, which brought a horde of green-fly and caterpillar in its train—at any rate, favouring this operation. The frost completed the work of destruction. Pears were well formed, and the trees are unaffected by insects, and there is a heavy crop on most of the trees. Gooseberries were a heavy crop, only a few having been frozen. Currants also escaped, but were so infested with aphis that most of the leaves have fallen. First flowers of Strawberries frozen; Raspberries escaped, heavy crop. *William P. Roberts, The Gardens, Overden Hall, Preston.*

—— Apples are a failure with us owing to the severe frosts we experienced in May, just as the fruits were setting. Some varieties of Pears have very heavy crops. Bush fruits are plentiful, particularly Currants, both Black and Red. Raspberries a good crop, with fine fruits. Strawberries a fair crop, but the fruits scarcely up to the standard for size. Gooseberries were a heavy crop, and are quite free from caterpillar and red-spider. Morello Cherries are very good. *Jas. Adshead, Trafford Park, Patricroft, Manchester.*

Lancashire.—There was an abundant show and setting of Apples and Pears generally here, but the sharp frosts experienced on May 21, 22, and 23 (9°, 11°, and 9° respectively), played havoc with everything sufficiently advanced. Jargonelle Pears, Citron des Carmes, and a few other common varieties only remaining. Apples almost *nil* everywhere in this district. *Bryant Burham, Croxteth, Liverpool.*

8. England, S.W.

Cornwall.—With a few exceptions, the Apple crop in this district is very poor, the trees bloomed well, but scarcely any of it set, this we attribute to the abundant crop and drought of last season. Last season we had several trees with not an Apple on them, whilst this season they are laden. Most of the others are extra thin. Strawberries almost a failure. Red and White Currants extra scarce, Black more plentiful. Raspberries under the average. Gooseberries were very plentiful, but having so much wet and cloudy weather the flavour was poor. *W. H. Bennett, Menabilly.*

—— Fruit crops suffered much from the cold wet spring. Apples are a thin crop; the bloom was fairly plentiful, but weak, and dropped soon after setting. Strawberries have been very scarce. Small fruits have been under, both in quantity and quality, Gooseberries excepted—they were a heavy crop. *George Hall, Port Eliot Gardens, St. Germans.*

—— Fruit crops in East Cornwall are on the average good. Pears and Apples promise to be of good quality. Bush fruits were abundant, but the weather has been bad—heavy rain-storms and very little sun. Cherries cracked, and were poor in quality. Nuts, both Cobs and Filberts, are most abundant, and very fine. *Chas. Page, Boconnoc Gardens, Lostwithiel.*

—— This is the worst season for Apples I can remember. Pears are an excellent crop, as in nearly all positions we have been compelled to thin severely. Peaches and Nectarines, a very good crop, but the trees have greatly suffered. Bush fruits we have in abundance. *James Murton, Pencalinick, Truro.*

Devon.—It is the worst crop of Apples the farmer has had for many years. I never saw blossom more plentiful, but the frost of May 21 injured it to such an extent that seven-eighths of it came down. All standard fruit trees in the garden have suffered from this one morning's frost. The Strawberry crop has been the worst we have had for the last ten years. They were in full blossom, but were cut to pieces. *R. N.*

—— Here Plums and Pears are a good crop, also Peaches. Some Gooseberry bushes were cut by the frost of May 21, and lost most of their leaves. Fruit on them and on Raspberries plentiful, but have not ripened well. Apples are scarce, even such free-bearers as Keswick Codling and Prince Albert have very few fruits on them. The only ones with a good crop are Mother, Early Harvest, which had none last year, and Kerry Pippin. Cornish Gilliflower, Cellini, and Monster Pippin, have a fair crop. Juneating, which was ripe June 19 last year, ripened July 24, on the branch which has runlets on it; there are none on the other branches. Doyenné D'Été Pears, which were ripe June 21, 1893, did not begin to ripen till July 17, and have little flavour. Early Alexandra Peach on a south wall, sheltered by a dwarf wall 15 feet in front of it, began to ripen June 23, 1893, did not begin to ripen till July 7, 1894, and there are two fruits still on the tree. Jargonelle Pears on a wall facing east in walled garden began to ripen July 28, 1894. Irish Peach has a few fruits not yet ripe. The fruit crop in 1893 was the largest we have had since I came here twenty-seven years ago. July 6 and 7, highest thermometer in the shade was 74°, on the 29th 75°, but generally varied during July from 62° to 66°, with much cloud. *H. R., Plymouth.*

Devon.—Apples not more than one-third of crop generally, many dropping even now; the quality promises to be fairly good. Pears the crop of the season; many of the earlier varieties much spotted and cracked, especially on bush and pyramid trees. On walls quality promises to be good. Strawberries a failure, quite half the plants barren; fruits small and inferior. Small fruits all good, with exception of Red Currants, which were about half a crop. Peaches set abundantly, much thinning required; promise to be very good. *A. Eames, Heanton Satchville, Beaford.*

—— Apples about half crop on the average, but a few sorts are very good on pyramid and bush. Pears most above the average, and many require thinning. Very good set of Pears, and escaped the frost. Plums are a very good crop, as also a few trees of Apricots. Peaches only fair. Cherries good crop. Bush fruits, Black and Red Currants poor. Strawberries flowered well, but poor crop, owing to frost. Raspberries good. Gooseberries very heavy crop. *Frank Quance Chatworthy, Lifton Park Gardens, N. Devon.*

—— The severe frosts on May 21 and 22 did serious damage amongst the Apple blossom, consequently the crop is very light. Pears had set, and are now growing satisfactorily. Peach trees have kept clean and healthy. Strawberries were very fine in high situations; in the valleys the blossoms were mostly destroyed by frost at the above dates. *Geo. Baker, Membland, Plymouth.*

Gloucestershire.—The Apple crop hereabouts is a thin one, and in some places a failure. Pears are over-abundant; much thinning was absolutely necessary, and where it was done the crop is most promising. Plums are in many places a failure. Peaches, Nectarines, and Apricots good. *Thomas Shingles, Tortworth.*

—— The frost of May 21 did considerable damage among the fruit growers in this district, especially Strawberries, which have been a complete failure with some of the market growers, as they were white with blossom on that date. Raspberries also have been very light crops, a quantity of canes having completely died out. Red Currants have only produced half a crop, while the black are heavily laden. Gooseberries also are very plentiful. Apples also suffered considerably, although some of the Codlins have a heavy crop. Pears are looking very promising. Plums have been affected very much with fly, yet are carrying heavy crops, especially early sorts. *T. Noble, Ashton Court Gardens, Bristol.*

—— There is plenty of perry fruit. Strawberries very poor. I found James Veitch and Vicomtesse Héricart du Thury stand the best. Apricots the best crop we have had for the past twenty years. *William Keen, The Gardens, Bowden Hall, near Gloucester.*

Herefordshire.—The fruit crops here are generally poor this year, except Pears, small fruits, and wall fruits. Apples very light crop; and the poorest crop of Strawberries for years, and very small and inferior quality. Raspberries and Gooseberries good. *John Watkins, Withington, Hereford.*

—— The fruit crop in this neighbourhood is almost a failure, as concerns Apples, Pears, and Strawberries, owing in a great measure to the very late frosts. Late Gooseberries, Currants, and Plums are very plentiful, and of good quality. *Frank Harris, Eastnor Castle Gardens, Ledbury.*

Somersetshire.—Fruit in this district, on the average, is very good indeed. Black and Red Currants must have suffered by late frost, as in the gardens here, along with Morello Cherries, they form our poorest crop. Of Royal Sovereign Strawberry not a single fruit has been gathered here, the frost destroying the bloom completely. *A. Young, Marston, Frome.*

Worcestershire.—Apples and Strawberries are the two disappointing crops of the season. The hot weather of last season, combined with the heavy crop, being too much strain on the resources of the trees. On the other hand, the hot weather suited all other kinds, especially stone fruits and Pears. I never saw such a wealth of bloom on the Pear trees. The early Strawberry blooms were destroyed by frost, but the secondary fruits swelled up, so we secured an average crop. *A. Young, Abberly Hall Gardens, Stourport.*

Worcestershire.—Apples are much under the average, and numbers of trees disfigured by ravages of caterpillars and aphis. Where the trees are free of these pests there is good clean produce and healthy growth. Pears are abundant, the trees and fruit clean and healthy. Peaches, Nectarines, and Apricots good in every respect. Plums, Damsons, and Cherries are below the average in quantity, but the two former promise to be good in quality. Red and Black Currants are both under the average, especially so the latter, which have suffered greatly from aphis. Early Strawberries have been very light crops, but the later varieties have been good in quantity and quality. *John Austen, Witley Gardens, Stourport.*

—— Apples are a very poor crop, lots of orchards having scarcely any in them. Pears and Plums a very heavy crop, though Plums were killed entirely in places by the frost of May 20 and 21. In other places very heavy crop, especially egg-plums. Strawberries very bad, especially Sir J. Paxton. *Charles Myatt, Harvington, Evesham.*

—— Apples extremely partial, according to situation, elevation, or exposure, the trees having also been attacked by that insidious and worst of all insect-pests to Apple trees—the Apple-blossom weevil. This insect and the Pear-midge are responsible for far greater damage to the fruit crops than most fruit growers are aware of. *W. Crump, Madresfield Court.*

WALES.

Denbighshire.—The May frosts paralysed all sorts of outdoor fruits; although fairly plentiful, their quality is poor. Early Apples are small, and continue dropping. Pippin and late sorts are a better crop, and promise fairly. All sorts have been much blighted by mildew and fly; recent showers have helped to clean them. Apricots are a good crop, but dropping is extensive, excepting in the case of Moor Park and the Lady Breda. Cherries have done fairly well on walls, but are poor on standards. Plums are a fair crop, but much rusted; Gage class a failure. Damsons heavy. Gooseberries plentiful, but poor in quality, and have escaped the blight better than any. Raspberries fairly good. The cream of the first bloom and setting were killed of all fruits except Apricots. Strawberries Noble and Dr. Mosere were nearly all killed; Black Prince and Ruskin escaped fairly well. Sir Joseph Paxton stood best, and Elton Pine good. *P. M., Wynnstay Gardens.*

Cardiganshire.—On the whole the fruit crop in this district is a poor one. Pears seem to be the best; doubtless owing to their having set their bloom and so were advanced before the disastrous frosts of May 20 and 21. The Apples were cut very badly, also the earliest blossom of Strawberries and Plums. Strawberries very scarce. *R. C. Williams, Crosswood Park, Aberystwith.*

Flintshire.—The four nights' frost we had in May injured the fruit crop very much, especially Strawberries. *John Forsyth, Hawarden Castle, near Chester.*

Glamorganshire.—Apples are a poor crop in this district, and the trees are very much infested with green-fly and American blight. Pears are a good crop; the trees are clean and healthy, and the fruits are swelling freely. The branches of Pitmaston Duchess, Williams' Bon Chrétien, and several other varieties, will require to be supported by props to keep them from being broken by the weight of fruit. Plums are a good crop, but the trees are badly blighted with green-fly. The frost on May 20 did great injury to some of the fruit and vegetable crops in the vale of Glamorgan. *A. Pettigrew, Castle Gardens, Cardiff.*

Glamorganshire.—Apples in this district are much under the average. The following varieties are the most fruitful, viz.:—Cellini, Ribston Pippin, Stirling Castle, Gillyflower, Early Margaret, Warner's King, and several local varieties. Pears are looking remarkably well, the fruit clean and large, and carrying heavy crops, especially varieties Doyenné du Comice, Thompson's, Marie Louise, Winter Nelis, Louise Bonne, Pitmaston Duchess, Williams' Bon Chrétien, Fowell, &c.; in fact, many have required thinning. Strawberries have been an abundant crop, fruit large and fine in quality. The varieties grown here are Vicomtesse, Noble, La Grosse Sucrée, and Waterloo. Small fruits have been plentiful, with the exception of Red Currants, these having been quite a failure in this district. *R. Milner, Penrice Castle, Swansea.*

Pembrokeshire.—Our walls are well covered with fruit. Low-lying districts suffered most from the ravages of the late frosts. I have seen some orchards on high ground in this county which are at the present time full of fruit. *G. Griffin, Slebeck Park, Pembroke.*

Monmouthshire.—Our Apple orchards have very good crops, King of the Pippins—always reliable—being heavily laden; Cellini, New Hawthornden, Manx Codlin, Frogmore Prolific, and Betty Geeson are also amongst the best croppers. Pears are nevertheless the crop of the year. These are generally good, so much so that we have thinned some varieties, and this freely, upon some cordon trees. Louise Bonne of Jersey, Durondeau, Beurré Hardy, Beurré Diel, Beurré Superfin, Beurré Rance, Beurré d'Amanlis, Easter Beurré, Doyenné de Mérode are fine upon walls. Marie Louise, although one of the latest to blossom, did not set well under any condition; but Louise Bonne of Jersey is prolific in every state. Apricots are good, and the trees clean. Strawberries were generally small. Our crops did not suffer to any extent from the frosts, but old plantations were weakened by the drought last season. Young plantations made last autumn were more satisfactory, particularly so was one of Noble upon a south border, the fruit from which were grand in every way, except high flavour. Raspberries and Gooseberries are abundant and good. R. Superlative and Gooseberries Whitesmith, Crown Bob, and Industry are excellent. *Thos. Coomber, The Hendre, Monmouth.*

—— The fruit crops in this district are of a very unsatisfactory nature, owing principally to frost, cold blasting winds (on and after the flowering stage), and an enormous amount of blight setting in since that period, rendering small fruits in fact quite unfit for table use. The only fruits coming through the ordeal well being Pears and Apricots. *John Lockyer, Park Gardens, Pontypool.*

—— Cider fruit very scarce in this district; also Pot fruit. Perry Pears in some places are a heavy crop. Dessert Pears very poor. *D. Clark, The Gardens, Clyso Court, Anglesea.*

9. IRELAND, N.

Antrim.—Gooseberries, Currants, Raspberries, Strawberries, all suffered by the frost on May 20. Raspberries a total failure, the early flowers of Strawberries were all killed, the late-set fruit is only in now; the early Gooseberries all dropped off the bushes, what we have now are very large of the late sorts, but a light crop. Apples a failure, the bloom was all killed. *Arga, Antrim Castle.*

Cavan.—Fruit crop ruined with late frosts and wind, when in bloom; what escaped is poor in quality from want of sunshine. *Edward Reilly, Castle Saunderson, Belturbet.*

Galway.—Fruit prospects were never more promising till May 20, when we had sharp frosts on three successive nights; Apples being in full blossom, suffered most. Strawberries also suffered severely. *John Cobban, Garbally, Ballinasloe.*

Kerry.—Apples are a very poor crop. Pears are plentiful; also Plums. There are scarcely any

Peaches and Apricots grown outdoors in Kerry, the autumns are too cold and damp for the wood to ripen, trees die back in winter. Strawberries have been almost a failure in some places. The frost killed all the fruit blooms, and since the fruit (that was left) began to ripen, the weather has been unfavourable. There is no flavour to the fruit. Gooseberries and Currants are abundant. Raspberries are rather poor, the early frost nipped them when in bloom. *G. M. Breese, Killarney.*

10, IRELAND, S.

QUEEN'S COUNTY.—Small fruit has been very plentiful this year. Raspberries very heavy. Strawberries have been very bad, that is, the early ones, such as Black Prince and Noble; but the later sorts are very good, making up a fair crop. *H. J. Harvey, Grantston, Abbeyleix.*

WATERFORD.—Strawberry and other blossoms were all injured on the night of May 20, when our thermometer registered 3° of frost. Gooseberries and small fruits were well advanced and protected by leaf, and have enormous crops. Some Apple trees are loaded with fruit, especially Keswick Codlins and early varieties. *Thos. Singleton, The Gardens, Curraghmore, Portlaw.*

WEXFORD.—The frost of May 20, and the spell of cold nights which followed, did much injury to the fruit crops, especially Apples and Plums, on our heavy clay soil here; the Gooseberry suffered last year from the effects of the dry summer and red-spider, this year the crop is poor, and many of the trees gone altogether. *Jas. Turner, Courtown Gardens.*

CHANNEL ISLANDS.

GUERNSEY.—The season, so far, is probably the very worst on record for outside fruits in the island. The show of bloom was exceptionally good, and the set over average, but this sad summer has changed it all. The weather from now onwards may be better than we have had (worse it cannot be), and the trees may have the benefit of preparing for better results next year. But we fear that for this season's fruit the evil cannot possibly be repaired. *C. Smith & Sons, Caledonia Nursery.*

ISLE OF MAN.—Small fruits, with the exception of Strawberries, have been a good average. Apples and Pears are very bad; the heavy hail-storm we had in the end of May both blackened the foliage and almost stripped the fruit that was set. *Jas. Murphy, Croukbourne.*

REMARKABLE VARIETIES OF ODONTOGLOSSUM CRISPUM.

A FAVOURITE in any form and most prolific in fine and distinct varieties, Odontoglossum crispum may be regarded as the best of cool-house Orchids. With every fresh importation new forms appear, and although some of them are distinguished by varietal names, the uninitiated often say that they can scarcely distinguish them apart, but the connoisseur would affirm about the same plants that there could be no mistaking the one for the other when well grown. Certainly, the amount of variation is surprisingly large, and leads to the supposition that cross-fertilisation in a remote past and reversion and progression in the natural seedlings afterwards, have played a part in the dissimilarity of the flowers of the different plants of the species.

As illustrating the great variation we allude to, we are pleased to be able to give figures from photographs of two very fine forms which were exhibited by Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), at the meeting of the Orchid Committee of the Royal Horticultural Society, June 12, on which occasion they were awarded Certificates.

The O. c. grande maculatum (fig. 35) is white spotted with purplish-brown, and the singularly formed O. c. mirabile (fig. 36), French white with cinnamon-coloured blotches, and rich yellow base to the lip.

The difference in the form of these varieties is remarkable, and were it not that they are linked by intermediate forms it would be difficult to include them botanically in the same species.

THE GARDEN AT EASTER
DUDDINGSTON.

BY ROBERT LINDSAY.

NOT the least of Mr. Jenner's services to botany and horticulture was the formation and maintenance for so many years of a garden which, in point of richness and interest, is second to none of the private collections of living plants in the kingdom. His garden had always the greatest attractions for him, and a brief account of its origin and outstanding features may be here given. The grounds were laid out chiefly by the late William Gorrie; the late James McNab also rendered valuable assistance.



FIG. 35.—ODONTOGLOSSUM CRISPUM VAR. MACULATUM.

The garden now consists of about 8 acres, devoted to a large collection of ornamental plants, with the exception of about an acre and a-half of vegetable garden. The original rock-garden was constructed by Mr. Jenner and Mr. Howie in 1862, and consists of a series of raised beds, having their margins fitted with blocks of stone set on end, forming pocket-like spaces, which were filled with special soil to suit the requirements of various alpine plants. The stone divisions thus prevent the more rampant-growing plants from mixing with and over-running the more delicate and slow-growing alpines. A large number of the plants in this part of the rock-garden were gathered by Mr. Jenner during his Highland excursions, the remainder consists of the best kinds of alpines of other countries that were in cultivation at the time. This was the first of this type of rock-garden constructed, so far as I know, in Britain; and that it has answered the purpose intended is witnessed by the fact that the majority of the original plants, planted thirty-one years ago, are still in perfect health and vigour. The raised beds were not stoned, but were simply planted with dwarf-growing shrubs or trees, many of which have been long since removed, as they had outgrown their positions, and in their place groups of Lilies, Ranunculus, Anemone, and other showy plants have been substituted. All the rest of the rockwork at Easter Duddingston was designed by Mr. Gorrie. The best portion is a charming piece of artistic rockwork lying south of the original rock-garden, called by Mr. Jenner "Corriemore," as a memento of a botanical tour. This portion has been laid out in a different manner from the rest. The ground, instead of being raised, is excavated to a depth of about 8 feet, the excavations forming a high bank all round. Rough stones, placed firmly in the ground, support the mass of soil forming the banks, and give the sides a cliff-like appearance. A sloping narrow path runs round both sides, and reaches the bottom, now laid out as a bog-garden. The high banks afford ample protection for the growth of tender plants. Here such plants as Chamærops Fortunei, Aralia Sieboldi, Phormium tenax, Cordyline australis, Bambusa falcata, Quercus glabra, Ilex latifolia, and other half-hardy plants, resist the most severe winters.

Adjoining "Corriemore" is an erection for the cultivation of hardy Ferns. Under cover of a projecting roof, large blocks of sandstone are set up against a north wall, with spaces for soil. In this hardy fernery most of the British species with their varieties, and several North American species, are successfully cultivated. Some of the sandstone blocks have numerous apertures, about 2 inches in diameter, hollowed out, in which patches of Arenaria balearica are grown for the purpose of draping the stones. In the damper portion of the fernery, the stones are covered with various Liverworts.

Of late years several interesting features have been added to the garden. In 1887, Mr. Jenner, to utilise a piece of ground left vacant because unfit for ordinary garden purposes, conceived the idea of converting it into an Iris garden. The ground was wet and clayey, and in digging out the clay, water was found at a depth of 2 feet. Good loam and peat soil having been substituted, the ground was laid out in square beds, with gravel walks intersecting them, the edges of the beds being formed by chips of granite set on end. Some of the best varieties of Iris

Kæmpferi were imported from Japan, with which the larger beds were filled. As many of the other species as could be obtained were planted separately, along with the best varieties of Montbretia. The Japanese Irises proved to be magnificent varieties, with enormously large blossoms, both single and double flowers, in various shades of colour. At the edges of the beds are rows of the early-flowering Siberian Iris reticulata planted thickly, which in spring is very effective. All the plants are now thriving luxuriantly here, and what was little better than a clay-pit, is now one of the most interesting features of Easter Duddingston garden. In 1889, the "Alpine Levels" were formed. This is an arrangement for growing alpine plants in beds—not as single specimens, but in masses. The beds are thirty-two in number. Each bed measures 9 by 7 feet, and is subdivided into four parts, to contain individually one species in mass, and as their flowering periods vary, the plants are so arranged that the interest is kept up throughout the year. The subdivision of the large beds into four is effected by longitudinal and transverse rows of an exceedingly dwarf-growing Juniper—Juniperus communis hibernica compressa. Several specimens of this, planted in the original rock garden thirty-two years ago, are at present only 2 feet in height, and are compact, symmetrical, handsome bushes, although they have never been cut or pruned. The large beds are edged with stone, and a gravel path runs round each. Numerous bulbs are planted on both sides of the stone margins, including Snowdrops, Snowflakes, Winter Aconite, Crocuses, and Anemones, which in spring are a beautiful sight. The beds themselves are filled with Gentians, Primulas, Aubrietias, Saxifrages, Sedums, Dianthuses, Silenes, Lithospermums, dwarf Phloxes, &c., which produce masses of colour at different seasons of the year, rivalling the effects by tender bedding plants, besides being permanent and most interesting at all seasons.

Another important feature was added in 1889, viz, "The Climber Garden." This has proved an entire success. It consists of fifty circular beds, each 3 feet in diameter. A good stout Spruce Fir, about 15 feet high, is placed in the centre of each bed, round which the climbers cling for support, the remainder of the ground being taken up by gravel paths. No grass is used, in order that the climbers may be examined without getting the feet wet. Among the climbers are various kinds of Clematis, Jasmines, Roses, Aristolochia Sipho, Actinidia Kolomikta, Periploca græca, Mutisia decurrens, Tropæolum tuberosum, T. speciosum, Wistaria sinensis, Lathyrus latifolius, Hop, Virginian Creeper, &c. But none is more effective than the new climbing Rose, Crimson Rambler. The history of this Rose is intimately connected with Easter Duddingston garden, and affords one of the many instances of Mr. Jenner's characteristic generosity. In 1878, Mr. Jenner received a consignment of plants from Japan, which he had commissioned Professor R. Smith, at that time Professor of Engineering at Tokio, to obtain for him. Among the plants thus received was this splendid Rose, which Mr. Jenner named "The Engineer," in compliment to Professor Smith. The Rose, which proved to be a new variety of Rosa polyantha, was much admired, and Mr. Jenner, wishing to spread such a good plant abroad, and at the same time help a deserving man, presented, in 1889, the whole stock to Mr. John Gilbert, a small nurseryman at Lincoln, in whom he was interested. Mr. Gilbert, in the following year, exhibited cut flowers of "The Engineer" at a meeting of the Royal Horticultural Society of London, when it was unanimously awarded a Certificate of Merit, but as he had not the means of placing the plant properly on the market, he obtained Mr. Jenner's permission to dispose of the stock to Mr. Charles Turner, Royal Nurseries, Slough. Turner changed its name to that of "Crimson Rambler," and it soon became famous in this country and in France. So recently as May last, the gold medal of the National Horticultural Society of France was awarded to it as the best new plant exhibited.

The garden at Easter Duddingston is specially rich in rare trees and shrubs. The late Mr. Gorrie had a free hand to purchase every hardy plant of interest when the garden was in course of formation, and no one know better than he where such were to be obtained; consequently, many of the rarest trees and shrubs in cultivation are to be met with here, such as Fagus Cunninghamii, over 12 feet high; Quercus Fordii, 20 feet; Plagianthus betulinus (the Ribbon Tree of New Zealand), over 20 feet high, &c., the latter interesting as having been planted by Sir William Jenner in 1879, during a visit to his brother at Easter Duddingston. Dwarf-growing and pendulous varieties of trees are here very numerous, and nearly all the hardy species of Rhododendron are represented, besides Maples, Oaks, Hollies, Conifers, &c., in great variety. The entire collection of species and varieties of plants in the garden exceeds 4000.

Mr. Jenner could never be persuaded to take much interest in "indoor" plants. The taste for rare Orchids and tender bedding-plants he denounced, and would have none of them while there existed so many beautiful plants capable of withstanding our climate. The climate of Midlothian he held to be nearly perfect. *Proceedings of the Edinburgh Botanical Society.*

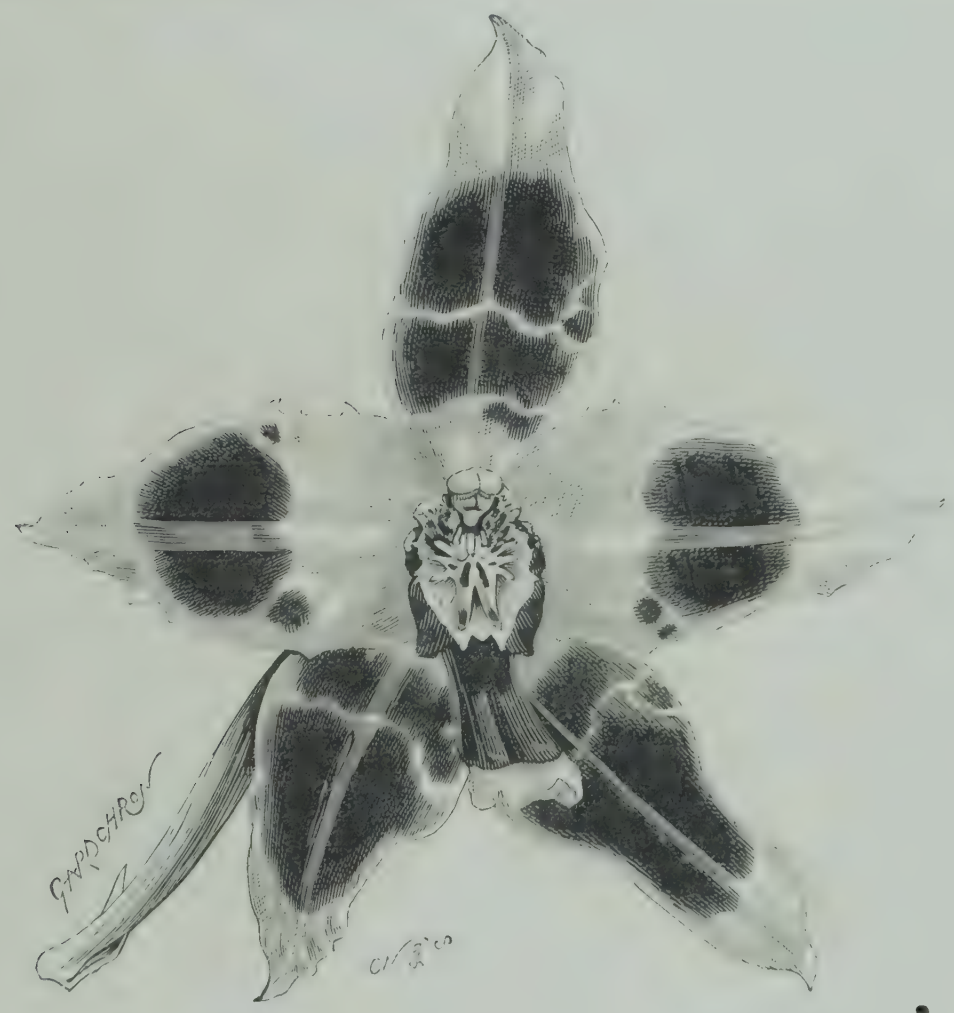


Fig. 36.—Odontoglossum crispum var. mirabile. (see p. 248)

A TRAVELLER'S NOTES.

(*Continued from p.* 217.)

Geelong.—The port of Geelong possesses a public park of 180 acres, a small portion of which is reserved for a garden, the whole being under the direction of Mr. Raddenberg. Within its limits is one of the largest, if not the largest, shade-house in the colony of Victoria—a long structure, 60 feet wide, with a central dome of the same height. Climbers grow with great luxuriance, one side of the dome offering support for a trailing curtain of Tecoma Mackeni, Tacsonia Van Volxemi, and others, to within 5 feet of its summit — a remarkable sight.

Within are many Tree Ferns, Palms, &c.; Alsophila Cooperi, from New South Wales; A. robusta, Cibotium magnificum, Musa Cavendishii, Jubæa spectabilis, 18 feet in height; Chamærops species, Areca sapida, with leaves 9 to 10 feet long. An irregular mass of fantastic rockery occupies the centre of a circular tank lying immediately beneath the dome; it is entirely devoted to Water Lilies. In the adjacent borders, Bambusa nigra, 15 feet; Kentia Forsterians, equally tall; Todea barbara, Ptychosperma Alexandræ, noted as so fine in the Queensland bush; Alsophila excelsa, and many others, are doing well. To all of these such Ferns as Woodwardia radicans, Asplenium bulbiferum, Pteris tremula, Nephrolepis exaltata, Asplenium obtusilobum, Blechnum brasiliense, Adiantum glaucophyllum, and other well-known species, offer suitable undergrowth. Ivies cling to the supporting pillars, Madeirensis and Rœgneriana being particularly fine.

At the end of the house is a rockery, of so curious a formation as to merit detailed description. Along the shore at Geelong may be found in great quantities, and of unknown age, hollow, root-like conglomerates of sand, lime, &c. In the district, various Melaleucas are common, more especially M. acuminata, and round the roots of such the sand, lime, salt, &c., have gradually accumulated, until, assisted by the action of the water, the root has become entirely encrusted to the thickness of an inch. The root decays, the result being a hollow tube of some thickness and great solidity, the exterior form being faithfully true to the shape of a Ti-tree (Melaleuca) root.

Such concretions are freely employed in front of the rockery in question, and in some instances are surrounded by crystals dug from clay. At one time the latter were employed in the manufacture of plaster of Paris, but I am led to understand, they proved unremunerative. Viewing the rockery for the first time, and previous to any explanation, I was inclined to think the intricate open network on its face consisted of petrified roots—a belief easily tenable until the hollowness of the conglomerates is shown, and the foregoing explanation offered. In its fissures, crevices, and recesses, Ferns have been liberally distributed, needing but time to greatly improve the effect of the whole.

In the general borders of the garden Cantua dependens may be noted as doing well, Swainsona Osborni in flower, Romneya Coulteri, a tall, straggling bush seeding; Arbutus canariensis fruiting, Doryanthes Palmeri with foliage 8 feet long, Grevillea Hilliana, and Castanospermum australe, from Queensland, often met with in Australian gardens. Roses and Chrysanthemums, the latter occupying

a fine border over 100 yards in length, do exceedingly well, the edging of double white violet growing with unwonted luxuriance. Choisya ternata, Syringas and Tree Pæonies, Bouvardias, Cannas, Salvias, &c., all help to make the place gay with flower. Pomegranates form perfect trees, and within a few feet of the shade-house is as large a Jacaranda mimosæfolia as I have met with in the colony. In the glass-houses the collection of Orchids and Pitcher-plants is in excellent trim.

Geelong is on sea-level, yet the success attending the cultivation of some plants might lead one to suppose its site lay at an elevation; in all probability, however, the sea breezes, and the openness of its situation, account for the mildness of the climate compared with that of other portions of Victoria. *James H. Veitch.*

(To be continued.)

TREES AND SHRUBS.

CLETHRA ALNIFOLIA.

How seldom do we see this Alder-leaved Clethra growing in the ordinary shrubbery! It is one of those free-flowering, dwarf-growing shrubs that occupies little space, and still gives us such a wealth of bloom that one wonders why it is not more frequently seen. The dull or ivory-white spicate racemes of blossom emit a pleasant perfume, and are produced from July to September. I have two plants of it growing at the front of the shrubbery, which have occupied their present position for the last ten years, flowering freely every year, and now they do not interfere at all with their near neighbours, their habit of growth being quite upright.

Where the soil includes either clay or chalk, it would be useless to plant Clethras, as they abominate both of these. A sandy peat or loam is more suitable; and in our case, as the soil includes both clay and chalk, I had to dig out a good-sized hole, breaking up the bottom thoroughly, to admit of a free percolation of water during heavy rains, and to fill in the space with peat, leaves, and decayed vegetable refuse. Since this was done, we have had abundance of highly-prized blossoms. *E. M.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

MASDEVALLIAS.—In a representative collection of these plants, there are some of the species or hybrids in bloom at all seasons, and no plant in the whole collection excites so much curiosity and interest at the present time as M. mucosa, the extraordinary sensitiveness of its labellum being its principal attraction. Upon the slightest touch, at first slowly, then suddenly, it closes itself upwards to the column, where it remains fixed for about half an hour, and then descends. Other dwarf-growing species, such as M. Armini, M. caudata, Shuttleworthii, M. picturata, M. Estradæ, M. Wagnerii, M. melanopus, M. floribunda, M. ionocharis, M. hieroglyphica, M. tridactylites, all form lovely objects when well flowered. Owing to their compact habit of growth, these and similar species are often suspended close to the roof-glass, in order to bring them as near to the light as possible, but thus situated, they are often injured by drought, and by lack of sufficient atmospheric moisture, which is one of their most essential requirements. During the past eighteen months we have placed all these species in a light position on the stage, and they have unquestionably succeeded better in that position. Contrasting greatly in size of flower with those already mentioned, are M. elephanticeps, M. Gargantua, M. Ephippium, M. macrura, M. peristeria, M. coriacea, &c, which are grown principally for the singularity and quaintness of their flowers. Those species that are characterised by great brilliance and depth of colour, viz. M. Veitchiana, M. ignea, M. amabilis, M. coccinea, and the many beautiful and distinct varieties of the Harryana type, are all of robust growth, and very floriferous. Other distinct species well deserving of mention are the yellow-flowered M. Davisii, and the pure white M. tovarensis. Plants of M. Davisii and M. Veitchiana not unfrequently send up solitary spikes during the winter months; these are best pinched out when perceptible, so as to give the plants more energy to grow and flower in their proper season. Masdevallias have received considerable attention from hybridists during the past few years, and they have succeeded in producing several attractive and interesting hybrids, such as M. Courtauldiana, M. Hincksiana, M. Gairiana, M. Geleniana, M. Stella, M. glaphyrantha, M. Chelsoni, &c. Masdevallias succeed best in a comparatively cool temperature; doing well with the New Grenadan Odontoglossums during the summer months, but if through the winter they can conveniently be afforded a few degrees more warmth than the Odontoglossums require, it will be to their advantage. One of the causes of black markings and spotting on the foliage is their being supplied with too much water, and kept in too moist an atmosphere, especially through the autumn and winter, at which time every care should be taken to water only those that really require it; and at no other period must they be kept long together in a saturated condition at the root. The best months for repotting are about the end of August and February. I prefer the present time, because it is now that they make the greatest number of roots, and the cool moist weather during the autumn is favourable to speedy re-establishment. Healthy specimens that are needed for exhibition purposes next season should not be unnecessarily disturbed at this season, as by so doing they may fail to bloom satisfactorily when required; in some cases, where the compost has become sour and stagnant, it may be carefully picked out and replaced with fresh. Any large masses which have become bare in the centre may be divided and made up anew. Previous to repotting, it is important that water should be withheld from the plants for a few days, for the drier the roots are, the less liable are they to be injured. Masdevallias are vigorous-rooting plants, and require a good amount of space. The pots should be two-thirds filled with drainage, and peat, and sphagnum moss in equal proportion, with a handful of crocks added for the roots to ramble amongst. In potting, keep the base of the plant on a level with the rim of the pot, and place the divided pieces closely together in the centre, thus making a nice compact specimen. Carefully work the compost between the roots; pot moderately firmly. Do not afford much water until the roots have had time to get a firm hold, or both they and the leaves will quickly decay. M. tovarensis should not be potted now, unless the plants are in a really bad condition at the root. Plants of the Chimæra section may be afforded fresh material during September.

OTHER GENERA.—Other plants that do well under the cultural treatment suitable for Masdevallias are the Pleurothallis, several of which are well worth growing on account of the singular beauty and curious structure of their flowers, viz., P. Roezlii, P. picta, P. ornata, P. punctulata, P. Barberiana (macropleparis), M. rhombipetala, &c., also the many different kinds of Restrepia, Octomeria, Stelis, Aërides japonicum, Angræcum falcatum, Sarcochilus Fitzgeraldii, Calanthe natalensis, and various Oncidiums of the macranthum and crispum types.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

APRICOTS.—Trees from which the fruits have been gathered should have all the foreright pruned back to three or four leaves, and those which were left to fill vacant spaces should be secured to the wall. No fruit trees suffer more from winter pruning than the Apricot, and if the above work be done now, only the removal of dead spurs will be necessary at the winter training.

STRAWBERRIES.—Elton Pine and other varieties which are late in producing runners, and were layered about the time I advised in a former calendar, should now have made sufficient roots to be planted out, and as the crop to be obtained from the plants next season depends upon the growth which they make this autumn, the planting should no longer be delayed. Keep runners removed from all plantations, and destroy weeds by hoeing when the weather is favourable for the work.

EARLY DESSERT APPLES.—Very careful judgment will be necessary in the gathering of the earlier varieties of these now beginning to ripen. Avoid undue haste in the gathering of such as Worcester Pearmain, Kerry Pippin, &c., and leave them until the fruits part easily from the trees when raised to a horizontal position. The fruit will be of special value for supplying dessert from the middle of the present month (September) until the middle of October, and till then there are few other varieties of first-rate quality obtainable. Of earlier varieties in season now until the middle of the month, there is greater choice in Irish Peach, Quarrenden, Duchess of Gloucester, Strawberry Apple, and the newer Beauty of Bath, Lady Sudeley, Cardinal, &c. Trees of these should be looked over regularly, to gather any fruits which have ripened; and if a good bed of some soft material be placed under the trees to prevent any fruit that may fall from being badly bruised, these can be utilised for present use. Grass mown from the orchard, which has not been allowed to ripen seed, is the most suitable material for the purpose, and should be placed under any other trees where the fruit has begun to drop.

PEACHES AND NECTARINES.—Earwigs are quite a plague in many gardens this season, and as these insects are especially partial to Peaches and Nectarines, look over the trees at night with a light, and where any earwigs are seen, or immediately any fruits are found to be punctured, pieces of bean-stalks, about 6 inches long, should be placed about in the trees to trap them. The bean-stalks must be examined every morning, taking a vessel in which to blow the earwigs out of them. They generally attack the fruits at the top, and it is astonishing how quickly they will spoil a number of fruits if left unchecked. Woodlice are often troublesome among these fruits, and where this is the case, directly the syringing is discontinued small bunches of dry moss should be placed in the trees, and some on the border at the base of the wall, which if collected every morning, and thrown into a vessel of scalding water, will soon lessen their numbers.

DAMSONS.—Trees bearing heavy crops of fruit may be afforded a good watering with liquid-manure from the stable or farmyard. If the land is known to be thoroughly moistened by the late copious rains, and the liquid-manure is not very strong, then it may be given undiluted; but if the position in which the trees are growing is known to be dry, then the manure should be well diluted with pond-water where practicable. Trees of the Farleigh Prolific, still carrying too heavy a crop, should be still further thinned, and the quality of the fruit will be improved.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

ONIONS in early districts may now be taken up, but in later districts, where the tops are by any means green, and the roots are firmly fixed in the soil, they should be left a week or ten days longer, as the bulbs are still swelling. It sometimes happens that a portion of the crop is fit to pull before the whole, and in such a case it is not well, especially in a damp season, to allow them to remain in the soil until all are ready; but the ripe ones should be pulled up and laid on a walk with their roots uppermost, turning them now and then. When the roots are dried or shrivelled up, take the bulbs to a cool airy room or shed, where they can be laid out thinly, and occasionally turned in order to complete the ripening process. As soon as the ground has been cleared of the bulbs, have it hoed over, and all the refuse from the crop and tainted bulbs carefully raked off and burned. This is the more needed if maggot or Peronospora have been present.

POTATOS.—Second early kinds will now be ripe enough for lifting, which should be done, if possible, on a fine day, lifting them in the early part of the day, so that they may become dry before they are picked up in the afternoon. Care should be taken not to bruise them by rough usage. If this part of the crop is to be used forthwith, they should be stored in the buildings where they may be laid out thinly on the floor for a few days, to allow the moisture to escape, but direct light should be intercepted or they will be liable to become green. When quite dry store them in quantity in a dark place. Secure a good sample of seed, and mature them in an open shed before storing the others.

SPINACH.—Make a further sowing, even if the previous ones are promising well. Plants from seeds sown at this time will not be so fine or sappy in growth as the others, but will better withstand severe weather, and will probably furnish a

good supply when previous sowings are injured by frost. Thin out earlier sowings, and keep the hoe amongst them.

CELERY.—Before finally earthing up the earliest plantings, examine the soil at the bottom of the trenches, to ascertain the amount of moisture there. For although the weather has been showery, there has not been a heavy fall of rain (at least, in this district), and a plant that takes water so freely is apt to become dry at the root at any time. A soaking of liquid manure should now be afforded, in order to feed up and finish off the plants, and a dusting of soot should be applied, in order to ward off the attacks of slugs and snails. Keep the leaf-stalks straight and well together, but not unduly pressed, so as to impede the growth within. Prepare later plantings for the first application of soil, by the removal of weeds, outer leaves and suckers, affording them some fertilizer, or if dry, a watering with liquid manure.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PEACHES AND NECTARINES.—The trees carrying late crops in orchard-houses and cool peacheries must not be allowed to lack water at the roots or to be overrun by red-spider. The best means to keep this pest in check is by frequent syringing till the fruit colours. After the fruit is gathered afford good root-waterings, and clean the trees. Thin out the crowding shoots, and afford air freely so that the wood may ripen, but keep the foliage on the trees to the latest possible period.

FIG-TREES IN POTS.—The second crop being gathered from the earlier-forced trees, these should have plenty of water afforded them, and be syringed twice a day. Manure-water may be freely supplied to trees in late bearing, and so long as the water does not remain long on the surface of the soil there is not much danger from excess, but care must be taken when using soot-water that it is quite clear, or injury will soon be done. Thin out fruits where crowded. With proper attention paid to root-watering and the stopping of shoots, good Figs may be obtained till the beginning of November.

MELONS.—All late fruits should now be growing freely, the plants being assisted by a good watering about once a week. Keep the growths thinned out at short intervals, and do not overcrop the plants. Melons growing in pots or tubs will need to be top-dressed with fresh horse-dung, and such as are growing in dung-heated pits should have top and bottom warmth kept up by means of fresh linings, covering the glass at night with mats. In these structures the fruits should be raised from the soil by placing a brick or tile under each. If black, white, or green aphis are troublesome, damp the foliage with quassia-water.

STRAWBERRIES IN POTS.—These will now be filling the pots with roots, which should not be allowed to penetrate the coal-ashes on which the pots are standing. Keep the plants free from weeds and runners. See that they do not get dry at the roots, or become too crowded for the proper development of the foliage. If the crowns are weakly, afford manure water, or sprinkle the soil with artificial manure. All late varieties should be potted without further delay.

CUCUMBERS.—Plants in good bearing will need frequent applications of liquid manure, and of top-dressings of decayed manure, new growths being encouraged that the plants be not too heavily cropped. Syringe the plants twice daily, keeping a temperature of about 70° by night. For Cucumbers growing in frames, the directions given for Melons will equally apply, but observing to shade them from bright sunshine.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HERBACEOUS BORDERS.—Owing to the continued wet weather, all growth is very luxuriant, and weeds will abound. Many of the plants should be looked over, and the old flower-spikes cut off. Centaurea montana and C. montana alba require not only the old flower-spikes to be removed, but also any old or unsightly foliage, which will afford light and space necessary for the young growths to come away. Lupins, Aconitums, Delphiniums, and some of the Veronicas, will also need attention. Iris or Narcissus foliage which has now become unsightly, may be removed, and any attention which will help to make the border neat in appearance should be afforded.

PROPAGATION.—Cuttings of Petunias should be taken at once, and inserted in 6-inch pots, which should be well drained and filled with light sandy soil, with a surfacing of silver-sand. The cuttings should be watered as soon as put in, and stood in a close frame, shading them carefully from bright sunshine. Cuttings of Tropæolum Ball of Fire, Mrs. Clibran, &c., should also be taken, and treated similarly.

PINKS.—Pipings of these, if layered as advised, will be well rooted, and ready for planting out in lines or beds as may be desirable. Prepare the ground by giving it a dressing of spent Mushroom-bed dung and a sprinkling of soot.

SEED SOWING.—Sow seeds of any bulbous-rooted flowering plants, such as Narcissus, Tulips, Hyacinths, Crown Imperials, Fritillarias, Crocuses, or others. Boxes or pans, filled to within about an inch of the top with fine light soil, will be found handiest for this purpose. Make the surface even, then sow the seeds thereon moderately thickly, covering them with finely-sifted soil. A shady part of the garden will suit them till the end of September, and if the weather should be dry, an occasional gentle watering may be required. Anemone, Ranunculus, and hardy Cyclamen seed may be treated in the same way as the above for the present. Auricula seed may also be sown in boxes, and it will come up stronger in the spring than seed sown then.

AURICULA PLANTS.—Auriculas in pots will need repotting. Prepare a quantity of fresh light compost, consisting of good loam broken up into small pieces, leaf-soil, dried cow-manure, silver-sand, and charcoal. Pick off all decayed leaves, and at same time carefully detach offsets; turn the plants out, and remove the crocks, and if the roots are in good condition and healthy, do not disturb them much, but just trim off the loose ones; but should they be unhealthy, remove nearly or quite all the soil, trim the roots, and pot in new soil, giving them, if desirable, a smaller pot. Place them in a shady place, and water moderately till re-established. The offsets may be planted on borders or in boxes for future use.

THE APIARY.

By Expert.

The time has again arrived for feeding-up stocks for the winter. It is well to commence at once so that the bees may be aided by warm weather in storing and sealing over the food that is afforded them. Prior to feeding, all colonies should be examined, choosing the evening for this purpose, and the amount of food that is required should be noted. A standard frame when full will hold about 4 lb., and each stock should have 25 lb. of stores, to last until the spring. Autumn food is given in the form of a thick syrup, which is made by boiling for a few minutes 10 lb. of of the best white lump sugar to 5 pints of water, and adding 1 ounce of vinegar and ½ ounce of salt. Any stock short of 20 lb. of food must be fed until this weight is made up, and for this purpose a rapid feeder must be used. This may take the form of a 2-lb. glass jar covered with muslin and inverted over a piece of perforated zinc, which the bees will empty very quickly, or it may be found better to use one of the many autumn feeders that may be purchased. In feeding, great care should be taken not to spill any of the syrup, or leave any feeders exposed, as if robbing is once fairly started, the whole apiary will be in an uproar, and stocks, especially weak ones, will very likely be cleared out or made useless. One of the greatest precautions that can be taken is to feed all the stocks at the same time, as then all the bees are occupied at once and robbing is not thought of. In any case it is better to give the syrup after dark, as the act of feeding always causes much excitement. This will then have subsided before the next morning, and strange bees are not so likely to be attracted to the hive. It is a great help to the bees to give the syrup warm, say at a temperature of about 90°, as they will then be enabled to store it more quickly.

UNITING WEAK STOCKS.—Any stocks that are weak, or are nuclei, should be joined up, saving the youngest queen, and the evening is the proper time to do this. Dusting each lot with flour is a safe mode of procedure, after which the frames can be alternated with little, if any, fear of fighting taking place.

DRIVEN BEES.—Colonies may now be formed by obtaining condemned bees from cottagers and others, or they may be purchased at about 1*s.* 3*d.* per pound. Five pounds of bees placed on stored combs will make a good stock for next season, but if the bees have to draw out foundation and store syrup, two or three pounds more will be required.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

TEMPERATURES.—In many of the structures where fire-heat has been temporarily dispensed with it will be necessary to again employ a little, as in wet weather the houses are sure to become overcharged with moisture. In greenhouses and conservatories a slight amount of heat in the pipes after the morning watering will assist in drying up the superabundant moisture, and should, in the case of the former, be turned off in about an hour; but in the conservatory, if the day promises to be dull, then a little heat may be left if abundance of ventilation be afforded. The warmer houses, in which fire-heat has recently been used at nights only, will, unless the day gives promise of being sunny, require a steady flow in the hot-water pipes all day, the fires being kept well in hand, so that the required amount of fire-heat may be readily commanded. A less free use of the syringe and water-pot will be advisable. The mixed plant-stove should be afforded a night temperature of 75°, rising to 85° by day; while Ixora, Gardenia, and Caladium houses should have a slightly higher figure.

CINERARIAS.—Repot those growing in 60's into their flowering pots, viz, 5½ and 6-inch pots; use a compost of fibry loam two parts, one of leaf-soil, and half a part of sand and horse-droppings, the whole to be passed through a ¾-inch sieve. Press the soil firmly in potting, and put the plants into a frame having a northern aspect, where they will obtain shade from bright sunshine. A few pieces of charcoal should be added when potting plants of the double-flowered section, so as to keep the soil open, these varieties having to remain in the pots for a much longer time.

PELARGONIUMS.—On p. 41 directions were given to strike these, and they should now be sufficiently advanced to admit of their being advantageously shifted into 5-inch and 5½-inch pots. Use rich fibry loam chiefly, adding horse-droppings, equal to a fourth of the whole bulk, together with a fair amount of sand. Press the soil firmly, as these plants revel in a firm compost, and put the plants in a cold frame, or on benches. Water very sparingly until active growth sets in, but frequently moisten the foliage.

HERBACEOUS CALCEOLARIAS.—Pot off seedlings into thumb-pots, using peat, loam, and sand, in equal parts, which should be passed through a ¼-inch sieve, water through a fine rose, and stand the pots in a shady quarter. Examine carefully the young stock, and if greenfly should be found to have established itself, it can easily be removed by dipping the leaves in a solution of soft-soap and water, taking care to have a sufficiently strong solution to destroy the aphis without injuring the foliage.

CAMPANULA PYRAMIDALIS.—Seedlings may now be pricked-off into pans or boxes in a similar compost as that recommended for Calceolarias, treating them in like manner.

GENERAL WORK.—Pot on the main batch of Poinsettias, using 5-inch pots, and a loamy soil, with abundance of silver-sand, and a pinch of soot. The earlier plants, having now well filled their pots with roots, should have a regular course of stimulants afforded them, such as farmyard drainings, soot-water, &c. Pot Hyacinths, Tulips, Liliums, &c., for succession. The two former will be benefited by a slight addition of horse-droppings to the potting compost, while sound loam and sand will be an efficient and safe material in which to pot Liliums, a few pieces of charcoal and lime-rubble being added if loam of a retentive nature be used. Put in cuttings of all the good varieties of Fuchsias, which, if grown on throughout the winter, will make nice plants by the early summer. The steady growth formed during the winter months is especially conducive to free flowering.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Plants, Fruits, &c., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

TUESDAY,	SEPT. 4	National Chrysanthemum, Exhibition of Dahlias, Gladioli, and early Chrysanthemums at the Royal Aquarium.
WEDNESDAY,	SEPT. 5	—York Florists' Autumn Exhibition.
FRIDAY,	SEPT. 7	National Dahlia Society at the Crystal Palace (two days). Royal Horticultural Society of Aberdeen (two days).

SALES.

MONDAY,	SEPT. 3	Dutch Bulbs at Protheroe & Morris' Rooms.
TUESDAY,	SEPT. 4	Dutch Bulbs at Protheroe & Morris' Rooms.
WEDNESDAY,	SEPT. 5	Dutch Bulbs at Protheroe & Morris' Rooms.
THURSDAY,	SEPT. 6	Dutch Bulbs at Protheroe & Morris' Rooms. Trade Sale of Stove and Greenhouse Plants at Whiteley's Nurseries, Hillingdon Heath, Uxbridge, by Protheroe & Morris.
FRIDAY,	SEPT. 7	Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—59°·4.

The Weather of 1893.

LAST year was an *annus mirabilis* in regard to weather. We experienced some advantages from it in the way in which the wood was ripened last autumn, and the consequent manner in which many of our trees and shrubs flowered this spring. These advantages would have been even more marked but for the cruel frosts of last May. These circumstances will suffice to keep in our recollection for a short time the extraordinary season of 1893—but only for a short time. Other climatal conditions arise, and the ever-present pressure of current duties banishes from our recollection even the circumstances of so extraordinary a year as 1893, unless, indeed, some special incident occurs to revive our waning memories. It is clearly, then, most important that an accurate record be kept for reference and comparison hereafter. Such a general record we have in the presidential address of the Rev. Canon ELLACOMBE to the Bath Natural History Society.

Mr. ELLACOMBE briefly mentions the climatal features of the spring and summer of 1893, as observed in his richly-stocked garden at Bitton. The results were not all good. Newly-planted things did badly; sickly plants, struggling for existence, gave up the contest; weeds (especially, we suspect, perennial ones with thick, deep roots) flourished exceedingly; Lilies did badly, but Roses flowered profusely and continuously. Other plants which rarely produce flowers responded in 1893 to the unwonted stimulus, and delighted the heart of the gardener with their flowers. Amongst them are mentioned Eulalia zebrina, Asparagus verticillatus, Hibiscus grandiflorus, Tecoma grandiflora. Citrus trifoliata yielded fruit, as did also the Catalpa, Cassia marylandica, Phygelius capensis, Caryopteris Mastacanthus, Aralia spinosa, Magnolia Lennei, Xanthoceras sorbifolia, and others. On the other hand, Holly berries were scarce, the Diospyros did not fruit, nor the Paliurus. The autumnal tints of the foliage were, with some exceptions, intensely beautiful.

Respecting the interesting Mandragora autumnalis, the Canon tells us he has a fine plant of this species, which, when he first had it, flowered in autumn, as in its native locality; but which gradually altered its time of flowering, so that for several years past it has always flowered in spring. But in 1893 it flowered through October and November, the heat it received being sufficient to enable it to do so. A circumstance probably attributable to the same cause is the flowering of Bulbine annua. Some twenty years ago, Mr. ELLACOMBE tells us, he cultivated the plant, but he had lost sight of it for many years, till in 1893 it made its appearance in abundance in the garden. A like appearance was witnessed in the Isle of Wight.

The effect on the ripening of fruit was last year very noteworthy; things ripened out of season, and kept badly. These and similar topics form the subject of the Canon's address, to which we cannot resist adding one illustration that is not strictly horticultural. The summer of 1893 was, says he, a great delight to the healthy and strong; it was an untold delight to the weakly and invalid, and in many cases a prolonging of life, and even a renewal of strength. In support of this statement, it is mentioned that out of a population of 1200 there were only three deaths in the course of thirteen months.

Whilst Canon ELLACOMBE, as befitted the occasion on which he spoke, and as suited his purpose, dealt with generalities, Mr. EDWARD MAWLEY, the joint Secretary to the National Rose Society, proceeded more systematically, and acquired information from over a hundred stations in the British Isles. He has summarised the results in his "Report of the Phenological Observations for 1893," published in the quarterly *Journal of the Royal Meteorological Society* for April of the present year.

Mr. MAWLEY gives a brief account of the winter of 1892-3, and then proceeds to the consideration of the spring, which "proved by far the most remarkable season of this remarkable year." The mean temperature was considerably above average, the rainfall much in defect, the aggregate duration of sunshine much above average. Thus stimulated, vegetation made rapid progress, and largely anticipated its usual season. The drought of eighteen weeks from the beginning of March to the end of the first week in July caused the hay crop to be one of the lightest on record, and the pastures were so burnt that in some places the cattle and the sheep were turned into the growing corn. Harvest was soon over, and not only was it early, but little time was needed for its in-gathering, so small was it, though the quality of the grain was good. In the second week of August a second period of drought set in, which lasted for about seven weeks, to the great injury of the vegetation, and affording a striking contrast to the state of affairs in the present season. Another contrast is afforded by the fruit crops. This year, as the reports in our columns amply show, the Apple crop is practically non-existent in most places; the Pear crop is very large everywhere, and Filberts and Nuts unusually abundant. Strawberries were a complete failure, whilst other crops presented no very striking peculiarity. In 1893, on the other hand, Apples yielded an average crop, Pears a poor one, and Plums (this year scarce), were then abundant.

The year 1893 was, therefore, one of the worst agricultural years ever known throughout fully two-thirds of England; whereas in Scotland the crops of all kinds, with the exception of hay, have seldom been more abundant. The farmers have still to learn what is to be their fortune this year. It is to be feared that the all-too-copious rains of the last few weeks must have been very prejudicial; but, at any rate, there is abundance of hay, and the fruit crop, barring the deficiency of Apples, is not so bad as it might be.

It is noteworthy that the Apple is generally considered the hardiest of fruit trees. This year the Pears had managed to set their fruit before the frost came, whilst the Apples were caught when in full flower, or but shortly after. In estimating degrees of hardihood, time and condition must therefore be taken into account.

Gardeners and their Employers.

NOT unfrequently we hear it said that the Royal Horticultural Society does not do what it might for the rank and file of the gardening community—for the gardeners proper, and there is, doubtless, a certain amount of truth in the allegation. Still, the fault, as we have pointed out, is mainly with the gardeners themselves, who do not avail themselves of the opportunities that are open to them. A signal instance of this was afforded on Tuesday last at the Royal Horticultural Society, when Mr. MALCOLM DUNN, one of our leading gardeners—looked up to and respected by all who know him—took up the subject of gardeners and their employers. Though several gardeners were present whose experience would have been valuable, and whose advice would have been gratefully considered, there was hardly one who opened his mouth on the occasion, beyond proposing a vote of thanks to the lecturer. We were pleased, however, that so many members of the Council attended on this occasion, as it is a sorry compliment to invite a distinguished gardener from a distance, and then have no member of Council to receive him. As regards discussion on Mr. DUNN'S paper, the opportunity was lost for the time, though, as it will doubtless be printed, there will be still a chance for the gardeners to ventilate their opinions. In the meantime, we may briefly allude to some of the points raised by Mr. DUNN.

The lecturer classed the gardeners as professional gardeners, landscape gardeners, amateurs, public gardeners, market, nursery, and jobbing gardeners. The jobbing gardener was the least enviable of them all, and frequently deserved sympathy where he received censure. There were many good men in this rank who have been private gardeners, but who, owing to the struggle for existence, and many circumstances beyond their control, have been forced to take occasional employment. The class also contains worthless and unskilful men that are not fit to be trusted with anything. Employers should take pains to ascertain who are really qualified men, and who stand in good repute among their brethren, and employ no others.

Employers are often corporate bodies, as in

the case of public parks, botanic gardens, &c.; but in the greater number of cases, gardeners have to serve single employers only.

The greater the amount of first-class produce a gardener can grow the better will be his relations with his employer. Great care should be exercised on the part of employers that they employ none but capable, efficient, and practiced men. All employers are not capable of selecting such a gardener, and, therefore, should seek advise from those competent to give an opinion. When a gardener has been engaged, and the necessary terms on either side have been agreed upon, a written copy of such terms should be in the hands of both parties to the contract. When such a gardener has been properly engaged, and under such conditions it will be his duty to carry out, as far as possible, the wishes and desires of his employer. It is incumbent on the employer to finds the means for doing this, and he may then fairly expect his wishes to be fully realised.

Among no class of men, perhaps, is there a better feeling existing than between gardeners and their employers, but human nature prevents such a state of harmony from being universal. In most cases where the relations are other than they should be, the bad feeling has resulted in the first place, from some little difference that has occurred between the gardener and his master. Neither of them cares to acknowledge his fault, on whichever side it may have been, and matters gradually drift from bad to worse, until all the mutual respect and consideration that should exist on both sides have been lost, only because one of the parties is averse in the first instance to meet the other half-way in settling the first difference. In speaking of some causes of bad feeling, reference was made to the incapacity of the gardener through physical or mental infirmity. No young man, said Mr. Dunn, should be apprenticed to gardening unless he has physical strength, a good education, and a sound, healthy mind.

Another frequent cause of difference is the intervention of a third party. In large, well-ordered places, where the head of each department is assigned his proper position, and allowed to use his own discretion, good feeling is almost invariable. But differences may result from an absurd unwillingness on the part of a gardener to admit the right of the owner to select his plants, &c., and other things. In all cases the owner of a garden has undoubtedly the right to select what varieties of plants he chooses for his garden, and from whatever source he wishes. The gardener may, indeed, suggest, or speak even, of any error he may suspect in his master's judgment, but his duty afterwards is to carry out the wishes of the owner. A good gardener never resents reasonable interference in these matters on the part of the employer. As soon as differences develop into a chronic state of grumbling on the part of the employer, and of equal dissatisfaction on the side of the gardener, the sooner the gardener departs the better.

The complaint generally made that there are too many gardeners to meet the demand, is not peculiar to gardeners. In every trade the cry is made that a plethora of aspirants exist. But if this be so, it is worth while remembering that gardeners have the control of the supply almost entirely in their own hands. Yet these very gardeners, while grumbling incessantly that there are too many men, are at the same time admitting them as fast as is possible without any regard to the future of the profession, and in many cases pay no attention afterwards to their education and instruction, and a year or two later they have to be taught by someone else the things that they should have learnt during their apprenticeship. After all, there are not too many really good and qualified men. Gardeners, when taking apprentices, should exercise the greatest care to select none but those that nature and education have fitted for the work. The miscellaneous positions open to a gardener to fill, such as those of



Fig. 37.—Gloxinias at Mornington Lodge, West Kensington. (see p 254)

stewards, foresters, and many others at home and in the colonies are so many that gardeners have no reason to complain of the opportunities they possessed to acquire a fair share of the spoils of this world. The qualifications of the gardeners were then summarised, but for these and other points we must await the publication of the text of the lecture in the *Journal* of the Society. Mr. Owen Thomas, of the Royal Gardens, Windsor, suggested that much good might be done by forming a guild of gardeners, but this, in the opinion of the chairman (Sir Alexander Arbuthnot), was quite against the liberal character of the age.

Specimen Gloxinias.—Few of our readers would suspect that in fig. 37 is illustrated a group of Gloxinia plants which were grown and flowered in our smoky metropolis, for we have never seen better-grown or better-flowered specimens than were some of the plants in the collection grown by Mr. G. W. Rogers, gardener to Mrs. Nalder, at Mornington Lodge, North End Road, West Kensington, to whose courtesy we are indebted for the photograph. The plants were at their best about the end of June last, and at that time many of the leaves were as much as 10 inches long and 8 inches wide, and in every respect showed an equal amount of luxuriance. Some of the plants produced as many as 200 blossoms, and on one plant there were fifty open or nearly expanded at the same time. The plants were about three years old, and this year flowered in 7 and 8-inch pots. It may be worth recording that the plants were not shaken out each year, as is usual when repotting, and that to this Mr. Rogers attributed the very marked success with which he has been attended for three seasons.

Kew Gardens.—The *Morning Post* of August 25 states that the Board of Works are about to extend the Temperate-house in Kew Gardens, by adding two wings at the north and south ends, which will increase the size of the building by about half its present dimensions. The cost will amount to about £12,000. Among other improvements which are to be carried out is the overhauling and re-arranging of the whole of the heating apparatus in connection with the Palm-house, and the provision of additional piping, which is to be placed round the lantern in the roof. The south wing of the large conservatory, known as No. 4 House, is also in course of reconstruction, to meet modern requirements. This is the final instalment of the work taken in hand in connection with this house three years ago, and completes the re-construction of that conservatory.

National Chrysanthemum Society.—A meeting of the general committee was held at Anderton's Hotel, Fleet Street, E.C., on August 27, Mr. B. Wynne, Vice-Chairman of the committee, in the chair. Mr. H. Briscoe Ironside, who has recently returned to this country from Italy, in thanking the committee for his election on that body, said that while abroad he devoted himself to crossing and seeding some of the finest varieties of Chrysanthemums, and he had brought his seedlings to this country, and hoped to exhibit some of them during the coming season. The Secretary brought up several important amendments to the rules, which were passed subject to being reconsidered previous to being presented to the annual general meeting. An interim financial statement was submitted by the Secretary, and considered highly satisfactory. Fourteen ordinary members and four Fellows were elected. The proceedings closed with the usual vote of thanks to the Chairman.

Kensington Gardens.—We recently noticed in these gardens a bed of Streptocarpus hybrida in different colours, and in the centre was a blue-flowered Campanula which helped largely to make an effective picture. Bambusa Metake was represented by some fine bold clumps, and in a happy position under the shade of some trees was a good patch of Saxifraga umbrosa. Late-flowering varieties of Phlox decussata were in fine masses; Anemone japonica alba also deserve mention.

St. James's Park.—This park at the present time is quite a charming spot, although within such a short distance of the Strand and Charing Cross. The flower-garden includes beds planted with Pelargoniums, Abutilons, and Begonias; also beds of Ficus elastica and Araucaria excelsa, carpeted with Herniaria glabra. These flower-beds are flanked on the west by a group of standard Fuchsias, and on the east by a border of mixed plants consisting of Fuchsias, Calceolarias, Heliotropes, Cannas, &c. Very noticeable too, are some good groups of Fuchsias and Dracænas Draco and lineata in the grass. Further west from this spot is a small dell, where there are some Musa Ensete and standard Fuchsias on the grass.

Agricultural Returns of Great Britain, 1894.—Preliminary statement, compiled from the Returns collected on June 4, 1894, showing the Increase or Decrease on the Returns made for the years 1893 and 1892 respectively:—

A.—1894 *compared with* 1893.

Crops and Live Stock.	1894.	1893.	Increase.	Decrease.	Increase.	Decrease.
	Acres.	Acres.	Acres.	Acres.	per cent	per cent
Wheat ...	1,927,932	1,897,524	30,438	...	1·6	...
Barley ...	2,096,031	2,075,097	20,937	...	1·0	...
Oats	3,253,145	3,171,753	81,389	...	2·6	...
Potatos ...	504,454	527,821	...	23,367	...	4·4
Hay, Clover, & Rotation Grasses ...	2,121,904	2,047,008	74,896	...	3·7	...
Hay, Permanent Pasture	4,852,442	4,270,480	581,962	...	13·6	...
Hops	59 535	57,564	1,971	...	3·4	...

B.—1894 *compared with* 1892.

Wheat ...	1,927,962	2,219,839	...	291877	...	13·1
Barley ...	2,093,034	2,036,810	59,224	...	2 9	...
Oats	3,253,145	2,997 545	255,600	...	8·5	...
Potatos ...	504,454	525,351	...	20,907	...	4 0
Hay, Clover, & Rotation Grasses ...	2,121,904	2,135,362	...	13,458	...	0·6
Hay, Permanent Pasture	4,852,442	4,489,626	362,816	...	8·1	...
Hops	59,535	56,259	3,276	...	5·8	...

Board of Agriculture, August 27, 1894.

Vine Mildew.—M. P. Viala, in 1887, announced the fact that the Oidium or Erysiphe Tuckeri of Europe, the common form of mildew, is a stage of the same plant, which in America is known as Uncinula spiralis, that the one is the "conidial," the other the "perithecial" stage of one and the same fungus. This statement has been confirmed by the presence this year of the Uncinula in France. The appearance of this and other perithecial forms of N. American Erysipheæ in France is attributed to the great heat of 1893—a very interesting fact, accounting for the presence of one stage only of the fungus under ordinary conditions.

Newcastle and District Horticultural Mutual Improvement Society.—The third annual meeting of this Society was held on Wednesday, August 15, in the Wood Memorial Hall, Mr. Murray, Vice-Chairman, presided over a good attendance of members. The Secretary, J. Elliot, read a very favourable report, which was unanimously adopted. In his financial statement for the past year, the Treasurer, Mr. Bullock, stated that the receipts had been £31 17*s.* 3*d.*, and the expenditure £9 8*s.* 8*d.*, leaving a balance of £22 8*s.* 7*d.* The financial affairs of the Society having attained a satisfactory condition, it was decided to at once proceed with the formation of a library. The following officers were elected for the ensuing year:—Norman Cookson, Esq., re-elected President; Thos. Bell, Esq., and Wm. Angus, Esq., Vice-Presidents; Mr. J. Bullock, Chairman; Messrs. A. Heslop and Wm. Murray, Vice-Chairmen; Mr. T. Wilson, Treasurer; Mr. D. Mackie, Gosforth, Librarian; Jno. Elliot, Jesmond Dene, re-elected Secretary; Mr. C. Stead, Jesmond, Assistant-Secretary; and the following gentlemen were elected on the Committee:—Messrs. Anderson, Hood, McDonald, Larke, and Lawson.

Leith Horticultural Society.—The eleventh annual exhibition of this Society was held on Saturday, August 25, in the Public Park, North Leith. The large marquee was well filled with exhibits of plants, fruits, and flowers from gardeners and amateurs, the competition being in most cases keen. About 1000 entries were made.

Peaches on Open Walls.—Both last season and this have given further proof of the results that can be got from Peaches on open walls when their requirements are thoroughly understood. At Ruxley Lodge, Esher, we have recently seen an abundant crop of fine quality fruits of Peaches and of Nectarines, and it may be remarked on an east aspect withal. As several writers have observed in our recent issues, the trees are often insufficiently supplied with water, their requirements when under sunny walls being very great.

"Lord Bury."—The death of the Earl of Albemarle has removed from among us one who was better known by his former title. Horticultural readers will remember that the late Earl presided over the fortunes of the Royal Horticultural Society when it was nearly or quite at its lowest ebb, and the scene of wranglings and confusion now happily past.

Dates in Tunis.—The production of Dates in Tunis during the year 1893 is reported to have considerably exceeded that of 1892, the figures standing thus:—1893, 1,802 tons, valued at £21,360; 1892, 929 tons, valued at £12,923. The species of Dates best known in the market are the Degla, Horra, Poser, and Gaber. The two first-named represent the finer qualities usually exported to Europe, packed, with the fruit attached to the stalk, in small boxes The others enter the native markets throughout North Africa, and amongst them there is a dry Date of a sweet flavour, with a crisp substance of a biscuit, preferred by the Arabs to all others, as they can be kept longer in storage, and are very convenient for long journeys.

Shirley Gardeners' and Amateurs' Mutual Improvement Association.—On the occasion of the monthly meeting of the above at Shirley, Southampton, on Monday, the 20th inst., Mr. B. Ladhams, F.R.H.S. presiding, "Vine Culture and Grape Growing Generally," formed the subject of a very interesting paper read by Mr. W. Mitchell, of Chilworth Manor Gardens. A long discussion followed the reading of the paper, and a hearty vote of thanks was accorded to Mr. Mitchell. The subject for the next meeting will be "Hardy Flowers for the House and Garden," by Mr. Alexander Dean, Lecturer on Horticulture to the Surrey County Council.

Mr. George Monro.—The annual outing of the *employés* of this firm took place on July 28, when a party of nearly sixty accompanied Mr. George Monro to Chingford, where a pleasant afternoon was spent, and the entire party was photographed. At the dinner, the contrast between the time when there was but one *employé* and the present was duly emphasised.

Boletin da Sociedade Broteriana.—This botanical publication, edited by Professor Henriques of Coimbra, contains descriptions of new plants from the Portuguese African possessions, a monograph of the Malvaceæ of Portugal and other articles on the Flora of that country.

Disease in the Silver Fir.—Dr. C. R. Heck has lately published under the title of *Der Weisstannen Krebs* (Berlin: Springer), a full account of the natural history of the "canker" which attacks the

Silver Fir, and which results in the formation of masses of shoots—"witches' brooms," and also of barrel-like swellings in the trunk and branches. The subject is treated in various aspects—morphological, physical, chemical, as well as arboricultural—and is copiously illustrated. The disease is due to an Æcidium, Æ. (Peridermium) elatinum.

ANATOMY OF SELAGINELLA.—To the last number of the *Annals of Botany*, Mr. HARVEY GIBSON, of University College, Liverpool, contributes a paper on the anatomy of the stem of some fifty of the species of this genus. The interest of this group is so great, that any contributions to its elucidation are of value. From Mr. GIBSON's researches it would, however, seem that the anatomy of the stem is of no value as an aid to classification, widely separated species having the same anatomical structure, and closely allied species being often characterised by different anatomical construction. When further progress is made in our knowledge of the anatomy of fossil species, it is probable that an explanation may be forthcoming of these diversities. In the meantime, it is interesting to see how the same results are obtained by different means.

THE EFFECT OF SUBMERSION ON ROOTS.—If the access of oxygen to the roots be prevented the root dies of suffocation; that is an established fact. How, then, is it that Vines survive which are covered with several inches of water for a period of from thirty to sixty consecutive days, as is the case in the south and south-west of France, where submersion to this extent is resorted to, to kill the Phylloxera. M. MUNTZ, in the *Annales Agronomiques* for July, explains that the roots may breathe, that is, obtain the requisite amount of oxygen, at the expense of nitrogen protoxide, which is gradually formed by the reduction of the nitrates in the soil by means of bacteria. But the bacteria are not essential, as it is shown that the roots can obtain directly from the nitrates the oxygen necessary for the respiratory function. Submersion, then, does not produce suffocation all the time there is an abundance of nitrogen available.

THE BURIAL OF ROOTS.—As a general rule, we expect a plant or a tree to die if it is so deeply buried that access of air to its roots is prevented; and yet, every now and then we meet with a tree whose trunk and roots are more or less buried or placed under conditions where little penetration of air is possible, which is nevertheless flourishing. We have had two such trees under observation for many years. The trees ought to have died long ago, according to the text books, but they have not. The explanation may be the same as that given by M. MUNTZ, and alluded to in another paragraph, viz., that the requisite oxygen is furnished by the breaking up of the nitrates by the agency of bacteria or otherwise.

DIE NATÜRLICHEN PFLANZENFAMILIEN.—The 108th number contains an account of the genera of Gesneraceæ, Columelliaceæ and Bignoniaceæ, the two first orders being monographed by Dr. KARL FRITSCH, the last by Dr. K. SCHUMANN.

WEST END COTTAGERS' HORTICULTURAL AND INDUSTRIAL SOCIETY.—The sixth annual show was held on the 15th inst. at Harefield, the residence of EDWIN JONES, Esq., J.P., and was a marked success.

DR. BANCROFT.—We are sorry to see announced the death of Dr. JOSEPH BANCROFT, of Brisbane, an occasional correspondent of this journal, and a medical practitioner of high repute. Amongst other contributions to cultural science, he detected the presence of nematodes in the roots of Musa, investigated the peculiar properties of Duboisia myoporoides, and made numerous experiments with the view of obtaining a variety of Wheat that should be rust-proof. He also was much interested in Grape culture, and raised hybrid Vines suitable to the climate of Queensland.

BARCOMBE AND COOKSBRIDGE HORTICULTURAL.—The annual show was held in Conyboro' Park, near Lewes, by permission of Lord MONK BRETTON. Fruit was good, but vegetables were slightly below the high standard of previous seasons. Cottage gardens, wood-carving, and needlework are features of the show. The show was considered a gratifying success.

UEBERSICHT DES NATÜRLICHEN SYSTEMS DER PFLANZEN.—Dr. PFITZER, Professor of Botany at the University of Heidelberg, has recently published a tabular summary of the natural orders of plants, specially prepared to meet the requirements of beginners and of those who attend botanical lectures. The text is printed upon one side of the page only, so that there is space available for the student's notes and sketches bearing reference to the letterpress. It is published by C. WINTER, of Heidelberg.

HOME CORRESPONDENCE.

IRIS AND LILY DISEASE.—It is pretty clear, I think, that this disease, which, in a greater or less degree, annually attacks both of the genera above-named, has been unusually prevalent this year. It seems also that its effect has been felt over a very large area, and I think it would be well if fuller information were forthcoming in respect to the soil and subsoil of the district where the disease was felt most acutely, and if it be found that the disease is equally bad on very sandy soil as on light loam overlying gravel, or again as on stiff heavy land, where the drainage was much slower, then the question of soils could be disposed of. But, on the contrary, if there are differences at all, we should do well to see what they are, and whether they are of sufficient value to throw any fresh light on the subject. I have read the observations of Dr. Wallace at p. 221 with interest, and I reply to so well-known a cultivator of both these genera somewhat reluctantly, because my own experience of the disease will not permit of my endorsing the view he has taken of the matter. Dr. Wallace observes that his "view of the disease in both cases is that it originates in damage done to the foliage by hail or heavy cold rain, followed by low temperatures and driving cold winds," &c. I would, however, venture to remind Dr. Wallace that this view of the case is scarcely consistent with the fact that the disease in question has only been troublesome within the last decade, and, of course, we had indifferent seasons prior to that time. It is within the period named that the disease first attacked these plants, and before we were aware of it, whole beds of Lilium candidum, so far as their flowers were concerned, were completely ruined. Now, this leads up to what I regard as an important matter, if only it were possible to get an all-round affirmative answer. The first batch of this Lily that were ruined by the disease, in my experience, was part of a large importation, and were planted in ground which had not previously been occupied with Lilies. Can any other large grower of Lilies speak with decision, and with similar experience? If so, it is probable that we imported this disease in the first instance in bulk with the bulbs. For years past L. candidum has been sent into this country in immense quantities, and it must always be remembered that the disease in question attacked our Lilies suddenly and with great force. Once located in our gardens, the disease germs are there for ever, simply awaiting the suitable atmospheric conditions to renew the attack. This particular disease confines itself almost exclusively to L. candidum, though L. testaceum is probably subject to the same disease in a less extent. There is another disease, more like a "spot," which attacks the auratum and speciosum groups, but this has more the appearance of injury from hailstone, inasmuch as the disease for a long time confines itself to the bruised circle, and is very distinct from the candidum disease which virtually ruins the crop in a few days. I have observed on the flower-buds of white varieties of speciosum after a severe hailstorm, small specks scarcely discernible at first, but which naturally develop into a bruise of the size of a seed of Sweet Pea, and according to the severity of the blow it may pierce right through the segment, or only bruise the interior. It is the same too with the foliage, the injury resulting from hailstones develops very gradually, and confines itself very much to the spot struck by the hailstone. And though this does abundant mischief where the flowers are marketed, it is by no means comparable with the ravages or the rapidity of the first-named disease. If I am at all right in assuming that the disease has come to us from abroad, its distribution throughout the British Isles is a very easy matter indeed. But it may be urged that the clumps in cottagers' gardens suffer to some extent, while these have been many years planted in the same spot. Just so; yet there may be imported bulbs in the locality. Judging also from the manner in which the Germanica section of Irises are attacked by this disease, which, as Dr. Wallace rightly observes, is first "manifest in the tips of the leaves," it appears to me rather conclusive that it is not the result of hail. Indeed, it would be difficult for the acutely-pointed "tip" of an Iris leaf to receive much injury in the way suggested. And if the entire leaf be carefully examined, the disease will be found on all sides; and if the injury arises from hail or rain, why do not all sections of the Iris suffer alike, in the place of one or two varieties, and these the ones nearest to the type? In my experience, the variety Princess of Wales (also known as albicans) and Florentina both suffer greatly; and it is a most significant fact that the latter plant is abundantly imported annually from a similar source to the Lilium candidum. Therefore, if this disease is identical in the two genera, is it not probable that the disease has come from abroad? Though I readily admit that such a season as the present one is just that in which the disease is most rampant, I can by no means reconcile matters sufficiently to regard hail or heavy cold rain as the originator of the mischief. If this were so, there would have been no disease at all in 1893—but there was disease. In fairness, however, it must be admitted that it was by no means in proportion to that experienced during the present time. Is Dr. Wallace aware that this disease attacks this Lily when grown under glass? I have had slight attacks under glass, but I well remember eight years or more since one large grower for market having a large houseful spoiled by this disease, the whole of them being imported bulbs. Near where I write was about an acre of these, early in the present summer, in excellent condition, and full of promise, and notwithstanding the timely application of so-called remedies, the entire lot was ruined, and hardly a spike worth anything was saved. The appearance and spread of the disease is all too rapid to permit of remedies, and the only possible chance must be in a preventive measure; once the disease puts in an appearance during a season as this, the case is hopeless. *E. Jenkins, Hampton Hill.*

POTATO CROP.—Early Potatos have been good. I must again speak in praise of Puritan, which with us is exceptionally good, having fine tubers and of good flavour. Late frost in May did much damage. Beauty of Hebron, also a grand Potato, is showing disease, but will be fit for lifting before much damage to tubers has been done. Main Crop looks very promising; also the Bruce. *F. Moore, the Gardens, Blendon, Bexley.*

THE FRUIT CROPS.—In this fruit-growing district Pears and Plums are a heavy crop, Peaches and Apricots also good; Apples but few; Strawberries in some places were quite a failure, owing to the drought of last summer, many fields being ploughed-in, useless. Raspberries are also a very scanty crop; but Gooseberries, Black, White, and Red Currants are clean, good, and abundant. *F. Moore, The Gardens, Blendon, Bexley.*

—— Here in this Fenn district the fruit crops (with few exceptions), are good and plentiful. Apricots, Peaches, Nectarines, Plums, Pears, and Figs, above average. Apples moderate but good, those carrying good crops have been three years planted. Cordons and espaliers, such varieties as Tower of Glamis, Wadhurst Pippin, Ecklinville, Warner's King, Stirling Castle, Betty Geeson, Worcester Pearmain, Lane's Prince Albert, Peasgood's Nonsuch, and Claygate Pearmain, bearing good crops of fine fruit. Early Strawberries were a complete failure. Late varieties brought good crops to perfection, Jubilee proving far the best. Plums and Damsons both above average. Cherries set heavy crops, but lost a lot of fruit during May and June through black-fly. Gooseberries and Currants, Red, Black, and White, above average. Raspberries an average crop of fine fruit. Woodnuts above average, but Walnuts partial. *F. W. Seabrook, Ramsey Abbey Gardens, Huntingdonshire.*

HIGHCLERE CASTLE.—"Visitor," p. 211 of *Gardeners' Chronicle*, gives a truthful although not a lengthy account of this charming Hampshire seat. I had the privilege some three years since of staying there a day or two, and therefore, under the guidance of that estimable and talented gardener, Mr. Pope, I had abundant opportunities of seeing the small things in connection with this park and garden, as well as those more pretentious features so accurately described in "Visitor's" notice. A reference is there made to the work of Mr. Storey, the forester. I, too, was much impressed with the method by which he manages the woods and the well-appointed nursery of about 10 acres, where excellent produce for making new and replenishing old woods is obtained. The method by which the various stocks of Larch, Scotch, Austrian, and other Pines are raised commended itself strongly to my notice. The freedom with which Mr. Storey communicated his store of knowledge was indeed pleasant, he having all the routine of such a business as tree-raising at his fingers' ends, as it were, and certainly the trees and shrubs in all forms and shapes were capital evidence of the soundness of the system practised. The natural undulation of the ground is undoubtedly a fine feature in the park, so much does it enhance its beauty. The method adopted of planting the trees therein must have been remarkably well thought out, as no matter from what point of view you look, it seems almost impossible to find fault with the plan. Whichever way you look wonderful specimens either of Cedar, Oaks, or Beech are disclosed. Regarding Mr. Pope's work in the vegetable world as an exhibitor, if he did no more, he has done sufficient to make his mark. At the entrance to the kitchen garden over the doorway, there is a tablet denoting when the garden itself was formed, now over a hundred years since, which proves pretty conclusively that vegetables have long been grown there, and that by this time the soil must be in excellent condition. Certainly, I never saw trenching done so deeply before, and the natural depth of the mould must be great. *E. M.*

TCHIHATCHEWIA ISATIDEA.—My experience with this plant is less favourable than that of the Curator of the Cambridge Botanical Garden, as recorded on p. 230. At the beginning of spring, Mr. W. Thompson of Ipswich and myself obtained plants from Germany; he had three, and I had two; they came in thumb-pots, sturdy and healthy seedlings, about 2 inches across. In due time they were planted out under what we thought the best conditions, but as the soil and air of Edge are very different from those of Ipswich, we frequently compared notes. One by one Mr. Thompson's plants died before the middle of June, when one of mine, 4 or 5 inches across, suddenly withered; the other continued to look healthy till the middle of July; when that, too, being about 7 inches across, and having a well-set rosette of leaves, withered gradually away. The flowering, described in the note referred to, agrees with Edmond Boissier's account in *Flora Orientalis*; he says that all he saw wild had a low-growing, truncated raceme, as if the plant had been eaten off by sheep. *C. Wolley Dod, Edge Hall, Malpas.*

DWARF GERMAN SCABIOUS.—Messrs. H. Cannell & Sons did good service in exhibiting on Tuesday last the sprays of the pretty annual German Scabious now in cultivation. To some their symmetry and bright colours appeared to come as a surprise, and it was recognised that they had a distinctive value both for cutting and garden decoration. In colour they included maroon, almost black, bright crimson, pale rosy pink, salmon, blush, lavender, delicate pink, and the new pale yellow form which is fully double and very pleasing. In addition to the value of these dwarf Scabious for sowing in spring for summer-flowering, they can be used for winter and spring-flowering also, as Mr. J. Roberts did when at Gunnersbury Park. Sowing in August, potting off the seedlings, keeping them in a little warmth during the winter, when they would bloom abundantly, and especially in early spring. *R. D.*

MULCHED PEAS.—In Montgomeryshire and other parts of Wales, Peas have not generally done well this year. At Powis Castle Gardens, Mr. Lambert mulched the rows of Peas with fresh stable dung, and he has abundant crops. In this garden Duke of Albany is a variety that is extensively cultivated, long rows of it being grown on sloping ground. *D.*

CUCUMBER CULTURE.

(*Continued from p.* 98)

It is known how numerous and varied are the questions which arise in the investigations of a fungoid or any other disease, and how multifarious are the facts to be made out and studied in their bearings upon the question of treatment which is the ultimate practical object of the investigation. Now one of the first practical results of the widest applicability which is deduced from what we already know of a disease is the fact that treatment to be efficient must be preventive, rather than remedial, and it is in this particular more especially that the virtue of sulphate of iron consists, as one of the remedies for Cucumber failure.

It may be stated as a general principle, not wholly without exception, however, that a leaf, a fruit, a plant, once attacked is lost. Let us see, then, what can be done by way of preventing the attacks of fungi. It is a very trite saying, that "an ounce of prevention is worth a pound of cure," but when cure is impossible, the value of prevention becomes infinitely increased. Of the first importance among preventives of disease must be mentioned healthful conditions. Recent experiments show that sulphate of iron assists these conditions in Cucumber culture. The iron must be considered an addition to the list of "artificials," and not a replacement of any manure.

As regards the quantities of sulphate of iron that may be used, it has been found for outdoor crops that the amount may range from 50 to 100 lb. per acre, but not more. This must be sown broadcast after rain, as it is advisable always to use it on wet ground.

A frequent source of danger of introducing disease to such tender-tissued plants as the Cucumber and Tomato is the employment of farmyard or stable manure; this may be prevented by using ½ lb. of the iron dissolved in 4 gallons of water. Apply the solution to the manure, getting it well incorporated before mixing with the soil.

It has been found further that a solution of half-an-ounce of iron in a gallon of water is a useful quantity for spraying purposes, and for occasional surface waterings. The subsoils of Cucumber-houses where previous crops have been grown should be broken up, and watered with an iron solution, before putting on the prepared surface-soil.

A strong and vigorous plant, with abundance of food at its disposal, will resist the attacks of fungi and injurious insects, which would easily gain a footing on weaker ones.

Let us inquire, therefore, in the next place, what constituents, and in what proportion of them, the Cucumber plant requires to build up its fabric, and to produce a crop of fruit. This we are enabled to do by a study of the chemical analysis of the plant.

Some recent investigations upon this point are given in the following table:—

Chemical Composition of the Cucumber-plant: Vine and Fruit.

Constituents.	Cucumber-plant.			
	The Vine.	The Fruit.		
		Sample 1.	Sample 2.	Mean.
	Per cent.	Per cent.	Per cent.	Per cent.
Composition of the fresh plants—				
Dry substance	4·40	3·60	3·80	3·70
Nitrogen	0·16	0 20	0·19	0·20
Ash (mineral matter)...	0·61	0 65	0·87	0·76
Composition of the ash—				
Potash	39·34	50 08	53 34	51·71
Soda	9·83	4 80	3 58	4·19
Lime	6·57	6·32	7·63	6 98
Magnesia	3·28	4·23	4·74	4·50
Phosphoric acid ...	19·66	15·94	10·26	13·10
Iron oxide	...	1·09	0·42	0·75
Sulphuric acid	6·56	4·06	6 81	5·70
Silica	8·20	5·42	1·39	3·41
Chlorine	6·56	7·49	11·83	9 66

In order that the foregoing data may be better understood, a few of the principal ingredients have been calculated to the ton:—

Selected Constituents in One Ton of Fresh Cucumber Vine, and in One Ton of fresh Cucumber Fruit, and the Mean for the whole Plant.

Constituents.	Dry Substance.	Nitrogen.	Ash.	Potash.	Phosphoric Acid.
	lb.	lb.	lb.	lb.	lb.
In vine ...	98 6	3 6	13 7	5·4	2·7
In fruit ...	82 9	4 5	17·0	8 8	2·2
Mean ...	90 8	4 1	15·4	7·1	2·5

These figures show that, taking equal quantities of Vine and fruit, 1 ton of the fresh produce yields but 91 lb. of dry substance, the remaining 1149 lb. being water; this speaks for itself as to the absolute necessity of a liberal and constant supply of water, in order that the growing plants may not receive a check, which it may be difficult to recover

Each 1 ton of produce requires 4 lb. of nitrogen; this does not at first sight seem much, but when the small quantity of dry material is considered, it is really very large, and points to the fact that a liberal and easily assimilable amount of nitrogenous food must be provided if the productiveness is to be maintained.

The third column shows that each ton of Cucumber produce draws from the soil nearly 15½ lb. of ash constituents, and the next two columns show that of this ash 7 lb. consists of potash, and 2¼ lb. of phosphoric acid.

In order then that the nitrogen provided in the manurial supply may do its work satisfactorily, and that health and vigour of plants may be sustained, there must be no lack of mineral ingredients in the soil, and these must further be in a readily available form for the plant to take up, otherwise cellulose cannot he produced quickly enough by the growing plant, and the plant-tissues become weakened and susceptible to disease.

The chemical data shows that the Cucumber fruit requires more water than the Cucumber Vine, and that the fruit also requires much the larger amount of plant-food, and that one-half of the mineral ingredients abstracted from the soil by the fruit consists of potash. We need not be surprised, therefore, at the immense value of turf-loam for Cucumber culture. I learn that in a very extensive horticultural establishment near Paris they use a compost composed of four-sixth parts of turf-loam, one-sixth part of sand, and one-sixth part of bedding-mould. To this mixture have been added with excellent results bone-meal, wood-ashes, and soot; the proportions of these ingredients are not given, but it is said the quantities are altered according to circumstances.

To sum up, although the Cucumber requires a full available supply of the mineral constituents, especially potash and phosphoric acid, within the soil, yet these conditions being provided, the amount of produce is largely dependent on the available supply of nitrogen within the soil. In usual practice, farmyard or stable manure is mainly relied upon, because independently of its liberal supply of all necessary constituents, including potash, its beneficial effects are in a considerable degree due to its influence on the mechanical conditions of the soil, rendering it more porous and easily permeable to the surface roots, upon the development of which in Cucumber growing so much depends.

At the same time, I may be allowed to mention that I have seen recently many tons of Cucumbers grown with a minimum supply of stable-manure, but the natural manure was assisted with a manurial mixture of artificials comprising kainit, superphosphate, and nitrate of soda. The two former being mixed with the soil, while the latter was given in solution at intervals of a fortnight, using at the rate of about ½ cwt. per acre (the quantity being calculated according to the length and breadth of the house). There can be no doubt that good results may be obtained by the use of artificials, but they require considerable care in their application. *J. J. Willis, Harpenden.*

American Notes.

CALIFORNIAN FRUIT.

Although some years ago fruit from California was shipped for the London market, the expensive freight rate of 1000 dollars per cartload (= three and a half railway van-loads English) from the city of Sacramento was prohibitive, and nothing has been sent for two years past. The trade is likely to be reopened, however, as the American Steamship Line has now made arrangements with the railways, and will carry the fruit to London (Waterloo) at 700 dollars, which charge is only 75 dollars above the cost of transit from Sacramento to New York. The first shipment of 45,000 packages, weighing 480 tons, left New York on Tuesday, August 15, per ss. *Paris*, due to arrive at Southampton the following Wednesday. The cargo is a miscellaneous one, but consists chiefly of Bartlett Pears (Williams' Bon Chrétien), which are now on the markets of New York in excellent condition, retailing at 2½*d*. for three fruits, each of about 4½ inches in length, and finely-coloured. The fruit is placed in cold storage on the ship, and is kept at a temperature of from 30° to 35° Fahr.

This trial is naturally being watched with great interest by the fruit-growers of the Pacific slope, Florida, and other districts, where the production of fruit has been increasing to such proportions of late that some fresh market is felt to be a necessity. It is probable that the opening has now been found, and the prices which will be realised in Covent Garden will be watched for with the keenest interest from here. [The consignment alluded to duly arrived. The quality was excellent, but owing partly to our own good crop, and that from the continent, the prices obtained were low.]

Apples.

It is generally reported that the crop of Apples is much below the average here, both in quantity and quality.

The American Association for the Advancement of Science

is now in session at Brooklyn, N.Y. Some papers of considerable interest to agriculture and horticulture were contributed, of which "The Growth of Lettuce as affected by the Physical Properties of the Soil," by B. T. Galloway; and "Nurseries as Factors in the Distribution of Insect Pests," by J. B. Smith, gave many pertinent suggestions.

A New Insecticide.

Gypsine, or arsenate of lead, is recommended as a valuable material for spraying fruit trees; 14 oz. lead acetate and 4 oz. soda arsenate are mixed in water, to which a little glucose has been added, is the way it is advised to use it. It is lighter than Paris Green, and may be used in strong doses without damaging the foliage. Five pounds of Gypsine to 150 gallons of water is the general strength, but as much as 30 lb. has been used with safety. Here it has been used to destroy the Gipsy-moth by the Department of Agriculture—hence its name, and has been pronounced to be the most satisfactory of all insecticides tried. The glucose assists the adherence to the foliage, and moderate rains do not wash the deposit off.

Toads for England.

Does it not seem curious to ship toads to Great Britain? It is stated that an Englishman in Tennessee is doing a trade in this way, however. He is said to receive 4*s*. per dozen for them. We wonder who buys them!

Societies.

ROYAL HORTICULTURAL.

August 28.—The meeting held on Tuesday last in the Drill Hall, James Street, Westminster, was small, in comparison with the large and interesting meetings which have been general this year, and the attendance was less than the average. A considerable quantity of fruit was shown, however, and there were a few Orchids, beside flowers in season, and plants in variety.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, R. Dean, H. B. May, C. T. Druery, G. Stevens, C. J. Salter, J. Jennings, P. Barr, C. E. Pearson, W. Bain, T. Godfrey, H. H. D'Ombrain, H. Selfe-Leonard, R. Owen, H. Turner, and J. D. Pawle.

A pretty group of miscellaneous stove and greenhouse plants (foliage) was that from Messrs. J. Laing & Sons, Forest Hill, London, S.E., which occupied about one-half of one of the tables. Begonia Marquise de Nadaillac is very distinct-looking, the whole of the upper surface of the leaves of a silvery colour, and the under-surface crimson; B. President Carnot has much larger leaves; the upper-surface had a ground of velvety-green, but very much covered with shining silvery blotches; Tradescantia elongata has longer and narrower leaves than T. reginæ, but in marking it is much the same. Croton M. E. Fournier looks likely to become a useful plant. The leaf petioles are of a bright red, and the light green leaves, rather broad and of pretty shape, have a large amount of yellow in centre and veins. The variety is new (Award of Merit).

Several new and good varieties of Caladium were included in the group, and C. Gurupa received an Award of Merit. It is one of the comparatively small-leaved varieties, and they are light green, with a large blood-red mark in the centre of the same shape as the leaf (Silver-gilt Flora Medal).

Mr. Anthony Waterer, Knap Hill Nursery, Woking, showed his Spiræa bumalda var. Anthony Waterer, and some sprays of Andromeda arborea. Mr. George Humfries, nurseryman, Chippenham, showed a small stand of Cactus flowering Dahlia blooms of good quality, also a yellow Pompon named Iona.

Mr. D. Whitlaw took 1st prize for twelve distinct Gladiolus spikes, with an exhibit of excellent quality. There was no other exhibitor in this competitive class.

Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, exhibited a plant in bloom of Lilium nepalense, and one of L. neilgherense; also some blooms of Dahlias, including Mrs. Francis Fell, a white Cactus variety, with cream centre; and the following Pompons: Louie Mather, bronze-yellow; Stanley Ford, a small and good crimson; Mary Durie and Katie Parnham, the last-named a pretty rosette of rose and white.

Dr. P. H. Emerson, Caringbold, Broadstairs, had a collection of blooms from seedling Gaillardias, single and double flowered. Mr. A. Taylor, Brougham Hall Gardens, Penrith, had a yellow Carnation, called Pride of Brougham; and Mr. T. K. Cuckney, gr. to Sir R. G. Musgrave, Bart., Eden Hall, Langwathby, Cumberland, a rose-coloured Carnation, named Luck of Eden Hall; and a very dull crimson seedling.

From Sir Trevor Lawrence, Burford Lodge, Dorking (gr., Mr. W. Bain), came sprays of several varieties of Montbretia crocosmæflora, all pretty, and including a double one. Fine flowering sprays of Exacum affine were from the same exhibitor.

C. C. Nicholls, Esq., Charlewood House, Lowfield Heath, sent blooms of a Cactus Dahlia named Mabel Nicholl, a blush variety with blotches and stripes of crimson.

A small plant of Ixora Duffii in blooms was sent from Messrs. B. S. Williams & Son, Upper Holloway, London, N.

A collection of Sonerilas was staged by Messrs. Sander & Co., St. Albans, including some very pretty hybrids. S. hybrida ornata has a very dark green leaf, with pretty white spotting. Most of the varieties were from crosses between S. orientalis picta, and S. argentea marmorata, and although very much alike, there were interesting and pretty differences that make each desirable. Three Begonias also were interesting, B. Souvenir de Joseph Marie is a pretty though rather dull-looking variety, whilst B. Madame Treyve, and B. Gloire du Vesinet, were each distinct and good.

Messrs. H. Cannell & Sons, Swanley, had a very bright display of Asters, including The Comet and many other varieties of much merit, though generally the Asters have suffered this season from green fly. Also a splendid strain of Chrysanthemum carinatum tricolor, which was commended by the committee, Chrysanthemum hybridum fl-pl., C. tricolor fl.-pl., and dwarf German Scabious, Helichrysums, Gaillardias, all of capital strains (Silver Banksian Medal).

Messrs. Wm. Cutbush & Son, Highgate Nurseries, London, N., had blooms of a new single Dahlia named Watford Gem, a very large yellow variety, with a scarlet band round the centre.

From the Hon. Frederick Smith, Greenlands, Henley-on-Thames (gr., Mr. H. Perkins), came several hybrid Anthuriums, and an Award of Merit was given to Anthurium Scherzerianum rotundiflorum sanguineum (!), a very dark, rather small spathe, with yellow spadix.

Mr. J. Rose, Refield Gardens, Mortimer, had a very dark crimson double Dahlia seedling; and a Picotee named Lowther Beauty, came from Mr. F. Clarke, Lowther Castle Gardens, Penrith, blush, with crimson edge. Some seedling Carnations also came from Mr. R. H. Thompson, Thorney Close, Sunderland.

Messrs. Dobbie & Co., Rothesay, put up a collection of herbaceous Phlox in variety. Also some of their curious, but pretty single Dahlias with twisted petals, and called single Cactus forms. Though they obtained no award from the Committee, several of the varieties of this type are extremely pleasing. Ivanhoe is such an one. It is a bright rose-coloured flower with crimson band, and from its Cactus-like character would give nice variety in a collection of single flowers. Queen Mary is one of the same type, the flowers are pure white, and Alice Lee is a soft pink flower. Several varieties of good single flowers of the ordinary type were also included in the exhibit. Willie Fyffe is a novelty with yellow ground and crimson irregular stripes (Silver Banksian Medal).

Orchid Committee.

Present: Dr. Maxwell T. Masters, F.R.S., in the chair; and Messrs. Jas. O'Brien (Sec.), W. Cobb, H. J. Chapman, W. H. White, E. Hill, C. Pilcher, J. Douglas, F. Sander, and A. H. Smee.

As usual at this season, the show was not a very extensive one, but there was a large proportion of good things, and two important groups were staged, the one by Messrs. F. Sander & Co., St. Albans, and the other by Messrs. Hugh Low & Co, Clapton, and to each a Silver Flora Medal was awarded.

In Messrs. Sander's group, the most important plant was their new Cattleya × Kienastiana (aurea ♂, labiata Luddemanniana ♀). The flowers are large, richly-coloured, beautifully marked, and highly fragrant, and it appears to have the very free habit of growth usually found in home-raised hybrids. The sepals were white, flushed with rose; petals rosy-lilac, with a slight-white freckling, and with a delicate silvery-white veining. The lip is very handsome, with a base of a rich purplish-red colour; median area, orange, margined with white, a clear white veining running through the whole of the base and tube of the lip. The front of the latter is coloured magenta-crimson, and is edged with lilac; the outside of the folded side-lobes is rose-coloured (First-class Certificate).

Another fine plant in Messrs. Sander's group, which also secured a First-class Certificate, was the large white Habenaria Susannæ, with its curiously fringed lip; and specimens of the pretty Habenaria carnea and H. carnea nivosa, numbering some four dozen spikes together, were shown, as well as good examples of the vermilion H. militaris. Other good plants in Messrs. Sander's group were Angræcum Chailluanum, Phalænopsis Sanderiana, P. amabilis, Cattleya aurea, Saccolabium cœleste, and Lælia elegans nobilis, a very distinct plant of the L. e. Turneri section, but with flowers entirely of a warm crimson-rose tint, without the olive-green colour usually seen in the sepals of the class (Award of Merit).

As at the last mee ing, Messrs. Hugh Low & Co. had their group consisting chiefly of a great number of plants of Cypripedium Charlesworthii, that named "Magnificum" being very large and brightly coloured. Saccolabium cœleste superbum, also in Messrs. Lows' group, was a fine thing with violet lip (Award of Merit); and Cattleya Gaskelliana alba, C. Eldorado Wallisii, Lælia elegans, Miltonia Roezlii alba, Lælia tenebrosa, &c., were very good examples.

Sir Trevor Lawrence, Bart., Burford, Dorking, (grower, Mr. W. H. White), showed the very pretty hybrid Cypripedium × The Pard, supposed to be between C. niveum and C. superbiens, but not definitely recorded. The neat pure white flower had

small dotted purple lines on the upper sepal, which had a green base. The petals are densely spotted with purple, and the upper part of the lip coloured a reddish-rose (Award of Merit). Sir Trevor Lawrence also showed the pretty yellow and crimson Chondrorhyncha Chestertonii, with singularly fringed lip (Botanical Certificate), Maxillaria fuscata, and M. Hubschii.

An extraordinary hybrid was shown for the first time by Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, in Cypripedium × Jamesii H. Veitch (Stonei platytænium ♂, Curtisii ♀); in general appearance it resembles the other platytænium cross, C. × Morganiæ langleyensis, but seems larger, and the petals are broader and more flatly displayed. The upper sepal is white, with thin purple lines, the long broad, drooping petals are likewise white, regularly spotted with purple, and the face of the lip is of reddish-rose colour. The foliage resembles that of C. Curtisii, but the marking is more obscure (First-class Certificate).

Thomas Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the fine old white Dendrobium album (Botanical Certificate), Lælio-Cattleya × callistoglossa (L. purpurata ♀, C. Warscewiczii ♂), L.-C.× Nysa, both of which had previously received First-class Certificates; and a plant of the pretty little orange-scarlet Lælia monophylla with six flowers.

G. D. Owen, Esq., Selwood, Rotherham (gr., Mr. Watt), sent the fine Cattleya ×, Hardyana Selwood variety, a very richly-coloured form, which the large blotches of chrome-yellow on each side of the lip render very distinct (Award of Merit); Lælio-Cattleya × Oweniæ, a supposed hybrid of L. Perrinii, to which the form of the lip bears much resemblance. The flowers are neat in form, and of an uniform bright dark rose, the tube of the lip pure white (Award of Merit), and a very fine form of Cattleya labiata Gaskelliana alba.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), sent cut spikes of Lælia × Cawenbergiana of the L. elegans class; in colour light rose, and with a very singular broad rosy-crimson front lobe to the lip; and Cattleya labiata Gaskelliana alba.

Messrs. B. S. Williams & Son, Victoria and Paradise Nursery, Upper Holloway, N., again showed their pretty Lælio-Cattleya × Blesensis (C. Loddigesii × L. pumila), a very showy and neat-habited hybrid.

J. S. Moss, Esq., Winter's Hill, Bishop's Waltham (gr., Mr. W. Bazeley) showed a fine plant of Lælio-Cattleya × elegans Mossiæ; and Mr. Horsman, Colchester, showed Miltonia Bluntii Lubbersiana, with an unusually broad lip.

Fruit and Vegetable Committee.

Present: Philip Crowley, Esq., in the Chair; and Messrs. M. Dunn, Geo. Bunyard, T. J. Saltmarsh, A. Dean, H. J. Pearson, C. Herrin, J. A. Laing, T. Glen, B. Balderson, J. Smith, G. Norman, and E. Gilman.

Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, staged about thirty dishes of Apples, good clean specimens, including Lady Sudeley, Peach Apple, Duchess Favourite, Flower Bed, Gloucester Apple, and later sorts of both kitchen and dessert varieties, also ten dishes of good Plums, in as many varieties, Prince Englebert, Sultan, Diamond, Goliath, Victoria, and Dove Bank being noticeable (Silver Knightian Medal).

A collection of fruits and vegetables, including numerous varieties of several kinds, was shown by J. Chinnery, [gr. to A. R. Boughton-Knight, Esq., Downton Castle, Ludlow. Upwards of twenty varieties of Gooseberries were shown, but the quality was not good. Plums, Apricots, Beans and Peas, as well as Potatos, Onions, and Carrots, were shown.

Messrs. Jas. Veitch & Sons, Chelsea, had a splendid collection of Plums and Apples from their nursery at Slough. Plums were shown in upwards of forty varieties from pyramids; Washington, Early Transparent Gage, Victoria, Large Black Imperial (very large), Coe's Golden Drop (large, but not quite ripe), Yellow Imperatrice, McLaughlin, Red Magnum Bonum, Kirke's, St. Catherine, Brandy Gage (small Plum of good flavour), and Angelina Burdet were the more noticeable of a good collection. Amongst the Apples were noticed Early Strawberry, Early Russian, Napoleon, Devonshire Quarrenden, Worcester Pearmain, Frogmore Prolific, Peter the Great, Lord Suffield, and Ecklinville Seedling. Of Pears, Triomphe de Vienne was good, and Jargonelle, Williams' Bon Chrétien, Clapp's Favourite, &c. (Silver Banksian Medal).

Mr. J. W. Miller, gr. to Lord Foley, Ruxley Lodge, Esher, Surrey, brought a fine lot of Peaches, Royal George and Bellegarde, from the open wall (east), two dozen fruits of each; also half-a-dozen Melons, and several dishes of Tomatos (Vote of Thanks).

Mr. Farr, gr. at Spring Grove House, Isleworth, showed a number of fruits of Tomato Farr's Commander, obtained from Webb's Sensation; and Glenhurst Favourite; and Mr. Robt. Owen, Maidenhead, had a dozen fruits of Tomato Owen's Perfection.

Mr. E. Hurt, Fairlawn, Totteridge, Herts, had six good Melons, called Fairlawn Empress of India, from a cross between The Countess and Sion House. The fruits were very variable, both in flavour and in the colour of the flesh, which was green or white. An Award of Merit was given to one of these.

A dish of first-rate Peaches was sent by Mr. E. Gilman, gr. to the Earl of Shrewsbury, Ingestre, Stafford (Cultural Commendation); also a new seedling Melon, called Pride of Ingestre.

Another Melon was from Mr. Geo. Wythes, gr. at Syon House, Brentford, and was named Golden Queen. It was raised from Hero of Isleworth and Beauty of Syon.

Mr. G. Dyke, Stubton Hall Gardens, Claypole Station, Newark, sent a seedling Melon and a dish of Moorpark Apricots and some Morello Cherries; and Mr. J. Hawthorn Kitson, The Gardens, Elmet Hall, Leeds, had also two seedling Melons; whilst another was shown by Mr. J. Barkham, Longford House Gardens, Haven Street, Isle of Wight.

W. H. Evans, Esq., Forde Abbey, Chard, Somerset, had a dish of fine Moor Park Apricots (Vote of Thanks).

Gardeners and their Employers.

In the afternoon a paper on the above subject was read by Mr. Malcolm Dunn, of Dalkeith Palace Gardens, N.B., an account of which will be found at p. 252.

ROYAL SCOTTISH ARBORICULTURAL.

(*Continued from p.* 224.)

AUGUST 9.—*To Cullen, &c.*—Notwithstanding the exertions of the previous day, the company was ready to steam off at an early hour. At 6.40 they left for Cullen, where brakes were in readiness to convey the visitors to Cullen House, the magnificent residence of the Countess of Seafield. The mansion, built on a rock, has a great appearance—a splendid example of Scotch baronial architecture. A grand avenue of trees leads through the spacious grounds, which, like Gordon, are clean and orderly in every part. Splendid Larches were passed, measuring 10 to 11 feet in girth, with tall, clean stems. There are 51 miles of roads and walks through the policies; 15 miles are in the home grounds alone. The party in brakes drove over 9 miles. The lovers of fine trees must have had their best desires met in this respect, under the guidance of Mr. Campbell, factor; Mr. Michie, forester, Mr. Smith, gardener; Mr. Beaton, farm bailiff, and Mr. Smith, architect. The visitors were shown the objects of greatest interest. A cursory glance only could be spared to the pinetum, which contains fine specimens of Douglas Firs, Cupressus, and other Coniferæ. A Larch was measured, 10 feet in girth and 50 feet in height, containing about 200 feet of timber. A hurried visit to the gardens was made, where Mr. Smith was able to show fine examples of his skill and industry. Some beautiful bedding was admired; blue Lobelia, remarkably distinct, forms a prominent feature with other combinations.

Borders of Pinks and Stocks, long lines of Sweet Peas, Chrysanthemums, Pansies, Roses, and many other plants, are grown in great profusion for cut flowers, to meet the wants of the house. A hurried glance at the fruit and vegetable crops showed that good cultivation was in practice at Cullen. Pears, Jargonelle, Easter Beurré, and Marie Louise, are good. Passing through a long span-roofed structure, filled with the choicest of greenhouse flowering plants, and interspersed with fine foliage, a most attractive display is much admired. The range of fruit-houses, over 100 years old, apparently in good repair, were objects of great interest. The fine crops of Peaches and Grapes were grown to meet a large demand, all doing credit to the skilful gardener, Mr. Smith. There are gardens which should be mentioned in these brief notes, viz., those of the numerous cottages on the estate. Hollyhocks, Clematis, and other flowering plants, are a mass of bloom on the walls, and the fronts of these pretty dwellings were decorated with flags to welcome the foresters. The vociferous hurrahs of the mothers, daughters, and young children, were truly animating.

Returning to the mansion, a special treat was provided by Mr. Michie for the company. A fine collection of curiosities and objects of natural history was collected from the woods on the estate. The mansion and church were inspected, and then the party proceeded to Cullen, where the hospitality of the Countess of Seafield was enjoyed. Mr. Campbell presided, and spoke of forestry and its importance in this country, according a warm welcome to the party from Countess Seafield.

The route was now to Pluscarden Priory, about 6 miles west of Elgin, on his Grace the Duke of Fife's property. Mr. Gilchrist, forester, met the party, and acted as guide. At Oakwood a grand specimen of Weeping Birch, said to be the finest in the county, was admired. The height is 76 feet, and the spread of branches 55 feet. Quarry Wood, and an ancient Danish camp, were passed. The Priory, which stands in the midst of hilly ground and vast stretching forests, is a monument of skilful masonry. A date of 1233 is seen on a stone, showing the great antiquity of the place. The nursery, under Mr. Gilchrist, was inspected. It is full of thriving stock, suited to the requirements of the forest; like everything else associated with the Priory, it is in excellent keep. The usual hospitality of northern proprietors was here exemplified by the Duke of Fife. Before returning to Elgin cheers were given for his Grace and his royal consort, also thanks to Mr. Gilchrist; and then the old chapel rang with "God save the Queen."

GLENMORE, ETC.

On the following morning, Friday, August 10, about 6 A.M., the party assembled and took train for Grantown (*en route* for Glenmore). In brakes the party journeyed to Castle Grant (another of Countess Seafield's estates), a beautiful drive through grand Scotch Firs, Spruces, and onward Beeches, Oaks, and other hard-wood trees. The latter do not thrive as the Fir tribe do, the soil suits the one but not the other. Long drives were made through plantations where many great trees were noted. A halt at the Castle was made, where the party had the pleasure of viewing many grand pictures, ancient munitions of war and chase, and some handsome furniture formed of wood from the estate. The gardens were visited, where capital crops of Strawberries are grown, the favourites are President and Duke of Edinburgh. Quantities of plants are grown for cut flowers, the borders were all gay with herbaceous plants and a fine plantation of select Roses was doing capitally! Conspicuous was Margaret Dickson in capital form; on walls were planted collections of Tea Roses on every vacant space where trees do not interfere, thriving Roses are growing—a system which might in other places be imitated! Fine crops of Peaches, such as Royal George and Noblesse were to be seen under glass. A fine Lime avenue was noted, and then a drive was taken to Abernethy woodlands, where many magnificent arboricultural objects were inspected. Mr. Smith, factor, and Mr. Grant, wood manager, were most assiduous in leading the party through hill and dale where forest views of immense extent were viewed in Abernethy. Ascending Craigmore, the oldest forest in Strathspey, many fine Scotch Firs were measured, and the old tree named "Peter Porter," stands as a monument. The girth at the base is 16 feet 4 inches, 3 feet up 14 feet 6 inches, and 5 feet up 16 feet 5 inches; the height of the tree is 80 feet. The party returned to Grantown, where the hospitality of the Countess of Seafield was again enjoyed. After the thanks of the party had been given to those who contributed so largely to the success of the outing, the arboriculturists returned to Edinburgh by the evening train on Friday, reaching the city about midnight after a most successful trip.

ROYAL WESTERN HORTICULTURAL.

AUGUST 21, 22.—The annual show of the above Society was held in the Plymouth Guildhall, but the hall itself not being large enough, a large marquee was erected in the square; this permitted of ample room being given to the exhibits. It was opened on Tuesday by the Mayor of Plymouth, W. Law, Esq., who is also chairman of the committee. The £30 prize offered by the Society for the best twenty plants, ten foliage and ten flowering, brought exhibitors from a distance. Mr. Cypher, Cheltenham, was easily 1st, with beautiful specimens,

his Crotons Johannis, angustifolius, and Thomsoni, being greatly admired, while his Heaths, Allamandas, &c., were perfect; the 2nd prize in this class was taken by Mr. Brock, Exeter (gr., Mr. Rowland). This gentleman took 1st for a group of miscellaneous plants, and 1st for a group arranged for effect, in which were used Cocos flexuosa, Liliums, grasses, with groundwork of small Crotons, Ferns, &c., with virgin cork and miniature lakes; the 2nd prize was taken by Miss Todd, Southampton. Miss Todd was exhibitor of many beautiful specimen Ferns, Palms, and stove plants.

Local prize-winners for stands included Mr. C. Watts, Mr. Billing, Mr. Groombridge, Admiral Parker; the exhibit from the latter was a beautifully arranged oval group.

Cut flowers, on account of the damp season, were below the average. The Dahlias were, however, very fine, the blooms being large, and of good form. The finest twenty-four show and fancies were shown by Mr. Corber, of Egg Buckland, and included all well-known sorts. Messrs. Curtis & Sanford, Torquay, were 1st for Cactus varieties. Messrs. Veitch of Exeter, showed a good collection, not for competition, and also a good variety of alpine plants. Mr. Small, Torquay, had a fine stand of cut blooms, their Dahlias being also of good quality. Mr. Godfrey, nurseryman, Exmouth, showed his new Carnations: Miss Mary Godfrey, a beautiful white tree variety, and likely to become a popular one; while a pink variety, named Reginald Godfrey, is also good. Several of the local nurserymen showed banks of various plants, one of the most noticeable features being Messrs. Hender's new Amaranthus, and styled "Hender's hybrids."

TROWBRIDGE HORTICULTURAL.

August 22.—It says something for the vitality of a horticultural society that it can hold an exhibition uninterruptedly for the space of forty-five years, and be as popular as ever. Trowbridge show still retains all its old popularity and prestige, ranking with Taunton in the extent and excellent quality of the exhibits. Owing to the generosity of a townsman, Mr. W. Stancomb, it has recently become possessed of a spacious field, where the show is held, and the Society has expended the sum of £300 in fencing and improving the field.

As Fuchsias are always the most striking feature about a Trowbridge show, they claim the right of priority of notice. On this occasion few specimens were present. The best six came from Mr. G. Tucker, gr. to Major W. P. Clark, Trowbridge, who had of dark varieties Charming and Final, both raised by Lye; and Doel, a free-blooming local variety; and of light varieties, Harriet Lye, Gustave Doré, double white corollas, and Arabella. Mr. J. Lye, gr. to the Hon. Mrs. Hay, Cliffe Hall, Market Lavington, came 2nd with finely-grown plants, but wanting another week to come fully into flower, he had of dark varieties Doel's Favourite, Elegance, and Rival, both of his own raising, and of light varieties, all raised by himself, Louisa Balfour, Western Beauty, and Annie Earle. With four varieties Mr. G. Tucker was again 1st, having Final and Charming, dark, Marginata and Arabella, light; Mr. Lye came 2nd with Abundance and Thomas King, both his own; Mrs. Bright (Lye), and Mrs. Rundle, the two last light varieties. Amateurs (in the strict sense of the word) also exhibited Fuchias, and so did workingmen, the latter much better than is usually seen at flower-shows.

Stove and greenhouse plants were numerous and good. In the open class for nine varieties, Mr. H. Matthews, gr. to Sir R. W. Brown, Bart., was 1st with well-grown and bloomed examples of Dipladenia amabilis, Bougainvillea glabra, Allamanda nobilis, Erica Eweriana elegans, E. retorta major, E. Austiniana, Ixoras, &c. 2nd, Mr. G. Tucker, having a good collection of similar subjects. With six plants Mr. Matthews was again 1st with well-balanced specimens; Mr. G. Tucker was 2nd. With three plants Mr. Tucker was a good 1st, having capital examples of Allamanda nobilis, Statice profusa, and Ixora Fraseri. The best specimen plant was a very fine Eucharis amazonica from Mr. H. Kiff, gr. to Major T. Clark, Trowbridge; Mr. G. Pymm, gr. to Mrs. Gouldsmith, Trowbridge, coming 2nd with Ixora Williamsi.

Begonias are admirably grown in the locality, especially by Mr. C. Richman, gr. to J. L. Palmer, Esq., Trowbridge, who was 1st both with six single and six double-flowered specimens; the plants admirably grown and bloomed, and the quality fine. Mr. G. Tucker was a good 2nd with six singles, and Mr. C. Powell, Melkshaw, with six doubles. In the amateur's division, Mr. C. Avons had the best single varieties. Heaths were small, but nicely bloomed. Achimenes in size were admirably shown by Mr. G. Tucker, Mr. Pymm being 2nd.

Gloxinias were good for the season; so were Cockscombs and Balsams. Petunias were, as usual, such plants as one never sees outside Trowbridge; and zonal Pelargoniums were very fine. With eight plants, Mr. J. Wheeler, gr. to W. Walker, Esq., Trowbridge, was 1st; and Mr. G. Tucker 2nd. Some very good zonals were also shown by working men.

Mr. H. Matthews had the best eight foliage plants, Palms, Crotons, &c.; Mr. F. Applegate, gr. to S. Bishop, Esq., being 2nd. Mr. G. Tucker had the best fifteen Ferns and Lycopods, staging well-grown, medium-sized plants of good quality; Mr. H. Pocock, gr. to J. P. Haden, Esq., being 2nd. Some well-grown and coloured Coleus were shown; and Caladiums, though small, were in good character. The best new plant was a brilliantly coloured piece of Croton Reidii, from Mr. C. Richman; Mr. H. Matthews coming 2nd, with Dendrobium Phalænopsis Schroderi. Mr. H Matthews had four very good Orchids, viz, Cattleya Harrisonæ violacea, Vanda suavis, Phalænopsis Sanderiana superba, and P. amabilis; Mr. G. Pymm was 2nd.

Cut flowers were represented by Roses, and Dr. Budd of Bath had a great day, as he was 1st in the two principal open classes, for twelve trebles and twenty-four varieties, showing excellent blooms; Messrs. Geo. Cooling & Sons, Bath, were 2nd in both cases. In the amateurs' classes good blooms were also shown.

Messrs. Keynes & Co., Salisbury, were the only exhibitors of twenty-four Dahlias, staging fine flowers; and they were the only exhibitors of twelve fancies also, and also of twelve bunches of single Dahlias, taking the 1st prizes in each case.

Mr. A. F. Craig, Frome, had the best twelve show Dahlias. New Dahlias were represented by some new varieties of Cactus form. Messrs. Keynes & Co. had three of these: Majestic, dark; Earl of Pembroke, purple; and Mrs. Barnes, salmon, with white centre, were very good.

Hollyhocks and Gladioli, very fine. Cut blooms of zonal Pelargoniums, Carnations, Picotees, annuals, &c., were well shown, and the latter especially made a very effective show; so did table decorations, bouquets, &c.

Fruit, as usual filled a large tent, and was very good. The best collection of ten dishes came from Mr. Strugnell, gr. to W. Long, Esq., M.P., Rood Ashton, who had very good Alicante and Madresfield Court Grapes, Bellegarde and Dymond Peaches, Downton and Victoria Nectarines, Moor Park Apricot, Melon, Plums, &c.; 2nd, Mr. G. Pymm, who had Black Hamburgh and Foster's Seedling Grapes, Dymond and Royal George Peaches, Lord Napier and Victoria Nectarines, &c.

With six dishes, Mr. H. W. Ward, The Gardens, Longford Castle, Salisbury, was 1st, having Black Hamburgh and Muscat of Alexandria Grapes, Crimson Galande Peach, Pine-apple Nectarine, Greengage Plums, and Melon; 2nd, Mr. J. Gibson, gr. to Earl Cowley, Chippenham, also with good fruit.

Mr. C Ball, Crediton, had the best Pine-apple, a Smooth Cayenne; Mr. Ward being 2nd, with a Queen.

Mr. Gibson had the best two bunches of Black Grapes, showing well-finished Hamburghs; Mr. James Forth, Bath, being 2nd, with Alicante. The best two bunches of White were Buckland Sweetwater, from Mr. J. Attwell, gr. to J. H. Brian, Esq., Bristol; Mr. Ward was 2nd, with Foster's Seedling. With two bunches of Black Muscat, Mr. Gibson came 1st with admirably-finished Madresfield Court; Mr. F. Smith, The Palace Gardens, Salisbury, 2nd, with the same. Mr. Strugnell was 1st with two bunches of White Muscats, Mr. James Forth coming 2nd.

Melons were fairly good; Apricots very fine, as they appear to have been all through the West of England this season; Greengage Plums were good also; the best dessert Plums were Washington and Kirke's; Morello and Late Duke Cherries were excellent. The best Peach was Royal George, and the best Nectarines, Lord Napier and Pine-apple. Dessert Apples were somewhat sparingly shown. Mr. F. Smith had the best two dishes, viz., Irish Peach and Beauty of Bath; Mr. G. Recketts, Bath Easton, coming 2nd, with Red Astrachan and Worcester Pearmain. Mr. G. Pymm had the best two dishes of culinary Apples, showing very fine Lord Suffield and Warner's King; Mr. C. Recketts Lord Suffield and Pride of the West. All the Apples were very good. Pears were represented by Jargonelle, and Windsor Filberts were very good also.

Vegetables were numerous, and very fine. Mr. James Hall, Crowcombe, had the best nine dishes, a collection that, in regard to quality and setting-up, would compare with anything we have seen this season; Mr. G. Garraway, Bath, a noted West of England cultivator, was 2nd.

The best six dishes competing for Messrs. Webb & Sons' special prizes came from Mr. Thomas Evry, Bath; Mr. G. Garraway being 2nd.

Tomatos, Cucumbers, Cauliflowers, Potatos, Onions, Peas, Carrots, Parsnips, Celery, Cabbages, French Beans, and Vegetable Marrows were all of very fine quality, whether shown by gardeners or cottagers. The trays of various kinds of Potatos shown by the latter are full of interest, and so were the collections of twelve bunches of pot herbs and baskets of salads.

In the cottagers' division, the 1st prizes for six as well as four varieties of vegetables were taken by John Stokes.

EASTBOURNE HORTICULTURAL.

August 22.—This was one of the most successful meetings held in the south during the present year. The Duke of Devonshire lent his beautiful grounds at Compton Place, and the company was far more numerous than usual.

The open class for stove and greenhouse plants was capitally filled, Mr. Portnell, gr. to Sir A. Lamb, Beauport, Battle, being 1st, with a splendid specimen of Erica tricolor. E. Irbyana, Dipladenia Brearleyana and D. amabilis were also noticeable. Mr. Offer, gr. to J. Warren, Esq., Handcross Park, was 2nd.

Here follows a curious wording of the schedule, which has existed for some years. The first division, "open to all England," has several classes that are restricted to amateurs and gentlemen's gardeners in the district. A class for six stove and greenhouse is a case in point, and Mr. T. Portnell was the only exhibitor.

For eight varieties of exotic Ferns, Mr. Offer beat Mr. Portnell, having good examples of Davallia Mooreacna, Alsophila australis, and Nephrolepis Davallioides furcans. His 1st for variegated and ornamental foliage was good, although closely run by Mr. Portnell again. The best plants were Croton angustifolius, C. Queen Victoria, and Alocasias Veitchii and Thibautiana.

Mr. Offer was to the front again for six, open to the district only, Mr. Portnell not competing in this class. His 1st for Ericas was well deserved, but the plants were not so well flowered as usual from Handcross Park.

The 1st prize for a specimen plant in bloom went to Mr. Offer for a pretty Lapageria rosea; Mr. Fuller taking 2nd, with a beautiful Erica Austiniana. Mr. Offer won again for an ornamental foliage plant, with Croton princeps in grand condition.

Groups were not numerous, but Mr. Carpenter, gr. to H. Dewhurst, Esq., Eastbourne, had a prettily-arranged collection and surpassed Messrs. Watson and C. S. Wadey. A group of Ferns was very closely competed for, Mr. Fuller and Mr. Morley being 1st and 2nd.

Plants were good throughout, and the Fuchsias, if not quite so large as usual at this show, were well flowered.

Mr. Blake was well in front of Mr. Portnell for twelve varieties of cut flowers. Roses were fairly good for the season, Mr. Young, nurseryman, Eastbourne, being 1st for thirty-six varieties; Messrs. Brookes & Son, Eastbourne, and Messrs. Dennett & Sons, Maresfield, followed. Mr. Young was also in front for twelve blooms of one variety. For twenty-four Roses (amateurs), Mr. Slaughter was the only competitor, and was also 1st for twelve varieties; a good Rêve d'Or was the most remarkable bloom here.

Table decorations were pretty, and the best came from Mrs. W. W. Hoad, Hastings, Miss C. Winchester, Eastbourne, followed; more than one competitor was disqualified for using a few small specimen classes as adjuncts to the three stands named in the schedule. Dahlias, Asters, and other flowers were good.

Fruit was up to its usual standard; the Grapes, perhaps, being smaller in berry, but the bunches were large and heavy.

Mr. Tugwell was 1st for Black Grapes and also for one bunch of any variety. The best collection of fruit came from Mr. G. Helman, gr. to Viscount Gage, Firle Park, Mr. Tugwell and Mr. Blake following. Mr. Siggs was 1st for a scarlet and also for a green-fleshed Melon, Mr. Helman following in each case.

A large number of non-competitive collections were staged, Mr. J. Charlton, Tunbridge Wells, showing herbaceous plants and Dahlias; Mr. Knight, Hailsham, Roses; Mr. Young, Eastbourne, a group of plants and cut Roses, one of the best lots; Messrs. Scott & Co., a large collection of ornamental and decorative plants, and Messrs. Cheal & Sons, Dahlias and general herbaceous flowers.

DERBYSHIRE AGRICULTURAL AND HORTICULTURAL.

AUGUST 22, 23. — Fine weather favoured the thirty-third annual show, held in the Holmes Ground at Derby, and there was a very large attendance of visitors. The arrangements were well carried out by a committee, of whom Mr. Waller was Chairman, and Mr. S. Burton Secretary.

The number of entries was greater than the average, but there was little outdoor fruit shown. Cut flowers bore evidence of having suffered from the wet, dull weather of the last month, but vegetables were excellent.

In the open class for a group of plants to cover a space of 200 super. feet, 1st prize £20, there was good competition; but Mr. Ward, gr. to — Oakes, Esq., Riddings House, Alfreton, was an easy 1st, with a collection of plants which included some magnificently-coloured Crotons, also good Ixoras, Caladiums, and Lilium auratum. The 2nd prize was taken by Mr. Finch, gr. to — Marryatt, Esq., of Coventry; and the 3rd fell to Mr. Webb, of Newark.

There was much competition for the best group of twelve stove or greenhouse plants, and in this the 1st prize of £10 was taken by Mr. Finch, gr. to — Marryatt, Esq., with a good collection, including beautiful plants of Phœnocoma prolifera and Ixora Williamsii. The 2nd prize was secured by Mr. Vere, gr. at Allestree Hall, in whose collection the most noticeable plant was a nicely-grown specimen of Cycas revoluta. Mr. Gilbert, of Duffield House, who was 3rd, showed a nice plant of Eucharis Mastersii in his collection.

Ferns were not numerous, but they were all good, the first prize collection of six plants, shown by Mr. Brewer, was exceptionally so, and included Gymnogramma decompositum, G. gloriosum, and G. argyrophyllum, Adiantum scutum, Davallia affinis. The 2nd and 3rd prizes were taken by Mr. Vere and Mr. Ward.

For Lycopodiums, the 1st prize was taken by Mr. Vere; and the 1st prize for the best basket of plants also, the 2nd prize going to Mr. Cartledge.

Dahlias occupied the most prominent position among the cut flowers, and there were some very fine blooms staged, noticeable among these being Queen of the Belgians, Clara, Gaiety, Emperor, Mrs. Gladstone, and Mrs. Saunders; whilst among the Cactus Dahlias, Panthia, Glorioss, and Bertha Mawley were especially good.

Roses were shown in limited quantity, but Mr. Robinson staged some nice blooms in his 1st prize exhibit; Mr. Wigley and Mr. Carrington being 2nd and 3rd respectively.

The FRUIT CLASSES furnished a good deal of competition, and Grapes were worthy most remark. Mr. McVinish, of Lockington, took 1st prize for Black Hamburgh, with two beautiful bunches, and also 1st prize for two bunches of Muscat, the 2nd prize being taken by Mr. J. Dare, gr. to Lady Whitworth, with two well-finished bunches.

With two enormous bunches of Barbarossa, Mr. Dewsbury took 1st prize for Black Grapes of any other variety; and for any other variety of White Grapes, Mr. Campbell showed two bunches with splendid berries of Duke of Buccleuch, and was followed by Mr. Borlas. But the best bunches in the show were those of Mr. McVinish, for three bunches in three distinct varieties. The varieties were Muscat of Alexandria, Black Hamburgh, and Black Alicante; Mr. Campbell and Mr. Dewsbury were 2nd and 3rd.

Mr. Smith of Alvaston took 1st prize for two Melons, the 2nd falling to Mr. M. A. Webb. Mr. Webb also took 1st for Apples.

In the class for Peaches there were many entries, and the 1st prize was won by Mr. Dare with six well-coloured fruits.

Mr. Ward of Riddings showed an excellent dish of Tomatos; and Messrs. Johnson & Wheeler were 2nd. Mr. Ward took 1st prize for a collection of fruit.

For a collection of vegetables of twelve kinds Mr. McVinish again was 1st, with splendid examples, including Ailsa Craig Onion, Sutton's A 1 Runner Bean, Giant White Celery, Satisfaction Potato, and Autocrat Pea.

The Potatos generally were very nice clean samples, the favourites being Sutton's Seedling, Bedford Prolific, International Satisfaction, Reading Russet, and Abundance.

Messrs. Sutton and Messrs. Webb offered prizes for the best collections of vegetables grown from seeds procured from them, and there were classes for amateurs not regularly employing a gardener, and for cottagers, which were generally well filled.

SHROPSHIRE HORTICULTURAL.

(*Continued from p.* 228.)

AUGUST 22, 23.—In the report of the above show, which was given in our last issue as we went to press, want of time obliged us to omit mention of the following awards which were made to honorary exhibits, viz.:—

Gold Medals.—To Messrs. J. Veitch & Sons, Chelsea, London, for a group of new Caladiums and Nepenthes; and to Messrs. Pritchard & Sons, Shrewsbury, for a magnificent assortment of Lilies, Begonias, and other plants of a decorative character. Messrs. J. Veitch & Sons also received Certificates of Merit for dwarf Caladiums (a new section), Duke of York, Duchess of York, Ladas, Chelsea Gem, F. W. Moore; and for Nepenthes excellens, and a new Fern, Pteris longifolia Mariesi, P. ludens, and Adiantum macrophyllum variegatum.

Silver Medals were awarded to Messrs. J. Laing & Sons, Forest Hill, London, S.E., for tuberous Begonias and Caladiums; to Messrs. Kelway & Sons, Langport, Somerset, for a collection of choice Gladiolus; to Messrs. Cannell & Sons, Swanley, Kent, for a collection of Dahlias (Cactus); to Messrs. Peed & Sons, Norwood, Surrey, for a group of Caladiums and Sarracenias; to Messrs. Cutbush & Sons, Highgate Nurseries, London, N., for a collection of hardy border flowers; to Messrs. Dobbie & Co., Rothesay, N.B., for Violas, Sweet Peas, &c.; to Messrs. B. S. Williams & Sons, Victoria Nurseries, London, for new and rare plants; to Messrs. W. & J. Birkenhead, Sale Nurseries, Manchester, for collection of Ferns.

Bronze Medals were awarded to Mr. E. Murrell, nurseryman, Shrewsbury, for group of Begonias; to Mr. A. Myers, nurseryman, Shrewsbury, for zonal Pelargoniums and other plants; to Mr. Septimus Pye, florist, Lancashire, for Violas and Pansies; to Messrs. Hewett & Sons, Solihull Nurseries, Birmingham (Silver Medal), for hardy border flowers; to Mr. Henry Eckford, Wem, for collection of Sweet Peas; to Messrs. Pearson & Sons, Chilwell Nurseries, Nottingham, for new zonal Pelargoniums; and to Mr. Davis, nurseryman, Yeovil, for double and single Begonias.

Certificates.—Messrs. J. Veitch & Sons, new Calla Elliottiana; to Messrs. Jarman & Co., Chard, for collections of vegetables; to Messrs. Webb & Sons, Wordsley, Stourbridge, for a collection of vegetables; to Messrs. Dicksons, Limited, Chester, for stove and greenhouse plants; to Mr. Greene, Brookfield Nursery, for Carnations and other flowers; to Messrs. Smith & Co., Worcester, for stove and greenhouse plants; to Mr. Charles A. Young, florist, Sefton, Liverpool, for Carnations and other flowers.

Ball bouquet and bridal bouquet.—Three grand pairs were shown by Messrs. Perkins & Sons, Coventry,; Messrs. Jenkinson & Son, Borough Nurseries, Newcastle; and Messrs. Jones & Sons, Shrewsbury, who took the prizes in that order for excellent arrangements of Orchids. Messrs. Jones & Sons were 1st for stand of cut flowers for table decoration.

New varieties of Cactus Dahlias, Sweet Peas, Carnations, Gladiolus, and Caladiums received Certificates of Merit.

Mr. J. Watkins, Pomona Farm, Hereford, showed excellently Gooseberries and other hardy kinds of fruit; and J. Lee Campbell, Esq., Glewston Court, Ross, showed some excellent Black Alicante Grapes, six bunches, but not in competition.

BASINGSTOKE HORTICULTURAL.

AUGUST 23.—Nothing could have been more depressing than the downpour of rain which continued all through the day on which the above exhibition was held, and few persons were able to wend their way to the tents pitched near the mansion at Hackwood Park. It seems difficult to imagine that the noble timber trees which adorn this fine park could have been seen to better advantage than on this occasion, Elm, Oak, Beech, and Lime being represented by magnificent specimens. There can be no more suitable place in which to hold a show on a fine day than Hackwood Park, though it is more than 1 mile distant from the town of Basingstoke.

Groups and Specimen Plants.—Of the three tents required to accommodate the exhibits, that which contained the groups and specimen plants was the most attractive. Two of these, arranged in a semicircle, each of good dimensions, competed, and came very close to each other, eventually the 1st prize went to Mr. J. Bowerman, gr., Hackwood Park, now the residence of J. Hoare, Esq.; 2nd, Mr. T. Weaver, gr. to W. O. Gilchrist, Esq., Oakley Hall, Basingstoke. In both cases the design and execution was on the same lines, a groundwork of Fern with dot plants of Crotons, &c., and a background of graceful Palms. The difference of three guineas in the 1st and 2nd prizes in the case of groups so nearly equal is to be regretted, and should be remedied in the future.

Some excellent specimen stove and greenhouse plants were staged, in the class for twelve in or out of bloom, Mr. Bowerman was 1st with excellent examples of Crotons, Queen Victoria and angustifolius, a fine-grown piece of Alocasia Thibautiana, Kentias Belmoriana, and Forsteriana, Allamandas Hendersoni, and Wardleana; Clerodendron Balfourianum, C. fallax, Bougainvillea glabra, &c.; 2nd, Mr. J. F. Mould, nurseryman, Pewsey, who had a few very fine specimens mixed up with two or three decidedly past their best.

In the division for single-handed gardeners, Mr. Holdaway, gr. to Colonel May, Hawkfield, was 1st with a good collection, including Latania borbonica, Clerodendron Balfourianum, C. fallax, which Mr. Holdaway grows very well indeed. Pandanus Veitchi, Bougainvillea glabra, Croton Weismanni, &c.; there being no other exhibitor. In the same division Mr. Holdaway had the best three plants, a good piece of Clerodendron fallax being very noticeable. Mr. Russell, gr., to W. Bradshaw, Esq., Audley Wood, was 2nd.

In the open class with six flowering and foliaged plants, Mr. Holdaway gained another 1st prize, having good specimens of Allamanda Hendersoni, Clerodendron fallax, C. Balfourianum, and three companion foliaged subjects: Mr. J. F. Mould was 2nd. Mr. Bowerman had the best specimen plant in flower, staging a good piece of Allamanda Williamsi; Mr. Mould being 2nd with a small Erica. The best foliage plant was Croton majesticus. Mr. Holdaway took the 2nd prize.

Some good special prizes for eight tuberous-rooted Begonias, brought a spirited competition, Mr. Weaver taking the 1st prize with finely-grown and bloomed plants; Mr. Bowerman coming 2nd. Table plants shown in twelves were very good indeed, clean, bright, and effective. Some fine plants of Coleus, much larger than we are accustomed to see, were staged by Mr. Geo. Piper, gr. to A. H. Jackson, Esq., West Ham.

Other plants in the open division included exotic Ferns. Six very good specimens secured for Mr. Weaver the 1st prize, among them Microlepia hirta cristata, Adiantum colpodes, A. concinnum latum, A. gracillimum, Pteris umbrosa, &c.

Fuchsias were represented by plants of good size, and bedding Pelargoniums were remarkably good, Mr. Weaver taking the 1st prize, and Mr. Holdaway the 2nd.

Cut Flowers.—Among these, Roses formed the main feature, there being several classes for them and in some cases very good blooms for the season were staged. Twelve bunches of hardy herbaceous plants were a fine feature, Mr. B. Ladhams, nurseryman, Shirley, Southampton, taking the 1st prize with fine bunches; Mr. G. Best, gr. to T. D. Leyland, Esq., The Vyne, being 2nd.

Some fairly good Carnations and Picotees were shown in competition for the special prize offered by J. A. Wallington, Esq., the hon. secretary. The best twelve bunches of cut flowers, distinct, represented mainly by stove and greenhouse subjects, came from Mr. Weaver, Mr. G. Best being 2nd. Dahlias, Asters, and cut blooms of bedding Pelargoniums were also shown.

Fruit was good on the whole. Mr. Bowerman had the best six dishes, comprising Muscat of Alexandria and Black Hamburgh Grapes, Barrington Peach, Humboldt Nectarine, Oullin's Gage Plum, and a Melon. Mr. T. Osman, the Gardens, Ottershaw Park, Chertsey, was 2nd, having Black Alicante and Muscat of Alexandria Grapes, Peaches, Nectarines, Figs, and a Melon.

Mr. Bowerman was 1st with two bunches of Black Hamburgh Grapes, Mr. Osman being 2nd; and they were 1st and 2nd with any other black, Mr. Bowerman having Gros Maroc, and Mr. Osman, Alicante. With white Muscats they occupied similar positions;

but with any other white. Mr. Osman came 1st, with Foster's Seedling, and Mr. Russell 2nd, with the same.

The best Nectarines were Pitmaston Orange and Humboldt. The Peaches were unnamed. Apples, both dessert and culinary, Plums, Cherries, Pears, &c., were also shown.

The special prizes offered by Messrs. Sutton & Sons, Webb & Sons, Carter & Co., and John Sharpe & Son brought excellent collections, in each case of six varieties, and the 1st prizes in all four were won by Mr. R. Lye, The Gardens, Sydmonton Court, Newbury; Messrs. Bowerman, Best, and Kneller, The Gardens, Malshanger Park, taking the 2nd prizes. Mr. Lye was also 1st with nine varieties of Potatos; Mr. W. T. Abery, Tilehurst, being 2nd.

The best brace of Cucumbers was Kneller's Prize, a cross between Lockie's Perfection and Matchless, perfect in every way, of medium size, and very handsome, from Mr. Kneller; Mr. Lye was 2nd, with Matchless.

Amateurs' and cottagers' plants, fruits, flowers, and vegetables, were praiseworthy, and staged somewhat numerously.

Two fine miscellaneous collections were staged—one of hardy cut flowers from Mr. B. Ladhams, Shirley, Southampton, very showy and fine; and one from Messrs. G. Jackman & Son, nurserymen, Woking, a valuable contribution also.

BRIGHTON AND SUSSEX "NEW" HORTICULTURAL.

August 28, 29.—This, one of the most flourishing societies in the South, held a successful meeting on the above dates. Entries were again more numerous; in fact, from the first, this Society has advanced rapidly. A Silver Cup, given for groups, is now finally won; but as the Mayor and Corporation have subscribed to a handsome Challenge Cup, the future in this respect is well provided for.

Groups of miscellaneous plants arranged for effect, in a space of 150 square feet, form a special feature of the show. Mr. E. Wills, Southampton, was awarded 1st, and having also won last season, he now retains the Cup; the whole arrangement was most tasteful and pleasing. Mr. G. Miles, Victoria Nursery, Brighton, was 2nd; and Messrs. J. McBean & Son, Cooksbridge, 3rd.

Mr. J. Turner, gr. to Sir Greville Smythe, was 1st for a small group. Mr. C. Hill, West Hoathly, and Mr. J. Inwood, The Retreat, Brighton, followed in like order.

Groups of Ferns were excellent, the two most tasteful coming from Mr. J. Adams, gr. to the Rev. Sir G. Shiffner, Lewes; and Mr. G. Miles, Dyke Road, Brighton; but they were separated by one from W. Miles & Co., Hove, who was awarded 2nd.

Plants.—For four foliage, and four in bloom, Mr. O. Offer, gr. to J. Warren, Esq., Handcross, was 1st, Dieffenbachia magnifica, Croton Wiesmanii, Lapageria rosea, Croton Warreni, and Cycas revoluta, being his best; Mr. Meachen, gr. to Mrs. Armstrong, Withdeane, was 2nd, after a close struggle.

Mr. Offer was also 1st for six Ferns, Davallias polyantha and Mooreana, and Nephrolepis; Davalloides furgans, with N. exaltata, being his best; W. Mills & Co., Hove, 2nd.

Dracænas were good; six from Mr. Offer, and a similar number from Mr. Wills, being 1st and 2nd.

The best table plants came from Mr. Bastin, gr. to Capt. Pringle, Welwyn. Mr. Offer and Mr. Meachen running 1st and 2nd for six Crotons in small pots. Messrs. McBean & Sons were 1st for six Ferns in 8-inch pots; and W. Miles & Co., Hove, for six Palms in pots of the same dimensions.

For a specimen foliage plant Mr. Offer was 1st with a good Croton princeps; and Mr. Wills, Southampton, was 1st with a Bougainvillea for a plant in bloom. Tables of plants were effective, but a little too crowded. Messrs. McBean & Sons, Cooksbridge, were 1st with a very pretty lot; Mr. G. Miles, Victoria Nursery, Brighton, 2nd.

Cut Flowers.—A good collection of these came from Mr. Archer, gr. to Miss Gibson, Hill House, Saffron Walden, who was far in front of other competitors; Mr. W. L. Bastin, gr. to Captain Pringle, Welwyn, Herts, being 2nd. Mr. Offer, gr. to J. Warren, Esq., Handcross, was 1st for twelve varieties.

For twenty-four cut Roses, Messrs. Perkins & Sons, Coventry, were well in front, their best blooms being Mrs. J. Laing, C. Lefebvre, A. Colomb, Mme. E. Verdier, Duke of Connaught, and Harrison Weir; Mr. W. Taylor, Osborn Nursery, Hampton, was 2nd.

Mr. Harris, gr. to Mrs. Eversfield, Denne Park, Horsham, was awarded 1st for twelve varieties; and Mr. Laurence, gr. to T. Olliver, Esq., Horsham, made a good 2nd.

A lot, not for competition, from Messrs. Perkins, contained a remarkably good Madame Eugène Verdier.

Mr. Harris was 1st for twelve Teas and Noisettes, being very closely run by Messrs. Perkins & Sons.

Messrs. Burrell & Co., Cambridge, had a magnificent stand of twenty-four Gladiolus, and were the only exhibitors.

For forty-eight Dahlias (show), Mr. F. W. Seale, Vine Nurseries, Sevenoaks, was 1st; and Mr. S. Mortimer, Farnham, 2nd.

Messrs. Cheal & Son, Crawley, won for twenty-four varieties; and Messrs. Perkins & Son, Coventry, followed.

Messrs. Burrell & Co., were 1st for twelve varieties of Pompon Dahlias; Mr. Seale, 2nd. Messrs. Cheal were well in front for single varieties; Mr. Seale following. In Cactus Dahlias the same order was kept; the 1st prize collection being very clear and bright.

For a bride and ball-room bouquet, Messrs. Perkins & Sons were 1st; and Mr. Seale 2nd. Mr. F. Webber, florist, Tonbridge, with a beautiful anchor, was well in front for a floral device. Mr. Seale was 1st for a single decorated vase, and Messrs. Perkins & Sons for a basket of cut flowers.

Fruit.—Mr. J. Bury, gr. to C. Bayes, Esq., Forest Hill, was 1st for a collection of eight dishes, his Grapes, Melon, Figs, and Nectarines being particularly good. Mr. L. Budworth, gr. to C. Hill, Esq., Rockhurst, West Hoathly, won a close fight with Mr. J. Gore, Polegate, for 2nd and 3rd honours.

Grapes were numerous and good. For three bunches of Black Hamburghs, Mr. J. Bury had some well-finished bunches, and was placed in front of Mr. T. Fairs, gr. to R. Clowes, Esq., Hassocks; the competition was very strong here. For three bunches of any other black variety, Mr. Bury won again, with splendid examples of Alnwick Seedling; Mr. Turner, gr. to Sir Greville Smythe, Hove, was 2nd. Mr. Bury was also 1st for three bunches of white, showing Muscat of Alexandria; and Mr. T. Fairs 2nd.

Mr. Budworth, gr. to C. Hill, Esq., West Hoathly, was 1st for two Melons; and Mr. Warren, gr. to Carl Meyer, Esq., Balcombe, 2nd. Mr. S. Horscroft, gr. to T. Potter, Esq., Ardingly, and Mr. T. Fairs, Hassocks, being 1st and 2nd for a single fruit.

For two dishes of Peaches, Mr. G. H. Sage, Ham House, Richmond, and Mr. Coles, gr. to H. Faure Walker, Esq., Balcombe, were 1st and 2nd. For one dish, Mr. Jupp, gr. to G. Boulton, Esq., Eastbourne, was a good 1st, with Barrington; Mr. Harris being 2nd.

Mr. Offer was 1st for Nectarines (two dishes), and Mr. Kemp, gr. to C. R. Scrase-Dickens, Esq., Horsham, 1st for a single dish.

Mr. Bastin was 1st for four dishes of Plums, and Mr. Stringer, gr. to R. A. Bevan, Esq., Horsegate, Cuckfield, 2nd.

W. Collins, Esq., Burgess Hill (Pears), Mr. W. Maskell, Withdeane (Pears), Mr. G. Helman, gr. to Viscount Gage, Firle (Apples), Mr. Kemp, Coolhurst, Horsham (Apples), and Mr. Tayler, Osborn Nursery, were other 1st prize winners.

Miscellaneous.—Among the stands and plants not for competition the most noticeable were the following:—A good collection of bulbs, Gladiolus, and Lilies from Messrs. Balchin & Sons, Hassocks and Brighton; a collection of new Caladiums from Mr. Prinsep, gr. to Viscountess Portman, these were particularly well coloured for so sunless a season, and contained many acquisitions in deep red and magenta shades; a collection of fruit came from Messrs. Cheal & Sons, Crawley, with fruiting trees upon the Paradise stock. Messrs. Tilley Bros. also had a stand of bulbs and horticultural sundries. Mr. B. R. Davis, Yeovil, Somerset, had a good display of cut Begonias; and Messrs. T. Durrant, Young & Co., Eastbourne, with Messrs. Perkins & Son, Coventry, had cut Roses. Mr. B. Ladhams had a collection of herbaceous cut flowers; and Mr. Kilminster, nurseryman, Steyning, cut Roses, with foliage and flowering shrubs.

MARKETS.

COVENT GARDEN, August 30.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, half-sieve	2 0–	2 6
,, Runners, half-sieve	1 0–	1 6
Cauliflowers, p. doz.	1 6–	3 0
Cucumbers, per doz.	1 6–	2 6
Marrows, per doz.	0 9–	
Mushrooms, per lb.	0 8–	0 9
Peas, per bushel	4 0–	5 0
Tomatos, per lb.	0 3–	0 4

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	2 0–	4 0
Asters, doz. bun.	2 0–	6 0
— French, p. bun.	0 6–	1 0
Bouvardias, per bun.	0 6–	1 0
Carnations, 12 blms.	0 6–	1 0
— doz. bun.	2 0–	6 0
Chrysanthemums, p. 12 blooms	0 6–	1 6
— p. 12 bunches	3 0–	8 0
Cornflowers, 12 bun.	1 0–	2 0
Eucharis, per dozen	1 0–	4 0
Gaillardias, dz. bun.	1 6–	3 0
Gardenias, per dozen	1 0–	3 0
Gladiolus, doz. bun.	4 0	12 0
Lapageria, 12 blooms	0 6	1 0
Lavender, 12 bunches	4 0–	6 0
Lilium Harrisii, doz.	2 0–	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9–	1 6
Maidenhair Fern, per 12 bunches	3 0–	6 0
Marguerites, 12 bun.	1 0–	3 0
Mignonette, 12 bun.	1 0–	3 0
Myosotis, or Forget-me-Not, doz. bun.	1 6–	3 0
Pansies, 12 bun.	1 0–	2 0
Orchids:—		
Cattleya, 12 blms.	6 0–	12 0
Odontoglossum crispum, 12 blms.	2 0–	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0–	4 0
— 12 sprays	0 4–	0 6
Pinks, doz. bun.	1 6–	4 0
Pyrethrums, 12 bun.	2 0–	4 0
Roses, Tea, per dozen	0 6–	2 0
— coloured, p. doz.	2 0–	4 0
— yellow (Maréchals), per doz.	1 6–	4 0
— red, per dozen	0 6–	1 0
— outdoor, doz. bun.	3 0–	9 0
Stephanotis, dozen sprays	1 6–	2 0
Sweet Sultan, 12 bu.	2 0–	3 0
Tuberoses, 12 blms.	0 3–	0 6

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0–	30 0
— specimen, each	7 6–	21 0
Asters, per dozen	3 0	6 0
Balsams, per doz.	3 0–	6 0
Calceolarias, per doz.	3 0–	6 0
Campanulas, p. doz.	6 0–	12 0
Chrysanthemums, p. dozen	6 0–	15 0
Cyperus, per dozen	4 0–	10 0
Dracæna, each	1 0–	5 0
Evergreen Shrubs, in var., per dozen	6 0–	24 0
Ferns, various, doz.	4 0–	12 0
— small, per 100	4 0–	6 0
Ficus elastica, each	1 0–	7 6
Foliage plants, doz.	9 0–	24 0
Fuchsias, per dozen	4 0–	6 0
Heliotropes, per doz.	3 0–	6 0
Hydrangeas, per doz.	9 0–	18 0
— specimens, each	2 0–	3 6
Ivy Pelargoniums, dz.	3 0–	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0–	18 0
Marguerites, p. doz.	6 0–	12 0
Mignonette, per doz.	3 0–	6 0
Palms, various, each	2 0–	10 0
— specimens, each	10 6–	84 0
Pelargoniums, p. doz.	6 0–	10 0
— scarlets, p. doz.	3 0–	6 0
— scarlets, small, per dozen	1 6–	2 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, half-sieve	1 9–	2 6
Figs, per dozen	1 0–	1 6
Grapes, 1st quality, black English, per lb.	1 0–	1 6
,, English, 2nd quality, p. lb.	0 6–	1 0
Grapes, Muscat, per lb.	1 6–	2 0
,, Muscat, 2nd quality, per lb.	0 9–	1 0
Grapes, Guernsey, per lb.	0 5–	0 9
Melons, each	1 0–	1 6
Peaches, large, p. doz.	4 0–	6 0
,, small, per doz.	1 0–	
Pears, p. sieve, small	2 0–	2 6
,, (Dessert), half-sieve	3 0–	4 0
Pine-apples, St. Michael, each	2 0	5 0
Plums, half-sieve	2 0–	3 0

POTATOS.

Trade this week not quite so good. Prices:—Snowdrops, 4*s.* to 5*s.*; Hebrons, 3*s.* to 4*s.*; Giants, 2*s.* 6*d.* to 4*s.* per cwt.

SEEDS.

LONDON: *August* 29.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that increased attention is now given to Red Clover seed; over seventy tons of yearling American Red changed hands last Monday at Mark Lane. The United States official reports for August indicate the Clover seed crop as only three-fourths of an average. English Trifolium and Rye continue exceptionally cheap. For winter Tares there is a good enquiry. Mustard and Rapeseed show no change. Canary seed keeps strong; stocks both in London and Liverpool stand at a very low level. For Peas there is an improving feeling. Linseed and Buckwheat are steady.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *August* 28.—Quotations:—Cabbages, 2*s.* to 4*s.* 6*d.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.*; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Parsley, 1*s.* to 1*s.* 6*d.* per dozen bunches; Scarlet Beans, 3*s.* to 5*s.* 6*d.*; French do., 2*s.* 6*d.* to 4*s.* 6*d.* per bushel; Onions, 1*s.* 9*d.* to 3*s.* 6*d.* per dozen bunches; Horse Radish, 1*s.* 3*d.* to 1*s.* 9*d.* per bundle; Apples, English, 1*s.* 6*d.* to 5*s.* per bushel; Pears, 9*d.* to 3*s.* per ½-sieve; Plums, 9*d.* to 2*s.* do.

STRATFORD: *August* 28.—The market has been well supplied with all kinds of produce during the past week, and, with a large attendance of buyers, a brisk trade was done at the undermentioned quotations:—Cabbages, 3*s.* to 4*s.* per tally; Cauliflowers, 5*s.* to 7*s.* do.; Plums, 2*s.* to 3*s.* 6*d.* per half-sieve; do., 4*s.* to 6*s.* per flat; Green Gages, 2*s.* to 3*s.* per half-sieve; do., 4*s.* 6*d.* to 6*s.* per flat; Pears, 1*s.* to 2*s.* 6*d.* per half-sieve; do., 3*s.* to 5*s.* per flat; Tomatos, English, 6*d.* to 8*d.* per lb.; Scarlet Beans, 3*s.* to 4*s.* 6*d.* per bushel; French do., 2*s.* 6*d.* to 3*s.* 6*d.* do.; Cucumbers, frame, 1*s.* to 3*s.* per dozen; do., field, 6*d.* to 8*d.* do.; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 28*s.* to 33*s.* do.; Mangels, 22*s.* to 24*s.* do.; Onions, Oporto, 5*s.* 6*d.* to 6*s.* 6*d.* per case; do., Dutch, 2*s.* 9*d.* to 3*s.* 6*d.* per bag; do., Valencia, 4*s.* 6*d.* to 5*s.* 6*d.* per case; Apples, English, 3*s.* to 7*s.* 6*d.* per bushel; Watercress, 6*d.* per dozen.

FARRINGDON: *August* 30.—Quotations:—Cabbages, 3*s.* to 4*s.* per tally; Bunch Greens, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen; Marrows, 5*s.* to 6*s.* 6*d.* per tally; Beans, 2*s.* to 2*s.* 6*d.* per bushel; Peas, 2*s.* to 2*s.* 6*d.* do; Cauliflowers, 6*s.* to 7*s.* per tally; Plums, Victorias, 2*s.* to 2*s.* 6*d.* per half-sieve; Black Diamonds, 2*s.* 6*d.* to 3*s.* do.; Green Gages, 3*s.* to 3*s.* 6*d.* do.; Apples, Suffields, 5*s.* per bushel; Hazel Pears, 4*s.* do.; Tomatos, English, 12*s.* per 12 lb.; Walnuts, green, 3*s.* 6*d.* per large pot; Melons, 1*s.* 9*d.* per dozen; Cucumbers, 2*s.* do.; Horse-radish, 1*s.* 6*d.* per bundle.

POTATOS.

BOROUGH AND SPITALFIELDS: *August* 28.—Quotations ranged between 50*s.* and 80*s.* per ton.

STRATFORD: *August* 28.—Quotations:—Magnums, Darkland, 45*s.* to 52*s.* 6*d.*; do., Uplands, 50*s.* to 65*s.*; do. Bruces, 50*s.* to 65*s.*; Snowdrops, 60*s.* to 80*s.*; Hebrons, 55*s.* to 65*s.*; Early Puritans, 60*s.* to 75*s.*; White Elephants, 55*s.* to 60*s.* per ton.

FARRINGDON: *August* 30.—Quotations:—Essex: Hebrons, 55*s.* to 70*s.*; Bruces, 50*s.* to 60*s.*; Her Majesty, 50*s.* to 60*s.*; Reading Giants, 55*s.* to 60*s.*; Snowdrops, 60*s.* to 80*s.*; Puritans, 50*s.* to 70*s.* per ton. Bedfordshire: White Hebrons, 70*s.* to 80*s.*; Red do., 65*s.* to 75*s.*; Sutton's Abundance, 55*s.* to 65*s.*; Magnums, 50*s.* to 60*s.* per ton.

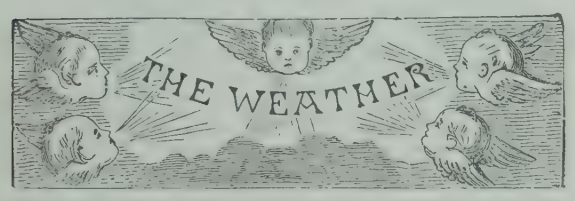
LONDON AVERAGES: *August* 29.—English Kidneys, 60*s.* to 70*s.*; Hebrons, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 85*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 120*s.*; do., new, 75*s.* to 130*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 140*s.*; do, inferior, 60*s.* to 100*s.*; do., new, 70*s.* to 90*s.*; Mixture, 90*s.* to 130*s.*; and Straw, 43*s.* to 60*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending August 25, and for the corresponding period in the preceding year:—1894: Wheat, 24*s.* 1*d.*; Barley, 22*s.* 3*d.*; Oats, 17*s.* 8*d.* 1893: Wheat, 25*s.* 11*d.*; Barley, 26*s.* 9*d.*; Oats, 18*s.* 6*d.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Above (+) or below (—) the Mean for the week ending August 25.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 —	74	0	+ 319	— 51	7 —	152	37·3	29	35
1	3 —	73	0	+ 2	+ 8	3 —	139	25·9	33	35
2	4 —	83	0	+ 75	— 51	1 —	139	17·2	27	33
3	4 —	95	0	+ 93	— 100	8 +	132	17·1	24	36
4	4 —	92	0	+ 102	— 79	6 +	133	16·8	16	33
5	2 —	117	0	+ 122	— 119	7 +	130	19·0	23	37
6	3 —	80	0	+ 81	— 69	7 —	148	34·2	43	33
7	3 —	97	0	+ 191	— 120	6 +	148	24·2	21	33
8	2 —	106	0	+ 118	— 81	13 +	149	26·3	12	37
9	2 —	92	0	+ 66	— 33	3 —	164	27·0	30	30
10	2 —	104	0	+ 115	— 67	13 +	153	28·6	13	32
*	0 aver	134	0	+ 221	— 18	4 +	150	23·9	25	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 25, is furnished from the Meteorological Office:—

"The *weather* during this period was finer than of late in Scotland, but became very unsettled, with frequent and heavy rains over the greater part of England and Ireland. Thunderstorms occurred from time to time in nearly all districts, but especially over England.

"The *temperature* just equalled the mean in the 'Channel Islands,' but was again low elsewhere, the deficit ranging from 2° in 'England, S. and S.W.,' in 'Scotland, N.,' and in 'Ireland,' to 4° over the central and eastern parts of England. The highest of the maxima were registered, as a rule, on August 22, when they ranged from 73° in the 'Midland Counties,' and 72° in 'England, S.,' to 66° in 'Scotland, N. and W.,' and in 'England, N.W.' In the 'Channel Islands,' however, the thermometer was highest on Saturday, when a reading of 76° was recorded. The lowest of the minima occurred on rather irregular dates, and varied from 33° in 'Scotland, E.,' and 37° in 'Scotland, N.,' and 'Ireland, N.,' to 45° in 'Ireland, S.,' and to 53° in the 'Channel Islands.'

"The *rainfall* greatly exceeded the mean over most parts of England, and in 'Ireland, S.,' in 'England, S.W.,' and 'Ireland, S.,' the fall was about three times as much; and in the north-western, central, southern, and eastern parts of England about twice as much as the mean for the time of year. In Scotland, in 'England, N.E.,' and 'Ireland, N.,' however, there was a deficit.

"The *bright sunshine* was again very deficient generally, but exceeded the mean in 'Scotland, N. and E.,' and 'Ireland, N.' The percentage of the possible duration ranged from 43 in 'Scotland, W.,' and 33 in 'Scotland, E.,' to 16 in the 'Midland Counties,' 13 in 'Ireland, S.,' and 12 in 'England, S.W.'"

GARDENING APPOINTMENTS.

MR. ARTHUR POPE, until recently gardener at Allington Hall, Grantham, as Head Gardener to Capt. NEVILLE-REEVE, Ashby Hall, Lincoln, entering on his duties on September 15.

Mr. CHAS. H. SORSBY, Foreman at Carlton House, Worksop, has succeeded the late Mr. J. JEFFERSON as Gardener at that place.

Mr. D. M. RUSSELL, for the past eleven years Gardener to the Hon. P. H. BARING, Banstead Wood, Epsom, as Superintendent to the West Ham Park.

Mr. A. METHVEN, formerly Gardener to the Baroness A. DE ROTHSCHILD, Pavillon de Pregny, Geneva, is engaged as Gardener to the Marquis of Camden, Bayham Abbey, Kent.

Mr. H. POLLARD, previously Head Gardener at The Coppice, Queniborough, Leicester, as Head Gardener to J. BARROW-CLOUGH, Esq., Oaklands, Barrowford, Nelson, N. E. Lancashire.

CATALOGUES RECEIVED.

A. ROBINSON, 1A, Bishopsgate, and Camomile Street, City—Bulbs and Flower Roots.

FOTHERINGHAM & KING, Whitesands, Dumfries—Bulbs and Flower Roots.

W. P. LAIRD & SINCLAIR, Dundee and Cupar, Fife—Bulbs and Flower Roots.

F. MILLER & Co., 267, Fulham Road, London, S.W.—Bulbs.

E. WEBB & SONS, Wordsley, Stourbridge—Bulbs.

JNO. T. GILBERT (late B. Gilbert), Bourne, Lincolnshire—Bulbs and Flower Roots.

ROBT. SYDENHAM, Tenby Street, Birmingham—Bulb List.

W. DRUMMOND & SONS, Stirling, N.—Bulbous and Flowering Roots.

W. FROMOW & SONS, Sutton Court Nurseries, Chiswick—Bulbs.

FISHER, SON & SIBRAY, Handsworth Nurseries, Sheffield—Bulbs, Flower Roots, &c.

DAVID W. THOMPSON, 24, Frederick Street, Edinburgh—Bulb List.

THE TOTTENHAM NURSERIES, LD. (late A. M. C. Jongkindt Coninck), Dedemsvaart, near Zwolle, Netherlands—Wholesale List of Coniferæ, Rhododendrons, Azaleas, Roses, Fruit Trees, Rock Plants, Ericas, Ferns; &c.

HURST & SONS, Burbidge Nurseries, near Hinckley—List of Strawberries.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** CONES.—*As a consequence of the hot season of 1893, many Conifers are this season producing cones, and thus afford an opportunity of ascertaining their correct nomenclature. The Editor will be pleased to receive specimens of any but the commonest kinds of Cupressus, Pinus, Abies, Picea, &c., for identification.*

BOOKS ON CONIFERS: *W., Edmonton. A Manual of the Coniferæ*, by J. Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.—*A Manual of Forestry*, by W. Schlich; published by Bradbury, Agnew & Co., Bouverie Street, London, E.C.—*Pine Plantations of the Sand Wastes of France*, by J. Croumbie Brown; published by Oliver & Boyd, Tweedale Court, Edinburgh, and Simpkin, Marshall & Co., London.—*The Pinetum*, by G. Gordon, 1880 ed.; London.—*The Pinetum*, by G. Gordon, 1880 ed.; published by Simpkin & Marshall; and if you are conversant with the German language, *Handbuch der Nadelholzkunde*, by Beissner, will be found a useful work. It is published by Paul Parey, Berlin.

BORDEAUX MIXTURE: *Old Subscriber.* Very often given in our columns (and quite recently) in this and previous years.

CARNATIONS: *J. M.* Probably eel-worms (Nematodes), which come from the soil. It will be better to start afresh with new soil and new plants.

CUCUMBERS AND THE USE OF SULPHATE OF IRON: *S. W. D.* For full instruction of the method to be pursued, see p. 256 in present issue.

DIMENSIONS OF SHOW BOARDS OF THE NATIONAL CHRYSANTHEMUM SOCIETY: *G. F. G.* For twelve blooms, 24 inches long, 18 inches wide, the holes 6 inches apart from centre to centre; to stand 6 inches high at back and 3 inches in front. Two "twelve" boards may be used for twenty-four blooms. For six blooms, the stands are 18 inches by 12 inches. All stands to be painted green. No limit as to size of boards where Japanese varieties are shown. All cups or wires for showing the latter to be 3 inches in diameter.

FUCHSIAS: *T.* The petals have very long stalks resembling the filaments of the stamens, curious for the botanist, but they will not be appreciated by the florist. The other has no merit.—*P. F. A.* Very curious, some novel in colour and form. All botanically interesting, and some deserving culture; but as you have not named nor numbered your specimens, we cannot say more.

FUNGUS ON MONTBRETIAS: *C. W. D.* The fungus causing the disease is Heterosporium asperatum of Berkeley. In all the specimens sent, the bulbs are so thoroughly saturated with mycelium, that no cure is possible. The soil is undoubtedly teeming with the fungus, which is also now forming its fruit on the leaves; these should be burnt, otherwise the spores will drop into the soil. A life-history of the fungus, with plates, is given in the *Journal of the Royal Microscopical Society*, October, 1892. *G. Massee.*

GRAPES: *W. G.* In some soils the Black Hamburgh will not colour satisfactorily, but the fruit suffers only in appearance, it being good in flavour, and keeping well. If it be a Vine worked on a late variety, it might also suffer in the same way. The shanking of the Black Alicante may be due to a variety of causes, such as overcropping, bad condition of the roots, roots too deep in the soil, excessive root-moisture, sudden denudation of large quantities of foliage and minor shoots.

JOHANNIS APFEL AND SPLITT APFEL: *F. G. W.* The first is a form of the Paradise stock, the second is the Doucin.

MID-SEASON GRAPES: *W. G.* It will be best for the Vines to cut the bunches with 6 inches of shoot attached, and put them in bottles of water in a cool dry room, where no other fruit is stored. To let Grapes, now ripe, remain hanging on the Vines till January weakens the latter, and tends to much loss of colour in black Grapes, and of berries from mouldiness.

MILDEW ON CHRYSANTHEMUMS: *G. F. G.* A good cultivator of these plants recommends the following well-known remedy:—Place 2 lb. of flowers-of-sulphur, and 2 lb. of quicklime in 10 quarts of water: boil for 20 minutes. Use two wineglassfuls of the mixture in 4 gal. of water. Apply with a syringe having a nozzle. Syringe with clean water in an hour afterwards. The Bordeaux Mixture, well diluted, would also be effectual. The sulphide of potassium enquired about is mostly used against powdery mildews. The proportion to use is 1 oz. to 3 gal. of water.

NAMES OF PLANTS: *M. C.* Spiræa astilboides.—*Carnarvon.* 1, Pyrus Aria; 2, Ailantus glandulosa; 3, Syringa Emodi; 4, Escallonia macrantha; 5, Passiflora cœruleo-racemosa; 6, Tecoma jasminoides.—*A. M.* We do not recognise the Pine.—*H. R.* 1, Abelia triflora; 2, Buonapartea juncea.—*J. Webb.* Pyrus crenata.—*J. Lincoln.* Illecebrum verticillatum.—*H. G. R.* 1, Campanula isophylla; 2, Lysimachia ciliata.—*M.* 1,

Teucrium Scorodonia; 2, Silene inflata var. maritima; 3, Daucus carota, Wild Carrot; 4, Centaurea nigra; 5, Sedum rupestre.—*S. Leary.* 1, Sanseviera zeylanica; 2, Cycas revoluta.—*J. R.* Miltonia spectabilis var. Moreliana—*P. McA.* Dendrobium clavatum.—*H. G. P.* Epidendrum cochleatum, Aërides Sanderianum, Crinum Moorei. —*W. C. R.* 1, Astrantia major; 2, Carex variegata; 3, Sedum carneum variegatum; 4, Lobelia syphilitica var.; 5, Cacalia ficoides; 6, Yucca filamentosa. — *Church.* 1, Alternanthera paronychioides major; 2, A. versicolor; 3, A. paronychioides aurea; 4, A. grandis; 5, Alternanthera spatulata; 6, A. paronychioides; 7, A. amœna; 8, send in flower; 9, Cypripedium conchiferum; 10, Hofmannia Ghiesbreghtii.—*Nemo.* Tamarix gallica. *T. M.* 1, Stenactis speciosa; 2, Linaria vulgaris.—*F. W. B.* Tacsonia Van Volxemii—a poor form of it.—*W. L., Norwood.* 1, Festuca myurus; 2, F. ovina, gone wrong; 3, Nardus stricta; 4, Juncus squarrosus; 5, Erica cinerea; 6, Aspidium aculeatum var.—*W. T.* Leptospermum scoparium.—*W. H.* 1, Campanula sp.; 2, Prenanthe purpurea; 3, probably Verbascum nigrum, specimen insufficient; 4, Stenactis speciosa; 5, Clematis flammula; 6, Circeia alpina; 7, Potentilla tomentella; 8, An Asclepias without flower.—*A Constant Reader.* 1, Pteris serrulata; 2, Lycopodium Wildenovii; 3, Pteris cretica; 4, not recognised; 5, Begonia discolor; 6, specimen insufficient; 7, Selaginella Krausi; 8, specimen insufficient.

NOTICE TO QUIT EMPLOYMENT: *R. B. C.* As a trade grower's *employé*, and in the presumable absence of any written agreement, we think that you cannot do better than follow the advice tendered by the solicitors whom you have consulted.

OUVIRANDRA FENESTRALIS: *W., Edmonton.* The plant used to be grown at Messrs. J. Veitch & Sons, Messrs. Hugh Low, and Messrs. B. S. Williams & Son, amongst London nurserymen, and may still be purchased from some of them.

ROSE MARÉCHAL NIEL: *Grower.* You should have done what pruning was necessary as soon as the trees finished blooming, they would then have made good wood again for flowering. At this date it will be best only to thin out any weak shoots, and obtain flowers next spring from the shoots they have made during the present summer. Were you to prune now, you would get no early flowering-shoots.

STANHOPEAS: *H. K.* We are sorry the two Stanhopeas were rotten before we received them, owing to accidental delay. One was S. oculata.

TOMATO DISEASES: *T. P. R.* Peronospora, probably. The winter history is not thoroughly known. We should recommend you to burn all the affected foliage at once, and next year to spray with Bordeaux Mixture two or three times in the season, before the fruit begins to ripen. This should be done as a preventative, not as a cure.—*B.* There is, 1, the "Tomato rot," which destroys the foliage just as in the case of the Potato; 2, the "pink mildew," Dactylium roseum; and, 3, the "black spot," which affects the top of the fruit in a circular patch round the base of the style, this is caused Cladosporium lycopersici.—*M. H.* 1, is Peronospora; 2 and 3, black spot, Cladosporium lycopersici. See Plowright, in *Gardeners' Chronicle*, November 12, 1881, and W. G. Smith, in *Gardeners' Chronicle*, October 1, 1887.

COMMUNICATIONS RECEIVED.—H. J. E.- F. E. W.—W. F. P. —Mertens & Co.—W. Hills —F. Scott.—W. L. W., Reading. —E. Webb & Sons.—Morgan & Lowe.—R. L. Harrow.— W. B.—S. C. (next week).—H. W. W.—Wild Rose.—W. P. —W. A. B.—A. D.—W. F. Perkins.—J. B.—A. C. F.—P. W. H. M.—W. W.—S. P. O.—F. K.—H. E. G. (next week).— J. J. Dicks.—E. M. C.—C. W. D.

FRUITS RECEIVED.—W. A.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners Chronicle" has, since the reduction in the price of the paper,*

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BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
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1½ × 3 Prepared Sash Bar at 5*s.* per 100 feet.
Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½*d.* per foot run; 2×7 at 1*d.*
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free. THE CHEAP WOOD COMPANY
72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

PAINT TRY LEETE'S 2 1D 2 1b
ON IRON, WOOD & STONE
CHEAPEST HOUSE FOR BRUSHES COLORS VARNISHES & GLUE.
129, LONDON ROAD, S.E.

WARE and SONS'
ARE THE FLOWER POTS BEST.
THE SUSSEX POTTERY WORKS, UCKFIELD.
Quotations given for quantities. Carriage paid to any Railway Station.
The Best are Cheapest.
SAMPLES and LISTS FREE. Crates packed.



PATENT
HORTICULTURAL BOILER.
QUICK HEATING & CHEAP.
Particulars of—
T. POTTERTON, HOT-WATER ENGINEER,
BALHAM, LONDON, S.W.

GREENHOUSES.—C. E. ORFEUR invites enquiries for his New Illustrated CATALOGUE of Greenhouses, Forcing-houses, Garden Frames, Amateur's Houses, and Heating Apparatus, &c., which will be sent, post-free, on application to Colne Bank Works, Colchester.

New Illustrated List, 3rd Edition—100,000—364 Pages, Bound in Cloth, Post-free on application.

W. COOPER, LIMITED,

HORTICULTURAL PROVIDERS—*the Original Inventor of Cheap Greenhouses,*

755, OLD KENT ROAD, LONDON, S.E.

NURSERIES—HANWORTH AND FELTHAM.

The Largest Steam Horticultural Works in the World. Inspection invited.

1000 HOUSES IN STOCK to Select from.

Works cover 5 acres.

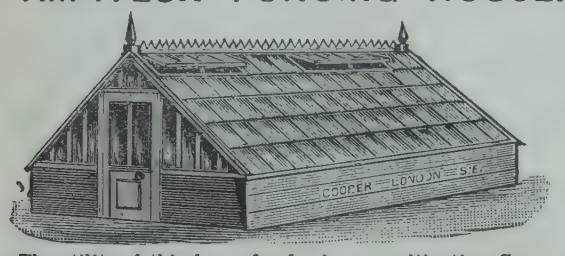
AMATEUR GREENHOUSES.



This Illustration is an exact copy of my Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with Ventilators, Irons for Opening, Staging, Glass, &c. Made in Sections, so that they can be erected by any gardener or handy man in a few hours. Simply screwed together. 7 by 5 ft., 56*s.*; 9 by 6 ft., £4; 12 by 8 ft., £6; 15 by 10 ft., £8 10*s.*; 20 by 10 ft., £12; 25 by 10 ft., £16.

Any size made. SEND FOR LIST, post-free.

AMATEUR FORCING HOUSE.



The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

HORTICULTURAL TIMBER.

WELL-SEASONED RED and YELLOW DEAL.

SASHBARS. 1½ in., 3*s.*; 2 in., 3*s.* 9*d.*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

MATCH BOARDS, ⅝, 6*s.* per square; 1-in., 10*s.* 6*d.* per square.
FLOOR BOARDS, 1-in., 9*s.* per square.
FEATHER EDGE BOARDS, ¾ by 6, 6*c.* 6*d.* per square.
DEALS, 3 by 11, Yellow, 4*d.*; 3 by 9, 3½*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d.*; 2 by 6, 1*d.*
CUTTING FLATING, 9*d.* per 100 ft.; Deeping, 2*s.* 3*d.* dozen 12 ft.
SLATING BATTENS, ¾ by 2, 1*s.* 3*d.* per 100 ft.; ¾ by 1, 7*d.* per 100 ft.
HALF GLASS DOORS, 4 ft. 6 in. by 2 ft. 6 in., 6*s.* each, 6 ft. by 2 ft. 6 in., 7*s.*; Marginal Light, 6 ft. 6 in. by 2 ft. 6 in., 10*s.*
VENTILATORS, TOP or SIDE, 2 ft. 6 in by 2 ft., 2*s.* each.
FINIALS, MACHINE-TURNED, 12 in. high, 6*d.* each; 4*s.* 6*d.* per dozen.
TRELLIS, Planed, Extended—

Open.	*s.*	*d.*	Open.	*s.*	*d.*
12 ft. by 1½ ft.	2	0	12 ft. by 3½ ft.	4	6
12 ft. by 2 ft.	3	0	12 ft. by 4 ft.	5	6
12 ft. by 2½ ft.	3	6	12 ft. by 5 ft.	6	6
12 ft. by 4 ft.	4	0	12 ft. by 6 ft.	8	0

MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9, best Red Deal, all planned, rabbeted, &c., ready for use. Send for Specification.

The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

All Timber consigned at the Cheap Timber Rate to all parts of the country. Send for TIMBER LIST.

VIRGIN CORK, well mossed, thin and light, 14*s.* per cwt.
DAHLIA or ROSE STAKES, strong, painted green, tarred ends, 4 ft., 18*s.* per gross; 5 ft., 21*s.* per gross; 6 ft., 26*s.* per gross
TIFFANY, the cheapest shading, 72 in. wide, 6½*d.* per yard.
TEAK ORCHID BASKETS, well and strongly made, 6 in., 10*s.* 6*d.*; 7 in., 12*s.*; 8 in., 14*s.*; 9 in., 17*s.*; 10 in., 19*s.*; 11 in., 23*s.*; 12 in., 28*s.* per dozen.

BOUQUET WIRE.

Stubs, 7 in. lengths, No.	20	22	24	26	28	30
per dozen lb. ...	4*s.*	4*s.* 6*d.*	5*s.*	6*s.*	6*s.* 6*d.*	8*s.*

Silver-plated, on ¼ lb. reels, 5*s.* per dozen.

WOOD FLOWER-STICKS.

Feet	1	1½	2	2½	3	3½	4	4½	5
Per 1,000 ...	2/2	3/9	6/-	8/-	10/-	14/-	17/-	23/-	29/-
Painted Green	6/-	8/-	14/-	17/6	20/-	25/-	32/6	40/-	55/-

WOOD LABELS—Best Make.

Inches	3	4	5	6	7	8	9	10
Per 1,000...	1/5	1/8	2/-	2/9	3/6	4/6	5/6	6/-

SPECIAL BAMBOO CANES—About 4 ft.

Best and most durable for Tomatos, Chrysanthemums, &c.

Per 100. 2*s.* 9*d.* Per 1,000. 25*s.* Per 5,000. £5

RAFFIA, for Garden Tying, best quality. 1 lb., 9*d.*; 2 lb., 1*s.* 4*d.*; 3 lb., 2*s.*; 7 lb., 4*s.* 3*d.*; 14 lb., 8*s.*; 28 lb., 14*s.*

FREE ON RAIL IN LONDON, Packages included.

GLASS.

15-oz., 100 ft., 21-oz., 100 ft.
4ths ... 8*s.* 3*d.* ... 11*s.* 3*d.*
3rds ... 9*s.* 0*d.* ... 12*s.* 3*d.*

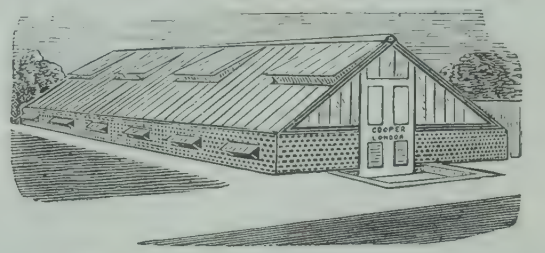
10,000 Boxes to select from.

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8 12 by 9 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

SPAN-ROOF FORCING HOUSES



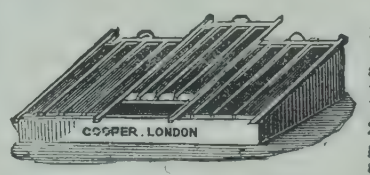
Built for brickwork, 3ft. high, of well-seasoned red deal, roof ventilation according to size, all 21oz. glass, suitable for nurserymen, market gardeners, and those who require a cheap, strong house for forcing or growing Cucumbers, Tomatos, Melons, &c. Delivered to any Station in England.

20 × 9, £8.

For Illustrations and Prices of other sizes, see

ILLUSTRATED PRICE LIST FREE.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto. 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft, £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

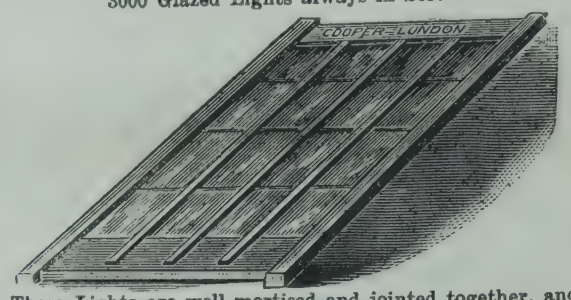
COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 40 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	5	0
4 ft. by 3 ft., ,, ,, ...	6	6
6 ft. by 4 ft., ,, ,, with 21-oz. glass ...	9	0
6 ft. by 4 ft., unglazed lights	3	6

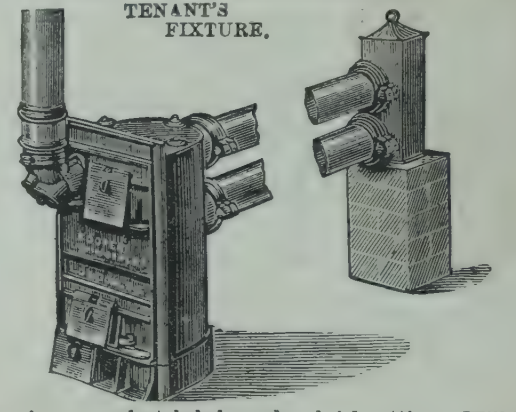
Special quotations for large quantities.

See page 278 in List.

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft.. £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s.*; No. 6, 500 ft., £9; of 4-in. pipes.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

POULTRY HOUSES.



Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20*s.*

5ft. by 4 ft. ... ... 25*s.*
6 ft. by 4 ft. ... ... 30*s.*
7 ft. by 5 ft. ... ... 36*s.*
9 ft. by 6 ft. ... ... 42*s.*

Send for List.

MANURES, PEAT, SAND, FERTILIZERS, &c.

1-lb. tins Fertiliser... ... ... per dozen	£0	4	0
1-lb. tins Sunshade... ... ... ,,	0	6	0
Cocoa-nut Fibre Refuse ... ... per sack	0	1	0
Silver Sand, coarse or fine (2 cwt.) ... ,,	0	2	3
Best Orchid Peat ... ... ,,	0	3	0
,, Rhododendron Peat... ... ... ,,	0	1	9
,, Brown Fibrous Peat ... ... ,,	0	2	0
,, General Peat... ... ... ,,	0	1	9
,, Loose Peat ... ... ,,	0	1	9
,, Surrey Loam ... ... ,,	0	1	9
General Potting Compost ... ... ,,	0	1	6
Fern Compost ... ... ,,	0	1	6
Bulb Compost ... ... ,,	0	1	6
Leaf Soil, well decayed ... ... ,,	0	2	0
Pure Wood Charcoal ... ... ,,	0	2	6
Fertiliser for Farming and Market Gardening, in 1-cwt. sacks ... ... per sack	0	13	0
Worm Destroyer ... ... per ½-pt.	0	0	6
Insecticide ... ... each	0	0	3
Tobacco Paper, 6*d.* per lb. ... ... per cwt.	1	16	0
Wonderful New Mushroom Spawn ... ... bushel	0	2	6

All Sacks and Bags free. Send for List, post-free.

BEESON'S MANURE.
Crushed Bones and all High-class Fertilisers.
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

AGENTS WANTED in Districts where not already represented, to SELL SPENCER'S New "ELECTRIA" GUANO. A liberal Commission allowed.—Apply, ISAAC SPENCER AND CO., 2, High Street, Hull.

C. BEESON'S MANURE. — Composed of Blood and Bone. The Best Fertiliser for all purposes. Sold in tins, 1s., 2s. 6d., and 5s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.

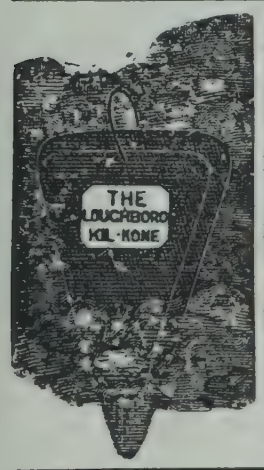
"12, Knowle Road, Brixton, London,
"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.
"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

THOMSON'S
VINE AND PLANT MANURE.

The very best for all purposes.
The result of many years' experience. Largely used both at Home and Abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.
Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ¼-cwt. and upwards.
SOLD BY ALL SEEDSMEN.



Mr. S. T. WRIGHT, F.R.H.S., says:—"I shall do all I can for your Specialties, they deserve it.

Sulphocide, best and cheapest out-door Insecticide, 100 gallons made for 2s. 6d.

Kil-Kone, best Fumigant, strongly recommended, 1000 cubic feet, 9s. per dozen.

Pine Oil, safe and certain death to Bug, Scale, Thrips, and all Inside Pests, quarts, 4s.; ½-gals., 6s. 6d.; gals., 10s. 6d.

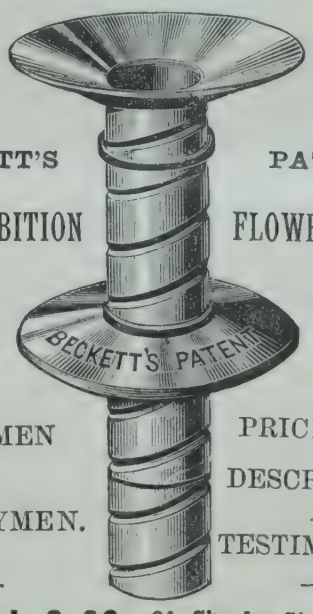
Patent Pest Syringe, best Distributor.
SEND FOR LIST.

CHARLES' RIDIPEST CO.,
Loughborough, Leicestershire

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

ORCHID PEAT: Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—WALKER AND CO., Farnborough, Hants.

IMPORTANT NOTICE TO
CHRYSANTHEMUM EXHIBITORS.



BECKETT'S PATENT
NEW EXHIBITION FLOWER TUBE.
TO BE HAD OF ALL
SEEDSMEN AND NURSERYMEN.
PRICE LIST, DESCRIPTION, AND TESTIMONIALS.

WM. STILL & CO., 24, Charles Street, Hatton Garden, E.C.

CHEAPEST. ANY LENGTH. ANY SIZE.
GARDEN HOSE.
LISTS POST-FREE. *LISTS POST-FREE.*
HEATHMAN,
2, Endell St., Covent Garden, London, W.C.

CHAFED SKIN, Piles, Scalds, Cuts, Chilblains, Chapped Hands, Sore Eyes, Sunburn, Ear-ache, Neuralgia and Rheumatic Pains, Throat Colds, and Skin Ailments quickly relieved by the use of CALVERT'S CARBOLIC OINTMENT. Large pots, 13½d. each, at Chemists, &c., or post-free for value.
F. C. CALVERT AND CO., Manchester.

HORTICULTURAL GLASS.
A Large Stock always on Hand.
Special quotations for quantities.
WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.
NICHOLLS & CLARKE,
6, HIGH STREET, SHOREDITCH,
LONDON, E.

ROBERT WARNER & CO.'S
WINDMILLS.



Saves Coal, Pumps Water, Grinds Corn, Cuts Chaff, &c.
Supports can be made in Teak, Iron, or Steel, for Hot Climates.
Two of Robert Warner & Co.'s Improved Windmills were erected at the Royal Agricultural Show, Cambridge.

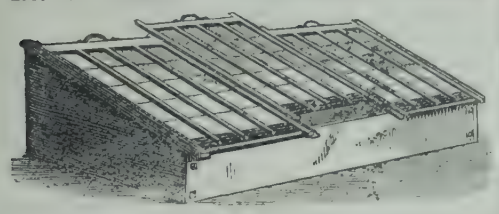
Prices from £16 16s., including Pump and Timber Supports.
May 27, 1893, The Dell, Englefield Green, Surrey.
ROBERT WARNER & Co., Engineers, 27, Jewin Crescent, E.C.
Dear Sirs,—It affords me much pleasure to inform you the 25 ft. Annular Sail Windmill, on 40 feet timbers, working a set of 3 in. × 9 in. stroke treble pumps, that you fixed here for Baron Schröder, is giving very great satisfaction, pumping the water through 4,224 feet of pipe, to a vertical height of about 80 feet. I must also express my thorough appreciation of the manner in which the whole of the work has been so successfully carried out.—Yours faithfully,
H. BALLANTINE, Head Gardener to Baron Schröder.
We have just made and erected a similar Mill and set of Pumps for Lord Northbourne.
NUMEROUS OTHER TESTIMONIALS ON APPLICATION TO
27, JEWIN CRESCENT, CRIPPLEGATE, LONDON, E.C.
Engineering Works, WALTON-ON-THE-NAZE, ESSEX.

GARDEN FRAMES.
REVISED PRICE LIST
POST FREE.

JAMES SENDALL & CO. LTD.
CAMBRIDGE.

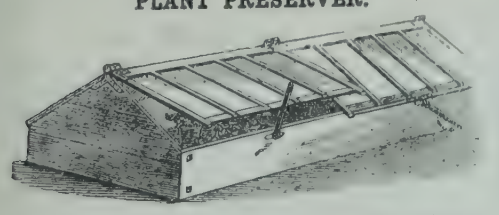
GARDEN FRAMES.
TWENTY VARIETIES.
New Lists Post Free.

No. 100.—MELON or CUCUMBER FRAMES.



2 Light	6 ft. by 4 ft.	...	...	...	£1 15 0	each
2 Frame	8 ft. by 5 ft.	...	...	...	2 10 0	,,
2 ,,	8 ft. by 6 ft.	...	...	...	2 15 0	,,
3 ,,	12 ft. by 6 ft.	...	...	...	3 15 0	,,
4 ,,	16 ft. by 6 ft.	...	...	...	4 15 0	,,

No. 110.—SPAN-ROOF FRAME or PORTABLE PLANT PRESERVER.



				If two frames are ordered.
6 ft. long by 3 ft. wide	£1 15 0	each	£1 12 6	each
6 ft. ,, 4 ft. ,,	2 0 0	,,	1 17 6	,,
6 ft. ,, 5 ft. ,,	2 10 0	,,	2 7 6	,,
12 ft. ,, 3 ft. ,,	3 0 0	,,	2 17 6	,,
12 ft. ,, 4 ft. ,,	3 10 0	,,	3 7 6	,,
12 ft. ,, 5 ft. ,,	4 2 6	,,	4 0 0	,,
12 ft. ,, 6 ft. ,,	5 5 0	,,	5 0 0	,,

OUR
GARDEN FRAMES
are made and stocked in all these useful sizes. Quality of the Materials and construction are of the best.

Made of well-seasoned red-wood Deal, MALLEABLE iron-hinges, &c.

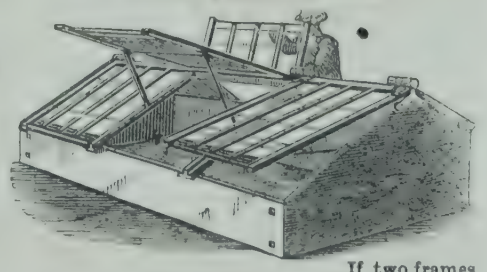
PAINTED
Three Coats of best Oil-Colour.

GLAZED
with 21-oz. English Glass.

PIT LIGHTS.
Pit Lights, 6 ft. by 4 ft.
Painted and glazed, 13s. each.
Unglazed, 5s. each.

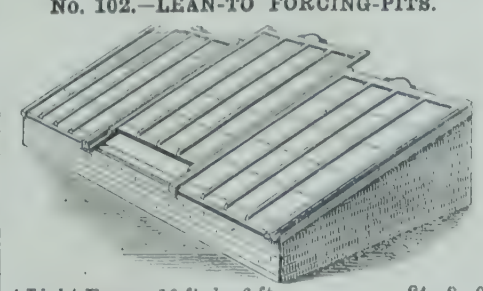
40s. ORDERS PACKED FREE, and

No. 105.—¾-SPAN FRAME.



					If two frames are ordered.
2 Light	5 ft. by 5 ft.	£3 5 0	each	£3 2 6	each
4 Frame	10 ft. by 5 ft.	4 0 0	,,	3 17 6	,,
4 ,,	8 ft. by 6 ft.	4 0 0	,,	3 17 6	,,
6 ,,	12 ft. by 6 ft.	5 10 0	,,	5 5 0	,,
8 ,,	16 ft. by 6 ft.	7 0 0	,,	6 12 6	,,

No. 102.—LEAN-TO FORCING-PITS.

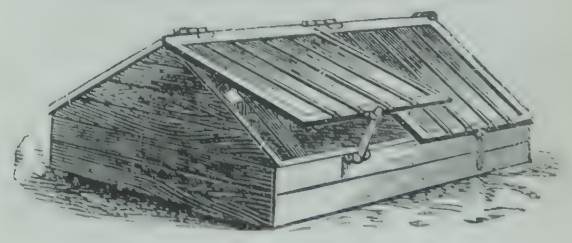


4 Light Frame,	16 ft. by 6 ft.	...	...	£4 8 0
8 ,, ,,	32 ft. by 6 ft.	...	...	8 8 0
4 ,, ,,	16 ft. by 7 ft. 6 in.	...		5 1 0
6 ,, ,,	24 ft. by 7 ft. 6 in.	...		7 3 0

With Double-Light Frames, see LIST.

Carriage Paid to Stations in ENGLAND and WALES, most of the IRISH PORTS, and many Stations in SCOTLAND.

GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

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Ranunculus.
Windflower.
Cyclamen.
White Cape Hyacinth.
Gladioli.
Amaryllis.
Liliums.
Tiger-spotted flower.
Tuberoses.

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AUTUMN, 1894.

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No. 1. Ajax "Santa Maria."
No. 2. Leedsii "Duchess of Westminster."
No. 3. Ajax "Golden Spur."
No. 4. Ajax "Cyclamineus."
No. 5. Triandrus albus (Angel's Tears)
No. 6. Ajax minimus.

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Trumpet Narcissus, yellow.
,, ,, 2-coloured.
,, ,, white.
,, ,, double.
,, ,, Queen Anne's.
Hybrid Narcissus Incomparabilis.
,, yellow, sulphur, Peerless.
,, ,, Barrii.
,, ,, Leedsii.
(Eucharis-flowered.)
,, ,, double.
,, ,, Montanus.
,, ,, Humei.
,, ,, Backhousei.
,, ,, Nelsoni.
,, ,, Macleaii.
,, ,, Bernardi.
,, ,, Tridymus.
,, ,, Odorus.
,, ,, ,, double.
,, ,, Angel's Tears.
,, ,, Juncifolius.
,, ,, Burbidgei.
,, ,, of the Poets.
,, ,, Jonquilla.
,, ,, Intermedia.
,, ,, Biflorus.
,, ,, Schizanthes.
,, ,, Orientalis.
,, ,, Dubius.
Small-flowered Daffodils.
Daffodils to naturalize.
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Collections of Amateur Tulips.
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Delphiniums.
Tufted Pansies.
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Hardy Pyrethrums.
Perennial Sunflowers.

AUTUMN, 1894.

BARR'S DAFFODILS

AND BEAUTIFUL "ENGLISH AMATEUR" TULIPS.

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THE HOME OF NARCISSUS CYCLAMINEUS.

This unique Daffodil was found wild in its largest development in wet meadows. Rev. Dr Watson, Largs, has flowered it annually since its introduction; Rev. H. Ewbank, Isle of Wight, grew it two or three years on rockwork, and three or four years in the flower border; Mr. G. H. Cammell, Hatherage, has it happy at the foot of a rockwork, and still more flourishing naturalised in grass, where it is freely increasing; at Kew, Mr. Dewar reported successful culture. Dr. Foster, of Cambridge, has grown it in his garden (subsoil of chalk) since 1889, and each year it has improved, and is now increasing. Mr F. W. Burbidge has grown it successfully since 1886 in pots, frames, out-doors against a warm house, and latterly bloomed it in the grass in a damp meadow. Mr. C. J. Backhouse, of Weardale, grows it successfully all over his garden, but on rockwork the flowers are largest. Mr. Osgood H. Mackenzie, of Poolewe, has it growing freely and increasing on the exposed top of a rockery. Mr. T. H. Burroughes, Stamford, has, since 1887, grown successfully Corbularia Citrina in milk pans sunk in the ground, filled with peat and kept constantly wet; we have tried this mode of culture on a large scale successfully.

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☞ PRIZES for DAFFODILS, SILVER CUP & MEDALS for 1890, and BARR'S PRIZE MEDALS for TULIPS, see under SPECIAL NOTICES.

BARR'S GRACEFUL DAFFODILS.

COLLECTED BY MR. BARR IN SPAIN AND PORTUGAL.





NARCISSUS TRIANDRUS ALBUS (ANGEL'S TEARS). (See page 11.)
(Woodcuts from The Gardeners' Chronicle.)

BARR & SON, 12 and 13 King Street, Covent Garden, London.

BARR & SON, 12, KING STREET, COVENT GARDEN, LONDON, W.C.

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In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY NEXT, September 10, at 11 o'Clock punctually (there being upwards of 1500 lots), the following unusually

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FERNS, many thousands, in various sizes.
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Extract from the Great Eastern Time Table.

Fenchurch St.	8 50	...	9 51	...	1013	1115	...	1225	...	...
Liverpool St.	8*41	9 21	...	1011	...	...	1148	12*6	1 3	1 43
George Lane	9 22	9 52	1023	1037	1046	1149	1219	1258	1 26	2 13

* Change at Stratford.

Maidenhead.

ANNUAL UNRESERVED CLEARANCE SALE of GREENHOUSE PLANTS, FERNS, &c., by order of Mr. R. Owen.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Floral Nurseries, Castle Hill, Maidenhead, 1 mile from Maidenhead Station, on WEDNESDAY, September 19, at 2 o'Clock, 4000 Cannas, Palms, Ferns, Dracænas, Ficus, 100 Araucaria excelsa, Tuberous Begonias, Primulas, Cyclamen, Chrysanthemums, Pelargoniums, Lilies, Iris, Arbor Vitæs, Laurels, and other Shrubs. Also 10,000 Bulbs, including Narcissus, Hyacinths, Tulips, Crocus, &c.

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Enfield Highway, N.

The Brimsdown Nurseries, adjoining Brimsdown Station, G.E.R.

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Consisting of The Bride, Niphetos, C. Mermet, Maréchal Niel, Climbing Niphetos, Gloire de Dijon, Mme. de Watteville, Perle des Jardins, W. A. Richardson, L'Idéale, Madame C. Testout, &c. 150 Turner's New Rose "Crimson Rambler." 5000 Solanums, exceptionally well berried; 1000 Ferns, Adiantums, Polypodiums, &c.; 500 Aspidistra; 3000 Bouvardias, leading sorts; 1000 Ampelopsis Veitchii, Clematis Jackmani, &c.; 5000 Genista fragrans; 10,000 young Heaths and Genistas, in 60-pots, for growing on; 500 Crotons, beautifully coloured; 1000 Palms, in variety; 1000 Zonal Geraniums, new and leading varieties; 200 Bougainvillea glabra and Sanderina; 600 Epacris, to name; 1000 Grevillea robusta; 1000 Passifloras, large quantities of Ficus, Begonias, Poinsettias, Euphorbia jacquinæflora, Callas, Aralias, Abutilons, New Hybrid Crassulas, &c.; also Stove Climbers, including Taxonias, Stephanotis, Allamandas, &c.

DIPLADENIA BREARLEYANA, and OTHERS.

May be viewed any day prior to Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The whole of the Stock is in first rate condition. The Ericas and Solanums are unquestionably the finest lot offered at this Nursery for many years; the former being very well set for flower, and the Solanums unusually well berried.

Windlesham, near Bagshot.

Re Richard Mason, deceased.

PRELIMINARY NOTICE of SALE of the valuable FREEHOLD and LEASEHOLD PROPERTIES, presenting a rare opportunity to the Trade and others for securing some of the most valuable and productive Nurseries in this country.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, immediately preceding the Sale of the Nursery Stock, on TUESDAY, October 2, at Half past Eleven o'Clock, the well-known FREEHOLD NURSERIES, covering an area of nearly 23 Acres, and the LEASEHOLD PROPERTIES of 16 Acres, together with the GOODWILL of the BUSINESS. The purchasers will have the opportunity of purchasing at the Sale the Nursery Stock, which is to be offered in suitable lots, and also of taking at a valuation the remaining Stock.

Particulars may be had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sales, and Catalogues had.

Sidcup, Kent, S.E.

About ten minutes' walk from the New Eltham (late Pope Street) Station, S.E.R.

GREAT ANNUAL TRADE SALE of WINTER-BLOOMING HEATHS, particularly well-grown and beautifully set with flower, ROSES, and other stock.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Longlands Nursery, Sidcup, S.E., on FRIDAY NEXT, September 14, at 11 o'Clock, by order of Messrs. Gregory & Evans, an enormous quantity of unusually well-grown plants, comprising—

30,000 WINTER-BLOOMING HEATHS,
In excellent condition, and particularly well set with flower-buds, including:—

10,000 Erica hyemalis	5,000 Erica Cavendishi
2,000 ,, ,, alba	1,000 ,, coccinea minor
5,000 ,, gracilis	2,000 ,, magnifica
1,000 ,, Wilmoreana	2,000 ,, Caffra
	2,000 ,, Spenceri

An unusually grand lot of

10.000 CLIMBING and other ROSES, in pots, 12 to 15 feet, exceptionally well-grown, and unquestionably the finest ever offered at this Nursery, consisting of the following:—

Climbing Perle des Jardins	Climbing Cheshunt Hybrid
,, Niphetos	,, Maréchal Niel
,, Queen of Queens	,, W. A. Richardson
,, L'Idéale	,, Gloire de Dijon
,, Madame Berard	

Also Niphetos, White La France, and many other notable varieties.

5,000 BOUVARDIAS	4,000 Double White PRIMULAS
5,000 SOLANUMS	3,000 FERNS.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—The stock of Plants this season will be found well up to their usual standard, special attention being invited to the Heaths and Genistas, also the Solanums and Roses, which are probably the best ever offered at this Nursery.

Plumstead, Woolwich.

IMPORTANT to FLORISTS and OTHERS desiring a well-established and Profitable Seed, Cut Flower, and Fruit Business.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. C. N. Newman (who is retiring from business after most successful occupation), to SELL by AUCTION, on the respective Premises, on WEDNESDAY, September 19, at 12 o'Clock precisely, in lots, the well situate BUSINESS PREMISES, No. 35, Plumstead Road, Plumstead, held at the low rental of £38 per annum. These Premises are well situated, and the annual takings amount to nearly £3000 per annum. Also the Leasehold Property known as the ROSE NURSERY, 17, Charles Street, Plumstead, with the Greenhouses, Stables, and Buildings thereon, and the Leasehold NURSERY at Paradise Hill, adjoining Woolwich Dockyard Station, Cottage, and Greenhouses.

The whole of the Stock at the respective places will be offered in suitable lots immediately following the Sale of the Lease.

The Auctioneers desire to call special attention to this Sale, particularly to the Business Premises in Plumstead Road. The present owner has carried on a most successful Business, and it is seldom an opportunity occurs for acquiring a thoroughly genuine business of this character.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

PRELIMINARY NOTICE OF FORTHCOMING SALES of NURSERY STOCK

Important to Noblemen, Gentlemen, and the Trade, Engaged in Planting.

MESSRS. PROTHEROE AND MORRIS beg to announce the following fixtures:—

October 2 to 4.—At the NURSERIES, WINDLESHAM, near Bagshot, by order of the Executors of the late Mr. R. Mason (three days).

October 9 to 11.—At the NURSERIES, TUNBRIDGE WELLS, by order of Messrs. T. Cripps & Sons (three days).

October 16.—At the NURSERIES, WILLESDEN JUNCTION, by order of Messrs. Collins & Collins.

October 23 to 25.—At the NURSERIES, SUNNINGDALE, by order of Mr. C. Noble (three days).

October 25 and 26.—At the NURSERIES, GROOMBRIDGE, near TUNBRIDGE WELLS, *re* E. Hollamby, deceased (two days).

October 31.—At the NURSERIES, CATERHAM, by order of Mr. Sedgeley.

OCTOBER 31.—At The PERRY HILL NURSERIES, CLIFFE, near ROCHESTER, Eighth Annual Sale of Fruit Trees, by order of Mr. W. Horne.

NOVEMBER 6.—At THE HALE FARM NURSERIES, TOTTENHAM, Great Annual Sale, by order of Mr. T. S. Ware.

Dates Not Fixed.

At the OTTERSHAW NURSERIES, CHERTSEY, by order of Messrs. Fletcher Bros (four days).

At the NURSERIES, HIGH BEECH, by order of Messrs. G. Paul & Son. Special Sale of fine specimen Hollies, &c.

At the HICKMANDIAS NURSERIES, KNOCKHOLT, by order of Mr. A. Waterman.

Other Sales are in course of being arranged, and notices will be announced in due course.

The Auctioneers will be pleased to forward Catalogues of any of the above Sales free by post on application.

Auction and Estate Offices, 67 & 68, Cheapside, London, E.C.

Thursday Next.
LARGE CONSIGNMENT OF
30,000 LILIUM HARRISI,
being the contents of 142 cases received direct in fine condition, to be sold without the slightest reserve, comprising :—
10 Cases 9 to 11 inches.
115 Cases 7 to 9 inches.
17 Cases 5 to 7 inches.
Also 39,000 FREESIA REFRACTA ALBA.
70 AMARYLLIS JOHNSONII, and
2 Barrels JOSS LILIES.
MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, September 13, at 3 o'Clock.
On view morning of Sale, and Catalogues had.

Thursday Next.
PRITCHARDIA GRANDIS.
ONE OF THE MOST MAGNIFICENT OF ALL KNOWN PALMS
IMPORTANT to the TRADE.
70,000 SEEDS
OF THIS GRAND PALM. ALSO—
18,000 KENTIA BELMOREANA,
20,000 CORYPHA AUSTRALIS,
18,000 ARECA BAUERI.
Together with a Consignment of CAPE BULBS, comprising Arums, Hæmanthus, Gladioli, &c.
MESSRS. PROTHEROE AND MORRIS will include the above in their SALE of BULBS immediately following the large consignment of LILIUM HARRISI on THURSDAY NEXT, September 13.
On view morning of Sale, and Catalogues had.

Friday Next, September 14.
LÆLIA PURPURATA.
LÆLIA CRISPA.
LÆLIA DORMANIANA.
MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 14, at half past 12 o'Clock, by order of Messrs. F. Sander & Co., a grand importation of—
LÆLIA PURPURATA,
including many exceptionally fine masses, and many of decidedly distinct appearance. Also a fine lot of—
LÆLIA CRISPA,
among them being some fine specimen plants. A very fine importation of the charming and uncommon
LÆLIA DORMANIANA,
a particularly rich-coloured form of this fine Lælia.
ONCIDIUMS in variety, including O. CRISPUM,
And other BRAZILIAN ORCHIDS.
Also 100 lots of ESTABLISHED ORCHIDS, ORCHIDS in FLOWER, &c.
On view morning of Sale, and Catalogues had.

West Drayton, Middlesex.
5 minutes from West Drayton Station on the G.W.R., 13 miles from Paddington.
To HORTICULTURISTS, SPECULATORS, and INVESTORS.
By Order of the Executors of the late B. S. Liddall, Esq.
VALUABLE FREEHOLD PROPERTIES, comprising St. Stephen's Villa, High Street, Yiewsley, West Drayton, with Conservatory and Garden, Ranges of Glasshouses, Horticultural Land, Stabling, and Gardener's Lodge, embracing an area of about 1 acre, 1 rood, 30 p., with early possession. Piece of Land abutting on the Grand Junction Canal, with Boathouse; Nos. 1 and 2, Church Villas; Freehold Groundrents, amounting to £30 5s. 4d.; and 10 acres of Freehold Land, and 4 Cottages in Horton Lane, and extending to the Canal.
MESSRS. HUMBERT, SON AND FLINT, will SELL the above by AUCTION, at The Mart, E.C., on WEDNESDAY, September 19, at 2 o'Clock precisely, in numerous Lots.
Particulars, &c., may be obtained of Messrs. CHESTON AND SONS, Solicitors, 1, Great Winchester Street, E.C.; and from the Auctioneers, 11, Serle Street, Lincoln's Inn, W.C., and Watford, Herts.

Monday, Tuesday, Wednesday, and Thursday Next.
GRAND IMPORTATIONS of DUTCH FLOWER ROOTS.
Specially Lotted for all Buyers.
MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY NEXT, and THREE FOLLOWING DAYS, September 10 to 13, at half-past 12 o'Clock each day, a splendid selection of choice named Double and Single HYACINTHS, including many of the newest; a beautiful collection of TULIPS, a great variety of CROCUSES, NARCISSUS to name, SCILLAS, SNOWDROPS, RANUNCULUS, and other BULBS, from trustworthy growers in Holland, in large and small lots.
On view mornings of Sale, and Catalogues had.

Monday Next and Three following days.
A SPLENDID IMPORTATION of FRENCH BULBS for Winter and Early Spring Flowering.
MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY NEXT, and three following days, Sept. 10 to 13.
50,000 Early White Roman HYACINTHS.
20,000 Paper-white NARCISSUS GRANDIFLORA
20,000 Double Roman NARCISSUS
5000 LILIUM CANDIDUM
75,000 FREESIA REFRACTA ALBA
5000 Choice and Rare NARCISSUS from Scilly Isles.
On view morning of Sale, and Catalogues had.

Wednesday Next.
100 SPECIMEN PALMS, from GHENT.
LATANIA BORBONICA and CORYPHA AUSTRALIS.
Beautifully grown. Consigned direct.
MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, September 12.

Notice.
FRUITERER'S and FLORIST'S, in high-class District, for DISPOSAL. Doing good Family and Ready-money Trade. Inspection invited.—Apply, on the premises, to G. TAPLIN, High Street, Wanstead, E.
(No Agents.)

FOR SALE, a Leasehold MARKET NURSERY, 11 acres, about 8 acres Grass, nearly 600 feet strongly-built Span-roofs, all heated; 110 Lights of Framing, Potting-shed, Cow-sheds, Piggeries, Fowl-houses, &c. Good modern Dwelling, and 2 Cottages on ground. Close to station. For price and particulars, address J. R., 41, Wellington Street, Strand, W.C.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.
All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FREEHOLD LAND for SALE, suitable for Horticultural purposes, old Pasture Land, good soil, within 10 miles of Covent Garden, and ten minutes from station. Easy terms if required, or would LET on Lease.—Apply, SINGLE, 20, Bucklersbury, E.C.

FOR SALE.—Good second-hand wrought-iron SADDLE-BOILER, 54 inches long, ¾-inch thick, 24 by 21 inches inside arch. Bargain. Also new wrought-iron Independent SLOW-COMBUSTION BOILER; no brickwork required. Heating-power, 125 feet of 4-inch Pipe. Price 60s.
HART, Gun Street, Reading.

FLORIST VAN (New).—Fit horse. Also large Van Top, inclosed with doors. Cheap.
ARDLEY, Coachbuilder, Tottenham.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

DAFFODILS, RARE TULIPS, and IRIS.—Hartland's "Little Book" for 1894 is now being published, post-free, on application. Please secure a copy and send your forward orders to W. BAYLOR HARTLAND, F.R.H.S., Bulb Grower and Seedsman, Cork, Ireland. Established 1810.

MILLER'S NARCISSUS, Best and Cheapest.—All strong flowering Bulbs. Horsfieldii, 3s. per dozen, 21s. per 100; Empress, 5s. per dozen; Emperor, 6s. per dozen; Golden Spur, 2s. 3d. per dozen; Princeps, 4s. per 100; Sir Watkin, 5s. per dozen; Cynosure, 8d. per dozen, 4s. per 100; Ornatus, 6d. per dozen, 3s. per 100; Burbidgei, 2s. 6d. per 100; Mixed, all sorts, 1s. 9d. per 100, 15s. per 1000; extra large Campernelle JONQUILS, 2s. 6d. per 100, 22s. 6d. per 1000. Orders above 10s. carriage paid. Illustrated Bulb Catalogue post free.
F. MILLRE & Co., 267, Fulham Road, London, S.W.

NEW STRAWBERRY.—Royal Sovereign, in pots, £4 per 100; from ground, £2 per 100. Many other varieties, including Sensation, John Ruskin, Competitor, and Noble.—JOHN PEED AND SONS, The Nurseries, Mitcham Road, Streatham.

GRAPE VINES.—Grand Fruiting and strong Planting Canes. FIGS, PEACHES, and NECTARINES, standard-trained, with large fruiting heads. FRUIT TREES and ROSES of best kinds.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

To Exhibitors.
FOR SALE.—One Grand Specimen ARAUCARIA EXCELSA. 7 feet high, and 6 feet through, in perfect health. What offers?
Apply to GARDENER, Clayton Villa, Fulwood, near Preston.

HUGH LOW & CO.
Very cordially invite intending purchasers to an inspection of their enormous and well-grown
AUTUMN AND WINTER STOCK.
Amongst other things we hold unusually large quantities of

AMPELOPSIS VEITCHI	EUONYMUS, Gold and Silver
ASPARAGUS PLUMOSUS	FERNS
AZALEAS	FICUS ELASTICA
BOUVARDIAS	FICUS ELASTICA VAR.
CAMELLIAS	KENTIAS
CARNATIONS	LATANIAS
CLEMATIS	PHŒNIX
CYCLAMEN	STOVE and DECORATIVE PLANTS in great variety
DAPHNE	ROSES in pots
DOUBLE WHITE PRIMULAS	ROSES in open ground
ARALIAS	SHRUBS
ARAUCARIA EXCELSA	VINES
EPACRIS	FRUIT TREES, &c., &c.
ERICAS	

Full particulars on application.
CLAPTON NURSERY, LONDON, N.E.
BUSH HILL PARK NURSERY, ENFIELD.
Telegraphic address, "ORCHIDEOUS, LONDON."

EXHIBITIONS.

THE SIXTH ANNUAL CHRYSANTHEMUM EXHIBITION of the LEEDS PAXTON SOCIETY will be held in the TOWN HALL, LEEDS, on TUESDAY and WEDNESDAY, November 6 and 7 next. Schedules may be had from the Hon. Sec., JAMES CAMPBELL, The Gardens Methley Park, Leeds.

Alteration in Dates.
HEREFORDSHIRE FRUIT and CHRYSANTHEMUM SOCIETY.—The THIRD ANNUAL SHOW will be held in the Shire Hall, Hereford, on WEDNESDAY and THURSDAY, November 14 and 15, 1894, when Prizes amounting to upwards of £100 will be offered for competition.
Schedules of Prizes and all particulars on application to—
Mr. JNO. OUGH, F.R.H.S., Hon. Sec.,
7, Clifford Street, Hereford.

GIGANTIC ONION FAIR 'AT LEWIS'S.'

£5	£2 10s.	£1
for the Best ROPE of ENGLISH-GROWN ONIONS!	for the Best SIX DISHES of ENGLISH-GROWN ONIONS!	for the Best SINGLE ENGLISH-GROWN ONION!

With a view to encourage enterprise in the Cultivation of the Soil, and to perpetuate this Ancient Fair, LEWIS'S will give
CLASS A.
For the Best Rope of 100 *English-grown Onions :—*
1st Prize, £5; 2nd Prize, £2; 3rd Prize, £1.
CLASS B.
For the Best Six Dishes English-grown Onions (Five Onions to each Dish) any kinds :—
1st Prize, £2 10s.; 2nd Prize, £1; 3rd Prize, 10s.
CLASS C.
For the Best Single English grown Onion :—
1st Prize, £1; 2nd Prize, 10s.; 3rd Prize, 5s.
CONDITIONS.—All Onions intended for Competition must be delivered to LEWIS'S, Bull Street, Birmingham, on or before Saturday, September 22, 1894, together with the Name and Address of the Sender. The term "English Grown" to include all Onions grown in the United Kingdom. NO ENTRANCE FEES. No Competitor to take more than One Prize in each class.
LEWIS'S WILL APPOINT a Competent Judge, whose decision must be final.
LEWIS'S WILL RETURN—to best of their ability—Onions sent for Competition where desired. The result will be advertised in the "Birmingham Daily Post," and Cheques sent Monday, October 1, 1894.
THIS GIGANTIC EXHIBITION
(Admission Free to all), will be open from Tuesday, September 25, 1894, until the end of the Week.
The Railway Companies will run Special Trains to Birmingham during this week for the Onion Fair at Reduced Fares.
LEWIS'S IN BULL ST., BIRMINGHAM.

VEGETABLE, FLOWER, and FARM SEEDS.—Saved from Choice Selected Stocks of 1894 Growth. On application, we shall be pleased to forward a List of the varieties which we can offer, and will quote lowest prices on hearing sorts and quantities required.
B. L. COLEMAN AND SON, Seed Growers and Merchants, Sandwich, Kent.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 38 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 10 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

KRELAGE'S PARROT TULIPS
(See *Gard. Chron.*, May 12, 1894).
And all DUTCH BULBS, and new or rare BULBOUS PLANTS, true to name and of the best quality only, at cheap prices. Descriptive CATALOGUE now ready, and may be had free on application to E. H. KRELAGE AND SON, Bloemhof Nurseries, Haarlem, Holland. Established 1811.

GAY LILIES of sorts, for Conservatories, Garden Parties, or any other decorations. Thousands are now in flower in pots, and coming into bloom, at WILLIAM BULL'S Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

NEW STRAWBERRIES.
ROYAL SOVEREIGN (1893), 8d. each; 6s. per dozen.
SENSATION (1892), 2s. per dozen; 12s. per 100.
The above from plants direct from the raiser.
A fine collection of other varieties. List free on application to B. HURST AND SON, Burbage Nurseries, near Hinckley.

FOR SALE.—One DIPLADENIA AMABILIS, one MARATTIA SALICIFOLIA, one ALLAMANDA HENDERSONI, four SPECIMEN CALADIUMS. They are all splendid specimens, and very large Plants.
Mr. HATTON, The Gardens, The Quarry, Sevenoaks, Kent.

ORCHIDS.
NEW IMPORTATIONS of BRAZILIAN ORCHIDS.
Full particulars on application to—
A. H. GRIMSDITCH (Orchid Importer),
5, CLAYTON SQUARE, LIVERPOOL.
Sole Agent for CARLOS TRAVASSOS, Rio de Janeiro.

STRAWBERRIES.—Strong rooted runners of Dr. Hogg, Thury, Elton Pine, 15*s.*; Latest of All, 25*s.* per 1000, for cash with order.—A. WRIGHT, Market Gardener, Mundesley Road, North Walsham.

BULBS and LILIES, first size and quality guaranteed.—Narcissus ornatus, 17*s.* 6*d.*; Pheasant-eye, 8*s.* 6*d.*; Double White ones, 20*s.*; Double Daffs., 28*s.* 6*d.*; Rugilobus, 20*s.*; Stella, 20*s.* per 1000; Horsfieldi, 17*s.* 6*d.*; Empress, 42*s.* 6*d*; Sir Watkin, 30*s.* per 100; White Scillas, 10*s.*; Blue, 8*s.* 6*d.*; Yellow Crocus, 9*s.* to 12*s.*; Tulips, 17*s.* 6*d.* per 1000; White Lilies, 9*s.* per 1 0; Orange, 14*s.*; Yellow, 15*s.*; Red, 13*s.*; Hyacinths, 12*s.* 6*d.* per 100. Approval anywhere.
D'ALCORN AND CO., Bulberies, Spalding.

MUSHROOM SPAWN (Johnson's Improved). —Having made this season some thousand bushels of extra good spawn, can offer same at 3*s.* per bushel. Special prices for quantity. All spawn sent out is guaranteed made from pure virgin spawn.—JOHNSON, Hanger Hill, Ealing.

SMILAX ASPERA, Highly-scented Conservatory Climber (from the Riviera), strong well-rooted plants grown in England, 3*s.* 6*d.* each, carriage paid.—Address SMILAX, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

CYPRIPEDIUM CHARLESWORTHI, in Bud. — Unflowered, guaranteed. The finest varieties; sure to be something new. On approbation. Price 5*s.* 3*d.* carriage paid. Catalogue free.
LEEDS ORCHID CO., Roundhay, Leeds.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.
Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

FERNS. — GREAT ANNUAL SALE. — SURPLUS STOCK (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 10*s.* per 100; 200 out of pots, 16*s.*; large ditto, in 48's, 10 best selling sorts, 6*s.* per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly (bushy), 16*s.* and 20*s.* per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6*s.* per dozen. Ficus, Palms, Dracænas, 1*s.* each. Pelargoniums and Hydrangeas, 9*d.* each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

BARR'S WINTER & SPRING FLOWERS. CATALOGUES sent free.—See Illustrations, back page. *Gard. Chron.*, Sept. 1, 1894.
CATALOGUE of BULBS, Winter, Spring, and Summer-flowering.
CATALOGUE of DAFFODILS, for Pots, Beds, Borders, and Naturalisation in Meadows, Woods, &c.
CATALOGUE of ENGLISH AMATEUR TULIPS, of absorbing interest to English Amateurs.
CATALOGUE of HARDY HERBACEOUS PERENNIALS, for Beds, Borders, and Naturalisation.
COLLECTIONS of BULBS, 12*s.* 6*d.*, 21*s.*, 42*s.*, and 63*s.*
COLLECTIONS of DAFFODILS, 5*s.* 6*d.*, 7*s.* 6*d.*, 10*s.* 6*d.*, 21*s.*, to 105*s.*
BARR AND SON, 12, King Street, Covent Garden, London.

PTERIS CRISTATA AND TREMULA,

In 48's, at 4*s.* 6*d.* per dozen.
A large quantity of the above: strong, healthy, young stuff. Packed free for cash with order.
B. PRIMROSE, Blackheath Nursery,
ST. JOHN'S PARK, BLACKHEATH, S.E.

B. MALLER AND SONS beg to offer to the Trade a very extensive and unusually well-grown stock of Ericas (hyemalis and other varieties), Epacris, Solanums, Genistas, Cyclamen, Double White Primulas, Bouvardias of sorts, Adiantum cuneatum and other Ferns; Palms in variety, Gardenias, Stephanotis, Dipladenias, Ficus elastica, Crotons, Genistas, Tea Roses (in pots), Boronias (megastigma and heterophylla), Vines in pots, &c. An inspection is invited.
TRADE CATALOGUE forwarded on application.
The ANNUAL SALE by AUCTION will be held on TUESDAY, September 11.
Burnt Ash Road Nurseries, Lee, S.E.

SUPERLATIVE
RASPBERRY.
THE TRUE RAISER'S STOCK.

GEORGE BUNYARD & CO., MAIDSTONE

Hold a large lot this year of this, by far the finest Raspberry, and as many former applicants could not be supplied, early orders are requested.
First size ... ... 30*s.* per 100; 5*s.* per dozen.
Second size ... ... 20*s.* per 100; 4*s.* per dozen.
A few extra large, 9*s.* per dozen.

STRAWBERRY PLANTS. Hand-laid Runners, and Plants in Pots of the best varieties, including President, Sir Joseph Paxton, British Queen, Keen's Seedling, Vicomtesse H. de Thury, Dr. Hogg, Noble, and others.
DESCRIPTIVE CATALOGUE on application.
DICKSONS NURSERIES CHESTER.

WILD GARDENING. — Plant Hartland's Cheap Offer of Von Sion and Irish Princeps Daffodils, Blue Bells, &c., at very low prices. Apply to—
WM. BAYLOR HARTLAND, Seedsman, F.R.H.S., Cork.

LOVELS' YORKSHIRE STRAWBERRIES. Rooted Runners of
Thury, Noble, Paxton, President, and others.
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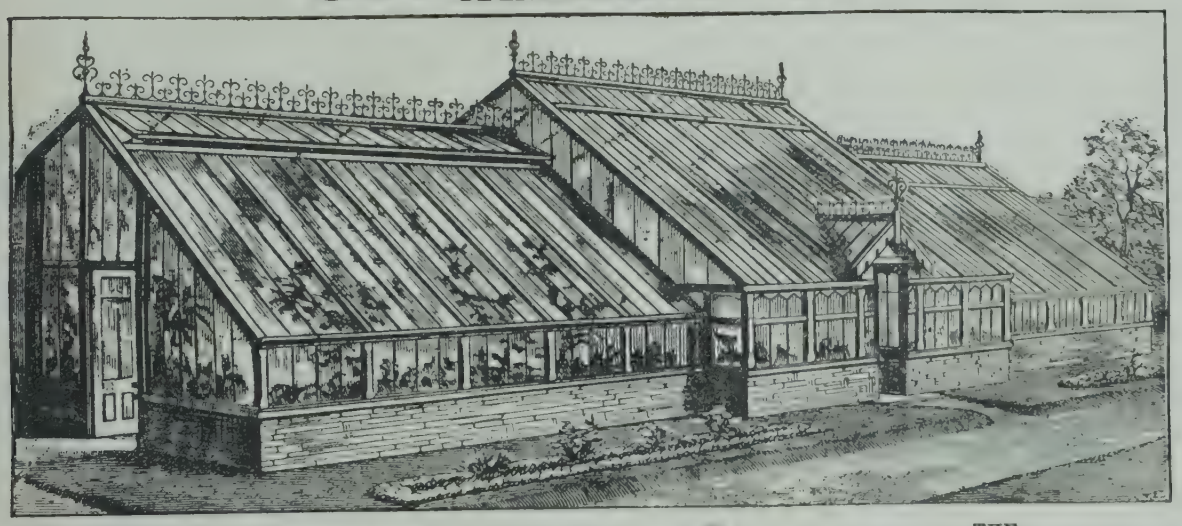
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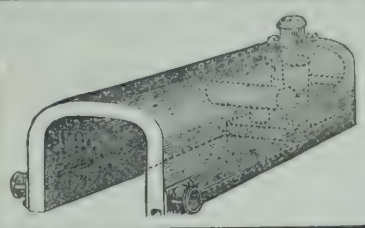
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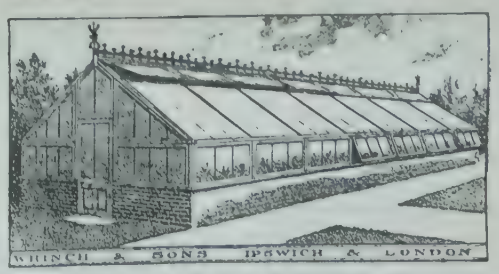
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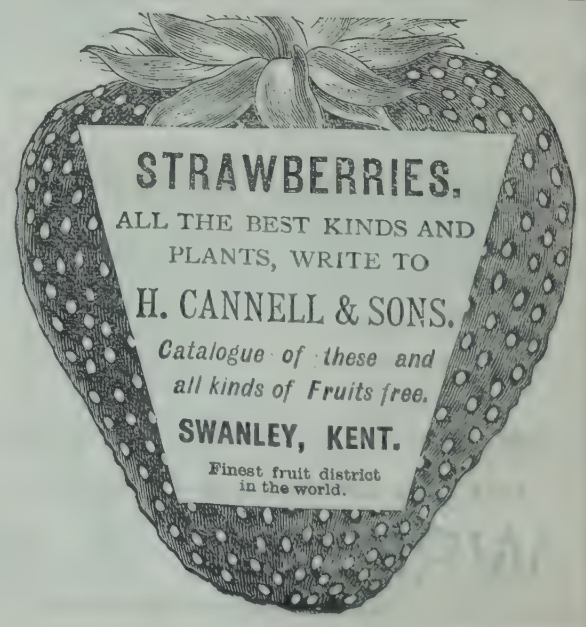
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 8, 1894.

THE ROSE SEASON OF 1894.

WE have been so used to calling the Rose seasons of the last few years abnormal, and indeed not without justification, that we have been looking forward with anxiety for a season such as we used to have in former years, but like the farmer, the rosarian has been doomed to bitter disappointment year after year. Probably amongst those seasons which we have been in the habit of designating as disappointing, there is none that can exceed that which has just now closed. In some places, and those very unlooked-for ones, such as the North of Ireland, severe frost in the early part of January did a large amount of mischief, but in other places the Roses recovered this attack, and after the pruning time, when, by-the-by, there was but little dead wood to cut away, Roses broke well, and during the beautiful weather of April made rapid progress, and were all in so forward a state that a great outcry was made about the dates fixed for the National Rose Society's exhibitions, and we were solemnly warned that if the dates fixed were adhered to, there would be a complete fiasco; but then came the terrible frost of May 20 and 21. The very low temperature very probably did not last more than a couple of hours, but its effects were disastrous; it was followed, too, by cold northerly and north-easterly winds, which crippled more than the Roses, and completely altered the aspect of affairs. The Rose gardens of many of our most distinguished amateurs presented a sorry spectacle, and so blackened were the young shoots, and so utterly hopeless was it to look for anything like good blooms upon them, that there remained nothing for the owners to do but to cut away the blackened wood, and trust to the shoots starting afresh. Of course, this calamity was greater in some districts than in others, but the Midlands seem to have come in for the heaviest blows—the champion amateur grower, who for four years had maintained his position, not being able even to put in an appearance. The eastern counties fared better, owing to their drier atmosphere, while from even such generally mild districts as Devonshire and Somerset many and loud were the complaints.

Although in these observations I mainly had in view the case of exhibitors, the same causes militated against what are now ordinarily termed garden Roses. We had not, indeed, that short and disappointing season such as we had in 1893, when Roses were rushed into bloom by the great heat, and were over in a few days; and the cooler weather gave us a longer enjoyment of the flowers, but the earlier blooms were, to a large extent, malformed, and all, I think, received a check from which they never wholly recovered. The capricious manner in which the frost visited some places and not others, is very remarkable. I had not even a Potato blackened in my own garden, or a Strawberry bloom

destroyed, while in gardens not far off the effects of the frost were clearly to be seen; remarkable, too, was the case of two of our principal growers whose gardens are close to one another, one of whom has been enabled all through the season to exhibit in fine form, whilst the other has been so crippled as to be obliged to take a lower place. The result of all these varying moods of the weather was a general mediocrity of flower which was remarkable, whether early or late in the season. That there were some good blooms was a necessity, for where the whole kingdom is ransacked, there will be, even in the most unfavourable season, some favoured spot where flowers have done well; but there were few stands which dwell in one's memory as of surpassing excellence, and but few Roses of superlative merit. Neither was the season one in which, as in some former ones, some particular Rose came out grandly on all occasions; there was not one, for instance, that assumed the position that Horace Vernet did last year. Again, it was a season in which the conditions of success as regards North *versus* South were entirely reversed: for whereas in 1893 the North swept all before them, in the present year they were entirely overmatched by the South; and even in the later shows, where the chances are so much in their favour, they failed to retain the position they had occupied in 1893. With regard to exhibitors themselves, I do not think any amateur, at any rate, has such a record as some of them have had in years past. The awards of honour have been more evenly distributed; some from their situation taking precedence in the earlier dates, but have been unable to continue their successful achievements. The much-coveted trophies which last year nearly all went to the north came this year into the possession of southern exhibitors. Dr. Budd of Bath, and Mr. Lindsell amongst amateurs, and Mr. B. R. Cant and Mr. Frank Cant amongst nurserymen, gaining the much-coveted honours—and wherever Rose shows were held pretty nearly the same results were obtained; so that I think there can be little doubt in the great majority of cases the South will hold its superiority over the North. Another evidence of this probably is, that while Rose exhibitors and Rose shows increase in the South, both are diminishing in the North, the accessions to our roll of exhibitors mainly coming from the southern parts of the kingdom; and this applies not only to amateurs but to nurserymen, for while in the South we find new men coming forward, and older exhibitors extending their culture, we find but little of the same sort of movement in the North. I have already noticed in your columns the onward progress of one of our southern exhibitors, Mr. Mount of Canterbury, and how he has been able, in many a well-fought contest, to take the leading position even over those we regard as the giants in Rose-growing; while in Mr. Townsend of Worcester we find a new and successful exhibitor, who is perhaps destined to take a high position; and Messrs. Prior & Sons of Colchester have likewise made a forward movement. I do not recollect any very upward movement on behalf of our older amateur exhibitors; they still seem to me to cling very much to the classes they occupied last year, and to be no way ambitious of stretching their wings for a longer flight.

The absence of new Roses has been somewhat remarkable in nearly all the stands which have been exhibited. In this class, by far the greater majority (sometimes amounting to three-fourths of the whole) have been home-raised flowers; and in looking through the French lists of last year, I do not find a single Rose whose merits seem to claim a prominent position. It is also noteworthy that the Roses which have obtained the medals for the best Rose in the show are those which have been a considerable time in commerce; none of the really new Roses seemingly being able to successfully compete with such old-established favourites as Marie Baumann, Duchesse de Morny, and The Bride, which, although sent out in 1885, was only a sport of that old and beautiful Rose, Catherine Mermet. There was one exception to this, in the Rose which gained the Silver Medal at the Crystal Palace for Dr. Budd, Marguerite Baudet; but it was what in common language is called a fluke, and it is not likely we shall see it again in such character.

Garden Roses have had a good time of it, and are certainly increasing in public estimation—but it must be clearly understood what are meant by garden Roses. We hear a good deal of sentimental cant about "the dear old Roses," whose loss people are incessantly deploring, but I do not think that our gardens would be much the worse for having these old Gallicas, Provence, and other Roses excluded from them. In all the qualities for which they are supposed to be super-eminent, sweetness of perfume, and abundant flowering, we believe that the modern Roses are quite equal to them, and, moreover, have the advantage of sometimes giving us autumnal blooms, which the others never do. No, the garden Roses which have taken the public taste are not these, but the smaller varieties of Teas, Noisettes, Polyantha and single Roses, such as W. A. Richardson, L'Idéale, Gustave Regis, Paquerette, Perle d'Or, Crimson Rambler, Macrantha—of which, as a single Rose, too much cannot be said, and others; when to these we add the beautiful hybrid Sweet Briars raised by Lord Penzance, which are to be distributed this autumn by Messrs. Keynes, Williams & Co., and that beautiful striped Sweet Briar, Janet's Pride, we find the Roses which really take the public taste—and the crowds which have thronged round the stands where these have been exhibited testify to the interest which they have excited. It was unfortunate, certainly, that owing probably to the season (it was so disappointing for garden as well as exhibition Roses), that the new series of prizes offered by the National Rose Society for groups of Roses arranged for effect were not more numerously competed for; and, moreover, the difficulty of carrying these to the shows entailing large packages, and consequently heavy railway charges, may have deterred some from engaging in the competition—but as this is the first season in which the attempt has been made, we may reasonably hope that another year there may be a larger competition. In going about amongst rosarians I find that, notwithstanding the disheartening disappointments of this year, there is no despondency, but rather a determination to try and increase their cultivation, and hope for better times. More especially is this the case with regard to Teas, for which there seems an ever-increasing demand. On all sides one hears of exhibitors diminishing their numbers of H.P.'s and increasing that of Teas. This, I think, may be going a little too far, for the brilliant colours in the former class give a richness to the Rose garden which the latter cannot do. On the whole, then, symptoms are not wanting that the enthusiasm for the Rose is no way on the wane, but that we may look forward to even an increasing interest. The one danger ahead is, I think, that people should go in more for the money value of the prizes rather than for the honour attached to them. Not that the exhibitor can be, I think, indifferent to the former, especially if he be, as many are, a man of small means. The expenses attending a Rose show are neither few nor light, and the exhibitor may well be pardoned if he seek to recoup himself by carrying off some of the prizes; but then it must not be the "Be all and end all" of his efforts, and I therefore hope that the honour and glory of victory may still have more potent charms for our exhibitors. *Wild Rose.*

New or Noteworthy Plants.

ZEPHYRANTHES LILACINA, *Liebm.*

In my *Handbook of Amaryllideæ*, p. 31, this is mentioned under Z. carinata as a doubtful species. Now, having seen living specimens flowered at Kew, received from the Botanic Garden at Copenhagen, I find it is quite distinct from Z. carinata, and all the other species described in my book. The flower is the same size and the same colour as in Z. carinata, but it has a tube above the ovary as long as the lobes, whilst in carinata the tube is very short. Lilacina is not a happy name, as the colour of the flower is pale red.

Bulb small, ovoid, with dark brown membranous outer tunics. Leaves four to a bulb, contemporary with the flowers in August; linear, green, 5 to 6 inches long, ¼ inch broad. Peduncle one-flowered, erect, as long as the leaves. Spathe tubular, membranous, 1½ inch long; pedicel nearly as long as the spathe. Perianth funnel-shaped, pink, 2½ inches long; tube as long as the oblong imbricated lobes, which are ½ inch broad. Stamens inserted in the perianth-tube, not reaching nearly to the summit of the lobes; anthers linear; pollen yellow. Style trifid. *J. G. Baker.*

Hedychium Wilkeanum × (H. coronarium × H. Gardnerianum).

This hybrid was raised by Mr. J. Wilke, Curator of the Botanic Garden, at Rotterdam, with whom it is now flowering for the first time. It is exactly intermediate between its two parents, and is a promising addition to cultivated Hedychiums. The spike is 6 inches long, the bracts 1½ inch long, folded, as in H. Gardnerianum, and the flowers are pale yellow, with an ovate bilobed lip 1 inch long by ¾ inch wide, the other segments linear, and the stamen 1½ inch long, coloured dull orange. The flowers are as powerfully fragrant as those of H. coronarium. There is at Kew a plant obtained from the Edinburgh Botanic Garden four years ago which is said to be a hybrid between H. coronarium and H. Gardnerianum, but it differs from the former only in its shorter stems, in the lip being four-lobed, and in the orange colour of the stamen. Other hybrids raised in the Edinburgh Garden by Mr. Lindsay, and represented at Kew, are H. angustifolium × Gardnerianum, a beautiful plant, with orange-red flowers in erect spikes, and H. coronarium × elatum, which has stems 10 feet high, as in H. elatum, and flowers nearly as large as and coloured like those of H. coronarium var. flavescens. In the Water Lily-house at Kew, Hedychiums receive all the space and liberal treatment necessary for their proper development, and they prove well worthy of the space they occupy, growing and flowering freely all the summer through. *W. W.*

DR. THORNTON'S WORKS.

In common, probably, with many of your readers, I have read with the greatest interest and pleasure Mr. Hemsley's article in the *Gardeners' Chronicle* of July 28 and August 11. In my own case the article is of peculiar interest, for, like Mr. Hemsley, I have for many years been groping in the semi-darkness of British bibliography for any facts relating to the life and works of this singular personality. Public and private libraries not a few, and bookshops

innumerable, have I ransacked for the works of Robert John Thornton, and although my own collection of his books is far from complete, and my researches have been singularly infertile, I have collected a few additional facts regarding his botanical writings, which may be of service to brother bibliomaniacs.

And first of all, I will deal with his *Sexual System*. The accounts given of this work in Lowndes and in Allibone are by no means satisfactory, and both authorities commit the same error in saying that Thornton's *Sexual System* contains 314 coloured plates. Undoubtedly, this must be a misprint for 31, which of course is a very different thing. It was only after some years of patient inquiry after the 314 coloured plates, that I found that no copy that I could discover had more than 31 coloured plates and two coloured portraits.

Now one cause of the extraordinary difficulty in obtaining anything like a complete collation of the *Sexual System* is that there were two distinct editions published, although some of the plates did duty in each edition, as well as in Thornton's *Botanical Extracts*. Let me deal with the editions in order of date.

The original edition, of which I possess an imperfect copy, bears on its title page the date 1799. The title page is as follows:—"*A New Illustration of the Sexual System of Linnæus*. By Robert John Thornton, M.D. . . . . Vol. I.. London. Printed for the author by T. Bensley, 1799." My cut-down copy measures 13 inches by 18 inches, and probably, if the edges were uncut, it should measure about 13 inches by 19 inches. It will be noticed that this is a very much smaller work than the one which Mr. Hemsley describes, and which is, in fact, the second edition. Judging from my own copy, and from an even less perfect but uncut copy, which will be found at the Guildhall Library, I believe that the illustrations should be as follows:—

"Cupid, Flora, and Ceres honouring Bust of Linnæus," Russell and Opie, pinx., Ridley, sculpt., 1799; "Queen Charlotte," Beechy pinx., F. Bartolozzi, R.A., ornav. et sculp., 1799; "Cupid Inspiring Plants with Love," Reinagle, Bartolozzi and Landseer, 1800. It is noticeable that pp. 49 to 52 are wrongly paged 37 to 40; but on p. 53 the error is noted. The last page which I have seen is p. 164; how many more there may have been I do not know.

The book, which I believe forms the second volume of the first edition, has the following title:—"*The Genera of Exotic and Indigenous Plants that are to be met with in Great Britain*. Arranged according to the reformed system by Robert John Thornton, M.D. . . . ." This title-page bears neither date nor publisher. In the dedication of this volume the author calls it the Dedication of "Part the Second," saying also that Part 1 contains the "Philosophic Principles of Botany, with a full Explanation of the Sexual System of Vegetables, and I pass on, according to the plan laid out, from what may be styled the theoretical to the practical part of Botany." The last page that I have seen is p. 168. It was in this second volume that some of the famous botanical portraits appeared, although they were also issued to subscribers to the *Philosophy of Botany*. I cannot tell how many portraits strictly belong to this edition. There is a list of portraits, but I think with Mr. Hemsley that the intentions of the publisher were never executed, and, therefore, that the list must be disregarded. The following is a list of the plates found in my own copy of vol. 1 and 2, including those already mentioned, but omitting the engraved titles, tables, analyses, and some purely botanical plates.

Plates.	*Painter.*	*Engraver.*	*Date.*
Cupid, Flora, Ceres, and Æsculapius honouring bust of Linnæus	Russell and Opie ...	Ridley ...	1799
Her Majesty	Beechy ...	Bartolozzi ...	1799
Smith	Russell ...	Ridley ...	1800
Martyn	Russell ...	Vendramini ...	1799
Rousseau	Ramsay ...	Caldwall ...	1801
Darwin	Rawlinson ...	Holl	1803
Hill	Coates ...	Vendramini ...	1799
Hales	Coates ...	Hopwood ...	1800
Bonnet	——	Caldwall ...	1802
Withering	Breda ...	Ridley ...	1801
Curtis	——	Evans ...	1802
Grew	——	Newton ...	1800
Tournefort	——	Hopwood ...	1802
Priestley	Opie ...	Caldwall ...	1801
Lavoisier	David ...		
Mayow	——	Caldwall ...	1800
Evelyn			
Cupid Inspiring Plants with Love	Reinagle	Bartolozzi & Landseer	1800

We now come to the edition of the sexual system, which I distinguish as the second edition, and which Mr. Hemsley describes. But in all the copies which I have examined, there is in the first part an allegorical plate called "Universal Power of Love," painted by Kirke, engraved by Cardon, and undated, which must not be confused with the "Universal Empire of Love," to be mentioned directly. There is also a medallion of Linnæus, engraved by Woolnoth, on a plate of analysis of the sexual system; this seems to have escaped general observation. It will be noticed that this second edition is considerably larger than the first edtion; that it is not paged, whereas the first edition is paged; that it contains no portraits of botanists except Linnæus, Millington, and the author, and that the letterpress has been entirely re-written. In fact, it does not resemble the first edition in anything except the title.

The following is a summary of the Plates; excluding the ornamental writing and tables:—

Plate.	*Painter.*	*Engraver.*	*Date.*
Dr. Thornton	Russell ...	Bartolozzi ...	1799
Linnæus (plain)	Hoffman ...	Meyer ...	1805
,, (coloured) ...	,, ...	,, ...	1805
Queen Charlotte... ...	Beechy ...	Bartolozzi ...	1799
Power of Love	Kirke	Cardon ...	——
Millington	Kneller ...	Woolnoth ...	1807
Pollen (Farina)	Geoffroy ...	Mazel	1807
Linnæus in Lapland Dress (plain) ...	Hoffman ...	Dunkarton ...	1805
,, (coloured)	Hoffman ...	Dunkarton ...	1805
Linnæus (medallion) ...	Inlander ...	Woolnoth ...	1807

It will be seen that the engraving of Linnæus in Lapland dress is by Dunkarton. In the Kew copy it is by Kingsbury. The plates of Thornton and Queen Charlotte are those of the edition of 1799.

Invariably accompanying this second edition, and really intended to form part of it, is an extended edition of the previously-issued work, containing the coloured plates. The title-plate of the original issue of the parts containing these colouring plates is merely *Picturesque Botanical Plates of the New Illustration of the Sexual System of Linnæus*, by Robert John Thornton, M.D. . . . . 1799. But as an embellishment to the best edition, bound with the second edition of his *Sexual System*, 1807, Thornton published a new title plate *The Temple of Flora or Garden of Nature being*. At the top of this new title is a vignette of "Flora in Her Chariot," which is dated 1804.

Of these coloured plates of flowers there were several issues with varying title pages, some of the flower plates being re-engraved for the purpose. Distinguishing them by the titles and dates, I venture to suggest that there were at least three issues, begun as follows:—

First edition, *Picturesque Botanical Plates of the new Illustration of the Sexual System of Linnæus* . . . 1799. This was intended to accompany the first edition of Thornton's *New Illustration*, 1799, and the two were published together at twenty guineas.

First edition, *Picturesque Botanical Plates of the Choicest Flowers of Europe, Asia, Africa, and America, Illustrative of the Sexual System of Linnæus*, 1799. This was the same issue, but with a different title, and probably a larger number of plates, intended probably to meet the case of those patrons who wanted the plates as a work independent of the accompanying *Treatise on the Sexual System*. This was published at twenty guineas.

Second edition, *The Temple of Flora, &c.*, 1804. In this form the plates were afterwards issued as a third part to the second edition of the *Sexual System*, 1807.

Third edition, *The Temple of Flora, or Garden of the Botanist, Poet, Painter, and Philosopher*, 1812. I am able to give a description of this edition, as I had the good luck to buy a copy a few months ago; but I have never seen or heard of another copy, nor do the standard bibliographers mention it. The paper (cut) measures 15¼ inches by 20 inches. The following plates are uncoloured:—1. Title, with vignette (Flora in chariot); 2. "Cupid, Flora, and Ceres honouring Bust of Linnæus;" 3. "Cupid inspiring Plants with Love." It is noticeable that the vignette on plate 1 is not reduced, being merely the top of the old plate cut off. Then follow twenty-eight coloured plates, which are all the same subjects as in the original edition, except that the White Lily, one group of Auriculas, and Pitcher Plant are absent, and there is a new plate, the "Artichoke Protea." There is no letterpress to accompany the "Persian Cyclamen," which is bound in after "The End." All the plates have been re-engraved of a much smaller size.

Turning to Mr. Hemsley's list, I have my doubts whether the second group of Auriculas was not issued as a second edition in substitution for the first, especially as it bears date 1807. Neither my own copy, nor that in the British Museum, has more than one group of Auriculas, and therefore I should be inclined to believe that the edition of 1804 would be perfect without the Auriculas by Henderson, if the group by Reinagle were present. One print of the Superb Lily, dated 1799, is engraved by Ward; I have a second copy by Earlom. I have also a second copy of the Queen Flower by Reinagle (no engraver), dated 1812. I do not understand the facts about the American bog plants, as stated by Mr. Hemsley. In my copy, and I think in the British Museum copy, Thornton in his index of plates, describes No. XXIV. as "Pitcher Plant." The corresponding plate is named American Bog Plants (1806), and contains three plants, viz, Pothos, Pitcher Plant, Venus' Fly Trap. It is engraved, not by Cooper, but by Sutherland. Is there a second plate containing the Pitcher plant only, and another plate of American bog plants? It is interesting to notice that at the end of the work occurs an "Apology to my Subscribers," wherein Thornton states that "It was my original idea, had the times been propitious, to have greatly enlarged this part of the work and presented the world with seventy picturesque coloured plates."

The three preliminary coloured plates are as follows:—

Subject.	*Painter.*	*Engraver.*	*Date.*
Æsculapius, Flora, Ceres and Cupid honouring the bust of Linnæus ...	Russell & Opie	Caldwall ...	1806
Cupid inspiring Plants with Love	Reinagle ...	Burke... ...	1805
Flora dispensing her Favours	Cosway ...	Woolnoth ...	1807

Here again it will be seen that the two first plates are old friends which have been re-engraved.

In order to thoroughly understand the wanderings of some of the plates issued by Thornton, it is necessary to examine the third great work which he published, under the name of *The Philosophy of Botany, or Botanical and Philosophical Extracts*, in 1810, price ten guineas. My own copy measures 18⅝ inches by 13 inches. Vol. i. contains the short title, full title, dedication, contents, and then pp. 1—308; vol. ii. contains pp. 309—625. Vol. i. contains the portraits of Mayow, Evelyn, Priestley, and Lavoisier, which appeared in the work first described; vol. ii. contains one plate, "Oriental Plane Tree," 1808. A note at the end of the second volume states that "the botanical plates illustrative of botanical extracts or the philosophy of botany . . . . will form two separate volumes."

These plates, however, only form one volume, of the same size as vols. i. and ii. together, price ten guineas, and which may be described as either vol. iii. or as supplement. The title-page is worth giving in full, but space forbids. The pictures, setting aside as impossible to catalogue here the botanical plates, are as follows:—

Subject.	*Artist.*	*Engraver.*	*Date.*
Cupid, &c.	Russell & Opie	Ridley ...	1799
Millington	Kueller ...	Woolnoth ...	1807
Grew	——	Newton ...	1800
Tournefort	——	Hopwood ...	1802
Ray	Beale	Holl	1804
Vaillant...	Aubuet ...	Hopwood ...	1803
Linnæus	Hoffman ...	Mayer ...	1805
Her Majesty	Beechy ...	Bartolozzi ...	1799
Jackson	Barber ...	Woolnoth ...	1810
Thornton	Russell ...	Bartolozzi ...	1799

These portraits are in addition to all those mentioned by Mr. Hemsley.

Subject.	*Artist.*	*Engraver.*	*Date.*
Litchfield Cathedral ...	Samuel ...	Porter ...	1810
Eruption of Vesuvius	——	Sutherland ...	1809
,, of Ætna	Reinagle ...	Sutherland ...	1809
The Seed	Howard and Reinagle	Ward ...	——
Adam	Raphael ...	Dunkarton ...	1809
St. John	Guercino ...	Dunkarton ...	1809
An Angel, &c.	Rembrant ...	Dunkarton ...	1809
Raising Lazarus	Reinagle ...	Bartolozzi and Landseer	1800
Cupid, &c....			

These are followed by a very large number of botanical plates, many of them being perfect marvels

*

of art. To summarise: the three volumes of *The Philosophy of Botany* contain altogether:—

Plates of portraits	29
,, of botanical subjects	152
,, of non-botanical subjects	11
	192

(Omitting engraved titles.)

Here, again, we find all the plates which appeared in the first edition of *The Sexual System*, but in their first state, although by 1807 some of them had been re-engraved. The portraits of botanists were issued separately at five guineas.

Perhaps a few words in conclusion, upon the manner in which these publications were issued, may be serviceable. In the British Museum will be found a copy of the "advertisement to the new illustration of *The Sexual System*," dated 1797; and after explaining in general terms the character of the proposed work, Thornton adds that the cost of each number would be one guinea, each number containing at least two plates, with the accompanying letter-press. The work would be completed in twelve or fourteen numbers or parts, one being issued each quarter-day. However, we know as a fact that the cost of the work when complete was forty guineas. Again, in *An Account of Dr. Thornton's Exhibition of Botanical Paintings*, fourth edition, 1804 (in the British Museum), he says that the pictures were painted for the illustration of *The Philosophy of Botany, or Botanical Extracts*, including a new illustration of *The Sexual System of Linnæus*, and *Temple of Flora or Garden of Nature*. "These works .... are now publishing at 12*s*. 6*d*. per number." At the end of this pamphlet is a list (very incomplete) of his works, wherein *The Philosophy of Botany, or Botanical Extracts*, including a new illustration of *The Sexual System of Linnæus*, and *The Temple of Flora* is priced at 25*s*. per number. It seems impossible to reconcile the two statements as to the price; but I strongly suspect that the original subscription of a guinea was raised to 25*s*., and that for 12*s*. 6*d*. only half a number with one plate was issued.

Looking at the evidence of the Lottery, the frequent advertisements, and the lavish scale of publication, there can be little doubt that the demand for botanical plates was not so great as the supply. That having a large stock of these plates, Thornton used every means to recoup his enormous outlay, and that, in the later instances, the works were written round the plates, in a way not unknown to modern compilers of illustrated books. Ample evidence exists that the work was not so great a success as Thornton anticipated, owing, as he thought, to the distraction of the continental wars, but also, as I think, to the unappreciative attitude of a satiated British public. The scientific world, flattered by Thornton's most distinguished courtesy towards it, was liberal of its praises of him; but he got little more than praise, and he died a ruined man.

With the editor's permission, I hope, in a subsequent article, to offer some remarks on Thornton's other botanical productions, including a more complete list of his works than any that I have as yet discovered. Meanwhile, I should be glad to receive any information bearing on his bibliography that any one is kind enough to place at my disposal. *W. Frank Perkins, Portswood House, Southampton.*

FLORISTS' FLOWERS.

THE CARNATION.

I notice at p. 199, under the heading "Carnations: H. Bros," mention is made of Duchess of Fife and Mrs. Hamlet Riley. Your correspondent must have sent very poor specimens to call forth the editorial remark, "Both good, but small." A good bloom of the last-named is nearly as large as Souvenir de la Malmaison, and Duchess of Fife is a misnomer. It has a history, which is as follows:—Last year I saw a fine pale pink Carnation in flower in Mr. Martin R. Smith's collection at Hayes, and Mr. Smith gave me a good stock of plants of it under the name of The Burn, from the place where it was raised in Scotland. I exhibited it at Newcastle, and it there received a Certificate of Merit; again I exhibited it before the Floral Committee, who gave it an Award of Merit under that name. Blooms of it were sent to me from Lady Henry Grosvenor's garden, Bulwick, as Burn Pink. Moreover, Mr. Cocker, florist, of Aberdeen, informed me that he obtained a stock of plants, and named it Duchess of Fife. It is a charming border Carnation.

Carnations have done well in the open border this year. "Grass" is abundant and strong. No delay should take place in getting all the layering done; the weather is rather cold, and after September comes in root-action is likely to be sluggish. Seed saving will be difficult this year. There has been some difficulty to obtain pollen, and scores of fine blooms, which were apparently in capital condition to be fertilised, have failed in producing seed pods. The pollen was often in a lumpy condition, owing to the want of sunshine.

The Auricula.

The Auricula is already developing autumn trusses far too freely. Those who can grow good healthy plants with few autumn blooms are to be congratulated. I have often wondered whether the latitude of the place makes any difference. There is certainly a considerable difference between the climate of Kirkby Lonsdale and Ilford, and when I see about 5 per cent. only of Mr. Horner's Auriculas throwing up autumn trusses, and about 50 per cent. of mine doing so, I blame the climate. Those who had not time to repot their plants in May should do it at once, but no more of the soil should be removed from the roots than is necessary. We are yet potting on our seedlings from seed sown in August last year. The plants which vegetated in spring will yet make flowering plants for next year. The show Auricula is rather slow to vegetate, and at first the growth is such that the young cultivator loses patience. Notwithstanding the numerous disappointments that amateurs have to put up with, they should never give in. I gave instructions about cross-fertilising just previous to the time it should have been done, and those who carefully attended to this interesting operation will now have good seed ready to sow, if not already sown. A small portion of the seed only will vegetate this season, most of it lies dormant until next year.

The Alpine Auricula seeds more freely than the show varieties, besides which the seed vegetates more freely, and out of a hundred seedlings five at least may be better than the parents, whilst those not worth naming are good border varieties. I plant the seedlings out at this season from boxes when the stock is large. They do best in rich, deep, and good soil, and in a partially shaded position. The exhibitor generally raises a few seedlings annually of high quality, and grows them carefully in flower-pots.

The Pansy.

The Pansy has become again one of the more popular of florists' flowers with the general public. The Viola, too, is quite a florists' flower, and for general garden culture is superior to the Pansy; it will easier withstand drought, and produces its flowers more continuously. Now is a good time to propagate a stock of plants for next year, and I may remark that the Pansy and Viola are both impatient of "glass;" even glass handlights are not necessary. The small wiry growths slipped out from the centre of the plants with the fingers make the best cuttings, especially if portions of roots are attached to them. A little fine soil should be prepared and spread over the surface of the ground to the depth of about an inch. The best place for them is the north side of a fence, or building of some kind. The cuttings must be planted firmly in rows about 2 inches apart, and as much between the cuttings. They seldom fail to do well if they are carefully attended to as regards watering, and when well rooted, they may be planted in store-beds 4 inches asunder, and again planted into beds in the spring, or they may be planted out at once in the beds or borders. In some districts the Pansies, at the time for taking the cuttings, are smothered with mildew. In that case, the best plan is to use soft soapy-water, with flowers-of-sulphur in it; with one hand stir up the sulphur, and with the other dip the cuttings. This infusion will destroy the mildew, and also green-fly. A reddish species of the aphis tribe attacks the Pansy also in hot dry seasons, and as it is in such seasons that mildew is prevalent, they may be both found together. Soft soapy-water without sulphur will destroy the aphis.

The Tulip

requires some care to grow it well. The ground should be prepared as soon as is convenient by trenching it two spits deep, and adding, if necessary, decayed manure. It will then be in good condition by planting time early in November. *J. Douglas.*

HABENARIA SUSANNÆ.

With the introduction of the Malayan species, a fresh impetus has been given to the culture of these terrestrial Orchids in gardens. The first of the warm-house species to come in any quantity was H. militaris, that beautiful cinnabar-scarlet species, which is now so well managed in many gardens, but which proved restive at the onset.

Then came the pretty flesh-coloured H. carnea, illustrated in the *Gardeners' Chronicle*, December 19, 1891, p. 729; and more recently H. c. nivea, the white form of it. All these have variously-coloured leaves, and are highly ornamental even when not in flower.

The last novelty, H. Susannæ (fig. 38, p. 279), a pure white species, for which Messrs. F. Sander & Co., St. Albans, received a First-class Certificate at the Royal Horticultural Society's meeting of the Orchid Committee, August 28, is a tall-habited plant, with plain green leaves, and, like the other species named, it does not seem difficult to grow, if placed in a light position in a tolerably warm and moist house.

After flowering, the leaves of all these Habenarias fade, and the supply of water should be gradually lessened. When they are quite at rest, they should be placed in their pots on a dry shelf, only a little water being given to them at long intervals. When they are about to start into growth again they should be repotted into tolerably small pots, crocked one-third the way up, the lower part of each tuber being rested on the crocks before the compost of fine sphagnum moss, peat, crock-dust, and loam-fibre is placed round them, the growing point being kept just below the surface. Soon after potting they should be liberally watered until flowering is over.

OFFINGTON PARK, WORTHING.

By working to a plan entirely his own, and by steadfastly pursuing it for many years, Major Gaisford has succeeded in establishing on his beautiful estate a fine series of gardens, unique in character, and among the most interesting in the country. Formerly a mighty hunter, with a strong *penchant* for gardening, a serious accident in the field precluded the possibility of pursuing the more violent exercise to the extent formerly indulged in, and caused the Major to give his almost undivided attention to his gardens. But not being content with modern gardening, which strives to make an effect as a whole with comparatively few subjects, and with the annually recurring show of Pelargoniums and other things denominated bedding plants, he aimed to make his garden one in which not only the general effect should be satisfactory, but that in it both himself and other plant-lovers should be able to be interested in all the principal plants and trees used in the gardens individually. To that end he conceived the idea of planting every kind of tree and shrub obtainable which had the slightest chance of growing in the open air, in the favoured district in which his garden is situated, and with the care and attention which he resolved to give them.

Consequently Offington Park Gardens can boast more or less large specimens of over 600 species of shrubs, a large proportion of them being showy flowering kinds, and by far the greater part quite unknown as outdoor garden plants in the majority of European gardens. Each of these has its history,

and is endeared to its owner by memories of the source from whence it was obtained; the cares and anxieties about it in its younger days; how in some cases the plant seemed hovering between life and death until it was removed to another spot, where it soon established itself; how this, which had been purchased as perfectly hardy, had never fairly got its head above-ground; and how that, which he had been laughed at for planting outdoors, had proved quite hardy, and a better plant out than in a greenhouse; and a hundred other things whereby the plants and their owner may converse and render *ennui* impossible, even when there is no other company.

Around the fine mansion traces of a former generation of gardeners may be seen in the gigantic pyramid Yews clipped in tiers, and in other fine trees planted in former times; and in view of the drawing-room windows is the only concession made to modern gardening, the pretty geometrical garden there having some showy beds of Begonias and other flowers. But a striking feature is introduced by the basin of the central fountain being covered with Water Lilies, and its edge furnished with lobes of succulent plants, among which the tall columns of Cereus peruvianus and other pillar-like species form fine objects. Noting a few of the most striking objects, for it is impossible even to touch on a tithe of the many extraordinary and rare things to be seen in a brief visit, we remarked in the open ground near the plant houses good specimens of Philesia buxifolia, Abelia chinensis (rupestris), a large bush, which had been covered with flowers; Desfontainea spinosa, very handsome; Crinum Powelli, C. Moorei and C. longifolium, all flowering; Choisya ternata with its fine fragrant orange-flower-like blossoms; a large bush of the Californian Aplopappus ericoides, literally covered with its bright yellow flowers; a fine show of Montbretias and other plants in the borders, and against the house Mutisia decurrens, which however does not grow so well as could be wished.

In the beautiful garden in which rare shrubs and flowering plants, and on the walls climbers and the more tender shrubs are grown, were great bushes 10 feet high, of Pittosporum Mayii and P. undulatum; a vigorous plant of Fremontia californica, luxuriant Rosa camelliæflora, and species of Pomegranates in flower, and the noble shrubby Pentstemon cordi-



Fig. 38.—Habenaria susannæ: flowers snow-white. (see p. 278.)

folium, here and in other places in the garden sending out a great profusion of graceful sprays of scarlet flowers. On the wall Albizzia Julibrissin (Acacia Nemu), Trachelospermum jasminoides, the Chilian Azara Gilliesii, and other things usually found in greenhouses, have reached the top, and formed dense bushes; Diplopappus chrysophyllus and Benthamia fragifera are fine, and near by the New Zealand Corokia Cotoneaster is an interesting object. Lardizabala biternata, Abelia triflora, Olearia quercifolia (Eurybia stellulata), Jasminum heterophyllum, Eucalyptus coccifera, Solanum crispum, and the varieties of Cestrum (Habrothamnus) are also growing so strongly that, like most of the other rare things which have thoroughly established, they have to be freely pruned.

Turning to the beds and borders, we find fine bushes of Rhododendron Manglesii and other species; Pieris formosa and Ligustrum coriaceum in large bushes; Desmodium penduliflorum, Hypericum patulum, Indigofera floribunda and I. f. alba, in flower; also bushes of the handsome Incarvillea Olgæ, Cæsalpinia sepiaria (japonica), Cephalanthus occidentalis, and Erythrina herbacea. On the other side is a hedge of red and white Cistus, which have fairly taken possession of the border, and near it large specimens of Berberis Fortunei, an elegant evergreen Chinese species; Olearia Haastii, covered with silvery flowers; Nandina domestica, in bloom; Notospartium Carmichaeli and Eucryphia pinnatifolia are very handsome; in the borders, a good show of flowers on the species of Gentian; and rambling over the other shrubs, Tropæolum speciosum.

In another part of the garden, the varieties of Hydrangea hortensis have grown into large bushes, and are now covered with flowers. That known as H. h. Mandschurica, with dark purple wood and fine heads of a pink colour, is by far the handsomest. H. paniculata grandiflora, too, makes a great show; and the variegated forms of H. hortensis are pretty in leaf and inflorescence. In the same section of the garden, Meconopsis Wallichii and the pretty tall bushy Potentilla (Comarum) Salesoviana, with fine head of white flowers, are in bloom; and among other remarkable plants are Nesæa (Heimia) salicifolia, Tricuspidaria dependens (Crinodendron Hookerii), Rosa microphylla, Romneya Coulteri, the Japanese Clerodendron trichotomum, the different forms of Colletia, Eucalyptus Gunni, and other species in flower, &c.

On a south wall among other rare things not usually found established as hardy plants, are Physianthus albens, Cassia corymbosa, Berberidopsis corallina, Coprosma lucida, the large green-leaved Smilax, Acacia dealbata, the Himalayan Actinidia callosa (Kalomikta), Osmanthus rosmarinæfolius, Piptanthus nepalensis in flower; Lavatera Olbia, Baccharis halimifolia, Escallonia pulverulenta, Hedysarum multijugum, Olearia (Eurybia) ramulosa, Stranvæsia glauca, Adenocarpus anagyrus (Genista foliolosa), &c.

On a north wall are Coriaria myrtifolia, some species of Edwardsia, Acacia longifolia, Schizophragma hydrangeoides; and in a well sheltered place, Lagerstrœmia indica and L. Regina, had become dense bushes; Eriobotrya japonica (Loquat), is most robust and bears handsome foliage, but has not yet fruited; Clianthus puniceus magnificus has borne a good show of bloom, and the fine sprays of red fruits on Rubus phœnicolasius are as beautiful as the handsomest flowers.

Another beautiful section of these fine gardens is the wild garden, although the subjects grown in it are chiefly of the better known class, and in every part is evidence of originality and good plans carefully carried out, for Mr. Stuart, the gardener at Offington, ably seconds his employer's endeavours.

The plant houses also contain many uncommon species, and fine old plants exceptionally well bloomed. In a cool house were a small selection of Orchids, &c., among which in bloom were Disa grandiflora, some Odontoglossums, Physosiphon Loddigesii, a few Masdevallias, &c., the pretty little variegated Cornish Moneywort (Sibthorpia europea variegata), making very neat and pretty plants, and the roof bearing the Oncidium-like flowered Stigmaphyllum ciliatum, and the fragrant Jasminum variegatum in bloom.

Another house had the roof laden with the flowers of the sky-blue Ipomœa, with fine plants of Achimenes, Nerine Fothergilli, and other Nerines; Campanula Vidali, &c., on the stages; and a still warmer house was brightened by the spathes of Anthurium Scherzerianum, the Dove Orchid (Peristeria elata), Curcuma petiolata, &c., being also in bloom, and on the roof Aristolochia elegans.

STRAWBERRY CULTURE.

AN interesting experiment in Strawberry growing has been made by Mr. W. E. Lovel, of Driffield, York, and the results show the extraordinary fruit-bearing possibilities of the plant, and the capabilities of the English soil. The ambition of the grower was to produce a pound of fruit from first-year plants for every square yard of land occupied; and also to show that the value of the fruit borne upon it in one year equalled the market price of land, leaving out of reckoning the cost of labour, and quoting the land at £100 per acre. Many amateurs cling tenaciously to the erroneous idea that the fruitage of the Strawberry plant in the first year is a matter of insignificance. The experiments to be noticed were made during the past season, and the plants went through the frosts of May last which effected the destruction of at least 25 per cent. of the fruit, and dwarfed the remainder fully another 25 per cent.; so that the results obtained even in this the worst of twenty years, will, in an ordinary season, be far surpassed, and Strawberry culture as a remunerative occupation placed beyond the possibility of dispute. Although four times the quantity of Strawberries at present produced on the six acres of nursery-land at Driffield could readily be sold, the owner considers the fruit merely a by-product, the plants themselves being the primary source of profit.

Two plots were prepared in June and the beginning of July, 1893. The land selected had grown early Potatos, which were taken up in June. The summer was a warm one. Upon the first plot, runners of the Vicomtesse Héricart de Thury variety were planted, the beds occupying, including footpaths, a space of 142 square yards; 250 plants were used, placed 18 inches apart in the row, with a 4-feet interval, and pathways 3 feet wide. Now for the results. The fruit was pulled on the following dates:—

July 9	... ...	24½ lb.
,, 12	... ...	42 ,,
,, 17	... ...	62½ ,,
,, 21	... ...	44 ,,
,, 26	... ...	21 ,,
,, 28	... ...	4 ,,
Total	... ...	198 lb.

About 25 per cent. of the total produce was worth 6*d.*, and the remainder 4*d.* per lb. retail. If the whole crop had been sold at the minimum price quoted, a good margin would be left over the £100 per acre gross profit.

The second plot of land (62 sq. yards) had also been planted with early Potatos, and was divided into two beds. Eighty plants of the Sir Joseph Paxton variety were put in, 2 feet apart in the row; the proportion of plants, therefore, being considerably less than in the first experimental plot. In this instance there were also six weighings, on the following dates, namely,

July 10	... ...	4 lb.
,, 13	... ...	12 ,,
,, 16	... ...	15 ,,
,, 21	... ...	26 ,,
,, 26	... ...	22½ ,,
,, 28	... ...	6 ,,
Total	... ...	85½ lb.

The fruit was disposed of at market prices, some at 6*d.*, and the smaller berries at 4*d.* per lb. Taking 4*d.* as the standard price, the monetary result of this crop shows a profit at the rate of nearly £101 per acre.

A glance at the frost record during May, the severity of which has already been referred to, will convey a better idea of the climatic conditions under which the foregoing results were obtained. The degrees of frost registered at the nursery, which is also a station of the Royal Meteorological Society, between the night of May 20 and morning of June 1, were: —3½°, 10°, 8 6°, 3 2°, 12½°, 3.2°, 9°, 7 6°, 1.5°, and 6°, averaging for the ten nights 6.51° of frost. The experiments, therefore, having been conducted in a year exceptionally unfavourable to Strawberry-growing—in some parts of the country their cultivation was attended with complete failure—it is reasonable to infer that when similar experiments are completed next year more astonishing results may be anticipated, provided that one important factor—the weather—is less unkind at a critical period of plant life. *W. A. Brown.*

THE HERBACEOUS BORDER.

HORTICULTURISTS will probably be interested to hear something of this, which has grown to be one of the most popular of the many summer attractions at Kew. Kew has some exceptional advantages for this kind of gardening—namely, sufficient space to devote to each kind of plant used for its most effective display; and what is, perhaps, the most important of all, an enormous collection of hardy perennial and annual herbaceous plants to select from. The border is at its best from about the latter half of July till the frost comes in October or November.

The border is a wide strip of richly-manured soil, about 60 yards long and 20 feet wide, backed on the east side with a long range of greenhouses, and in front a fine carpet-like stretch of lawn. The border is unshaded by trees, and well beyond the reach of any tree-roots. The greater portion of it is given up entirely to showy herbaceous plants, but, to give variety, and furnish the border in winter, groups of shrubs, such as Roses, Genistas, Olearia Haastii, Golden Privet, Laurustinus, shrubby Spiræas, Aucubas, &c., are planted at irregular intervals. These not only furnish the border in winter, but they also add considerably to its floral attractions in summer.

Two years ago the border was trenched and heavily manured. During dry weather it is watered with the hose. Many of the herbaceous perennials, such as the Sunflowers, Althæas, Liliums, Pinks, Phloxes, &c., are left permanently in the borders, but even these are best lifted in early spring, and replanted in freshly-turned soil.

As an object-lesson for the amateur, and, I think I may add, for many professional horticulturists also, this big collection of showy herbaceous plants has a special value at Kew. Everything is, of course, labelled, so that the visitor can make a selection to meet his own requirements and take down the names of his choice, with a view to procuring them from the nurserymen next year. And it is surprising how many avail themselves of the opportunity thus afforded. Kew has exceptional facilities for showing what is good among the newer introductions, and, at the same time, keeping the old favourites from going to the wall. I have made a list of the most attractive of the plants in this border in the latter part of July, grading them according to their heights in three sets, namely, front row plants, middle row, and back row. Many of them will continue in flower for some weeks longer. At Kew each plant is represented by a large effective group or mass, the smallest plants covering a square yard or more, and the largest five or six times that space. I give the list in the hope that it will prove of some guidance to any one wishing to make a border of the kind described. At the same time, I can strongly recommend such a border to all who desire to have a feature of ever-changing interest and beauty, in which respect it is superior to the mixed shrubbery, the ordinary flower-garden, or even the rosary itself. At the same time, it is easily

managed by any one who has a little knowledge of outdoor gardening.

Back row—plants 5 feet or more in height when in flower:

Delphiniums, Hollyhocks—single and double, Bocconia cordata, Lathyrus latifolius, L. rotundifolius, Sweet Peas, Tropæolum majus, Dahlias, Foxgloves, Polygonum polymorphum, Althæa ficifolia, Senecio macrophyllus, Miscanthus sinensis, and M. japonicus (generally called Eulalias), Sunflowers—perennial and annual, Lilium testaceum, L. auratum, L. pardalinum, L. superbum.

Middle row—plants from 2 to 4 feet in height when in flower:

Phloxes, Monarda didyma, Lychnis splendens, L. chalcedonica, Pyrethrums, Campanula persicifolia, C. rapunculoides, Polemonium Richardsoni, Papaver orientale, Potentilla argyrophylla, Lavatera trimestris, Lilium umbellatum, L. longiflorum, L. candidum, Centaurea Cyanus, Hemerocallis, Gladiolus, including C. Colvillei and its variety alba, Anemone japonica, Amaranthus caudatus, Calliopsis elegans, C. atrosanguinea, Aconitums, Chrysanthemum maximum, Coreopsis grandiflora, Achillea Millefolium, Helenium pumilum, Erigeron speciosus and the variety superbus, Lythrum Salicaria, Centranthus ruber, Scabiosa caucasica, Eryngium giganteum, E. alpinum, E. Oliverianum, Gypsophila paniculata.

Front row—plants less than 2 feet in height when in flower:

Stocks, Marigolds, Pentstemons, Carnations, Pinks, Violas, Calceolarias, Geum miniatum, Linaria delphinioides, Clarkias, Sweet Alyssum, Iberis umbellata, Ageratum, Heliotrope, Antirrhinums, Godetias, Phacelia campanuloides, Calliopsis Drummondii, Eschscholtzia californica, Convolvulus minor, Viscaria oculata, V. cardinalis, Centranthus macrosiphon, Linium grandiflorum, Acroclinium roseum, Tropæolum Vesuvius, Campanula carpathica, Dimorphotheca annua. *W. Watson, in "Garden and Forest."*

Amateur's Column.

CARNATION HOUSE, COOMBE, LEWES.—The cheapness of glass and wood, and the numerous modern improvements in heating glass structures, enables cultivators of moderate incomes to indulge their horticultural fancies in fruit and flower culture in all directions, and to an extent scarcely dreamt of by our fathers. The proprietress of Coombe, Miss E. F. Shiffner, has a preference for the *remoatant* or perpetual-flowering Carnation, but cultivates border varieties, and to accommodate her extensive collection she has built a span-roofed house, in size 30 feet long and 8 feet wide, which enables her to accommodate therein about 800 plants; and how well she contrives to flower them is well illustrated in the photograph by Mr. Stickland, of Brighton, which we reproduce in fig. 39.



Fig. 39.—CARNATION-HOUSE IN MISS E F. SHIFFNER'S GARDEN, COOMBE, LEWES, SUSSEX

We append a list of the varieties grown, which, it will be remarked, contains many of the newest and handsomest introductions of the specialists:—Phœbe, Harmony, Agricola, Gregorious, Henry Cannell, Miss C. Graham, Ganymede, Desdemona, Almira, Agnes Chambers, Countess of Jersey, Chrysolora, Lilian, Mrs. Robert Sydenham, The Hunter, E. Shiffner, Countess of Paris, Germania, Gladys, King of Crimsons, Lady Gwendoline, Lord Rendlesham, Mrs. William Bright, Mrs. Muir, Mrs. Reynolds Hole, Niphetos, Old Coin, Romulus, Ruby, Terra Cotta, Victory, Duke of York, Uriah Pike, Winter Cheer, Duchess of Fife, Rose Celestial, Queen of Bedders, Souvenir de la Malmaison, blush, rose, pink, and crimson; Lady Middleton, Madame Arthur Warocque, Goldfinch, Amber, Dazzle, Oriflamme, Elsie, Pride of Great Britain, Pride of Penshurst, Sacchariasa, Dorothy, Melpomene, Madame E. Pynaert, Colonial Beauty, Magnet, Attraction, Prince of Orange, Duchess of Sutherland, Florence, Louisa, Bellisime, Mrs. Henwood, Grandis, and several others.

Wolverhampton Park.

Only 50 acres in extent, and cut up in a large measure into lawns, flower-beds, shrubberies, a fine lake, broad walks, &c., the Wolverhampton public park is in a considerable degree similar to a large pleasure-ground, and one misses the acres of "unkept" grass that we have rambled over in the larger parks in London. However, 50 acres is but 50 acres, and the very most that could have been made in such an area has been obtained. It was laid out some fourteen years since by Messrs. Vertegans of Birmingham, and the plan was figured in the *Gardeners' Chronicle*, May 8, 1880, p. 593, but some alterations have been effected by the present superintendent, Mr. Wm. Thomas, who has held this position from the first, and whose enthusiasm, now that he is nearing seventy years of age, is as great as ever. Broadly speaking, it has been divided thus: a pretty lake, with island, occupies 8 acres; recreation claims 24, or nearly one-half of the land, where athletic games are permitted; and the remaining 18 acres represent the pleasure-grounds and flower-gardens.

Its position is conveniently near the centre of the town, and on the opposite side to the ironworks district that lies between the town and Willenhall, where, we are glad to be able to add, another open space has been secured. The park is remarkable for its tasteful bedding, and for its neat and trim appearance, and these two features make it at once a very pleasant promenade or lounge for the Wolverhampton people, whilst any strangers who may happen to see it will wonder to find one of the best kept parks in the provinces so close to the "black country." The principal flower beds are on a flat and very suitable plateau, that in the original design was intended to be the site for a refreshment pavilion, which is almost in the centre of the park. Fortunately, such an untasteful idea was never carried out, and the plateau with its large Rhododendron beds, and its flower beds, divided by well-made circular walks of differing circumference, is one

of the most agreeable and pleasing features of the park. The neat and efficient manner in which the beds have been planted, and are maintained, will excite the admiration of those who are moving continually among the best gardens. One of the most delightful effects is produced in a Maltese cross of fair size. The centre is planted with Pelargonium Avalanche, a good white variegated variety, bearing white flowers. Two of the sides are filled with Verona, a golden-leaved variety, much like Crystal Palace Gem, but dwarfer-habited, and better in every way; and the remaining sides with the well-known Mrs. Pollock. All the portions were edged with a line of blue Lobelia and a line of Echeveria glauca; the plants had grown evenly, and such a happy combination is rarely seen. Some large circular and other beds of Dahlias also call for mention, some of them filled with mixed varieties, and others with one only; but in every case the plants had been put out with care, and are good of their sort. Magnum Bonum, a double white one in a bed by itself, is now in full bloom, and is a first-class variety of exceeding dwarf character, produces good blooms, and is one of the earlier flowering ones. A good contrast to this one is Rising Sun, but only in regard to its blooms, which are bright to a degree; in habit it is dwarf and good. There are two capital beds of tuberous Begonias, which tell plainly how they enjoy the present moist season, and lend an appreciable variety from the Pelargoniums both in foliage and flower. They appear to do as well in Staffordshire as further south. A large bed of a double-white Stock, Princess Alice, has flowered splendidly, great care being taken by Mr. Thomas to get Stocks in the finest condition every year. Over against the beds just noticed is a piece of carpet bedding representing the arms of the borough, excellent in its way, though we confess to little appreciation of this style of bedding. Beds of mixed single Dahlias encircled by a hedging of Ivy a foot high, have also carpet bedding round the exterior, but of a simpler and more pleasing description. The subjects employed in the carpet bedding include all the usually-employed plants and Spergula arvensis aurea and Sibthorpia europæa. The two last-named species are excellent for the purpose, quite hardy, and but seldom used. A tall ornamental clock, the gift of an alderman, stands near to the flower garden, bu was erected before arrangements for this had been thought of, or it would have been better in the centre. On one side of the plateau, though almost hidden from view, is a band-stand, a gift from the right hon. C. P. Villiers, M.P., the father of the House of Commons, and who has represented the borough for a great number of years.

A feature of the park in which the superintendent takes a special interest is the botanical or student's garden, where about one hundred of the Natural Orders are represented in as many beds, and the plants all named, so as to be easy of reference, but species of some of the orders are difficult to obtain, and Mr. Thomas is continually on the look-out for additional specimens.

In one part of the park is a dell, where there are beds of Rhododendrons, isolated Conifers, an ornamental fountain, and close to it a waterfall and short stream, where Water Lilies and similar subjects with suitable associations of stones, Ivy, and Ferns, &c., abound, all very pretty and tasteful. Such are the prominent characteristics of the Park; other features are good, but its claims to a notice in these columns was furnished by the evidence it bears of the untiring care bestowed upon the details of its management, and the skill with which a determination to make the most possible of a comparatively small area of land has been pursued. The Council has been happy in having for its first superintendent so devoted and painstaking a gardener as Mr. Thomas.

SCOTLAND.

GRAPE GROWING IN SCOTLAND.

WE have had exceptional opportunities of noting, in many Scottish gardens, good Grape crops this season, for which northerners are much indebted to the warm weather which was experienced last autumn, and which ripened the wood thoroughly. Among the more extensive establishments, Park Hall, in Stirlingshire, holds a leading position, and those who are in the habit of seeing moderately-cropped Vines only, would be astonished with the extensive glass ranges at Park Hall. In the two larger houses, 100 feet long, 26 feet wide, and 17 feet high, the crops are such as have been produced every season during the last dozen years. Late Grapes are cultivated in these, the rods planted on both sides, carrying from 20 to 22 bunches each, which are always large, and they colour beautifully, as may be seen at some of the summer and autumn exhibitions. Long ranges of other houses are also loaded with fine bunches of Grapes, Muscats especially. The latter are all beautiful bunches of 2½ lb. to 5 lb. in weight.

Passing into the vegetable garden, three sides of the square are enclosed with Vineries and Peach-houses, something over 400 feet in length, and, excepting Figs, there are but few fruit trees in pots. The crops throughout this range are enormous.

In a range of span-roofed houses in divisions about 275 feet long each, there is one for early Grapes, and a grand crop has been had. One is filled with Tomatos, Park Hall Favourite being the variety most in favour; Austin's Tomato is, however, rising rapidly into favour, and I have seen none to beat this variety as a free bearer. The third house in the ranges referred to is for Cucumbers and late Tomato growing, which also show Mr. Murray's master-hand as a cultivator. *M. Temple, Carron.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

ODONTOGLOSSUMS.—Few Orchids deserve the popularity they enjoy more than Odontoglossums, especially the O. crispum and O. Pescatorei types, among which during the past few years many fine forms have appeared, notably those beautiful and unique varieties exhibited by Baron Sir Henry Schroder at the Royal Horticultural meetings from time to time. The species of Odontoglossum, besides those already mentioned, which succeed in a cool house, are notably O. triumphans, O. Halli, O. gloriosum. O. Harryanum, O. luteo-purpureum, O. nævium, O. polyxanthum, O. nevadense, O. Uro-Skinneri, and O. coronarium. Where a large collection of these species is grown, one or other of them will be in bloom during a considerable portion of the year. Those which flowered early in the year, are now making growth, and as the roots will soon be pushing freely in all directions, no time should be lost in affording fresh material to those plants requiring it. Unquestionably September is the best month to disturb the roots, as during the following period of cool nights there is little difficulty in maintaining an equable moist temperature, which is in every way favourble to the re-establishment of the plants before the winter. Plants which are about to flower, or have not yet started to make growth, should not be repotted at this season, but the operation should be deferred till new growth appear, and root action becomes visible. In most collections some unhealthy plants will be found, which possess but few roots. These should forthwith be turned out of their pots, the decayed roots cut away, and the plants thoroughly cleaned from decaying matter of whatever kind, repotting them into as small pots as they will conveniently go into. As regards established specimens in sufficiently-large pots, some may be found with exhausted material about them, and this should be carefully removed without injuring the roots, and fresh compost substituted for it. When repotting, the bulk of the plants, beginners in Orchid culture should be cautioned against using pots that are out of proportion to the size of the plants, overpotting generally ending in injury and failure, and this is especially true as regards the Odontoglossums. The pots should be quite clean and in a dry state, and they should be filled to the extent of three-quarters with clean crocks, over which a thin layer of moss should be spread, so as to prevent the compost itself being washed down amongst the crocks. A suitable compost for these plants consists of freshly-gathered sphagnum moss and fibry peat in equal proportions, freely intermixed with small crocks. Let the sphagnum moss be thoroughly examined before use, picking out all the slugs that are concealed in it. If this be not done, much injury will be done by them to roots and flower-spikes. Pot the plants with moderate firmness, keeping the base of each plant just a little higher than the rim of the pot. When the operation is finished, insert a few bunches of living sphagnum moss over the surface, as growing moss is conducive to the health of the plants. The critical period with Odontoglossums, as with many other species of Orchids, is just after potting, as it is at that time an easy matter to afford too much water, thereby causing the roots to decay and many leaves to be lost. For a few weeks afterwards, it is advisable to afford water sparingly, but a decidedly moist atmosphere should be maintained, and as much fresh air admitted to the house as possible, especially when the outside temperature is about 50°, and the hygrometer within a few degrees of the saturation point. In large and varied collections, there are always to be found some species or other which grow unsatisfactorily. I have been led to make this remark owing to several Orchid cultivators, who visited Burford recently, informing me that they had experienced a difficulty in preserving Cypripedium Spicerianum in a healthy condition, which is due to attempting to cultivate this species under unnatural conditions. From past experience, I have found that the greatest mistake that could be made with this plant is to grow them in a too high temperature, and too close an atmosphere. To grow this species of Cypripedium well, it should be placed in the intermediate-house, and afforded the same kind of treatment as C. venustum, C. Boxallii, C. villosum, C. purpuratum, C. Leeanum × C. barbatum, C. insigne, and its varieties. I do not know of another species of Cypripedium that delights in such copious overhead waterings as one named above; our plants are simply deluged with water almost every day during the summer, and under this treatment growth is sturdy and exuberant, and they flower very freely. The same remarks apply to the new C. Charlesworthii, plants of which in the East Indian-house during the past season being not nearly so strong and vigorous as those that were cultivated in the cooler division. The present is a good season to go over the seedling Cypripediums, repotting those that stand in need of it. Seedlings, when properly suited, grow very fast, and require repotting twice during the year. When disturbance of the roots of Cypripedium becomes necessary, spring and autumn are the most suitable seasons for performing the work. These delicate little plants must never become in the least degree dry at the root, or thrips and other insects will attack them, and check their progress for some considerable time afterwards.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

PINE-APPLE PLANTS INFESTED WITH INSECTS.—Effective remedies should be applied without loss of time when brown or white scale, or mealy-bug are observed on the plants; the last-named being the worst pest, and if it has got well hold of the stock of plants, it is best to throw them away, cleaning and painting the woodwork of house, and lime-washing the walls, making a new start with clean plants. The same radical measures are required for white scale, as it is seldom got rid of. Brown-scale can be destroyed by a weak solution of petroleum and soft water given at the strength of one wine-glass of the oil to 4 galls. of water, and the work of cleansing the plants entrusted to painstaking men, one man keeping the water and petroleum agitated, so as to incorporate them whilst being used, and the other using the syringe on plants and all parts of the Pine-pit, walls, &c. The mixture should be driven into every part of a plant, and not used only on one side of it. If this be done once a week for a month or two, the pest will disappear. White-scale needs a much stronger mixture of petroleum than the tender foliage of the plants can endure without injury, and the better plan is, as was before said, to throw them away. The smooth-leaved Cayenne, Black Jamaica, Charlotte Rothschild, and late Queens with fruits now swelling, should have a top-dressing of rich loam, and guano-water afforded them. Every time the latter water at the roots is required; but as the fruit begins to colour, gradually withhold water at the root, and afford abundance of air, removing them to a cool glasshouse or the fruit-room when ripe. Plants with maturing fruits require a moist atmosphere always, closing the house early in the afternoon, whilst the sun has power, 85° to 90° is not too high, whilst the night temperature may range from 70° to 75°, air in a small amount being supplied early in the morning. Another batch of winter-fruiting plants should be started for fruiting

in the early spring months, and there are no varieties more suitable for that season than Smooth Cayenne and Charlotte Rothschild. Strong sturdy plants should be selected for this purpose that have numerous pointed leaves. Afford them steady bottom-heat of about 85°, and pay great attention to root watering, remembering that little is required during the winter. Sufficient should be afforded to moisten all the soil. The Smooth-leaved Cayenne requires a larger quantity of water than the others. Continue to put up strong suckers as fast as they can be obtained from fruiting plants or those that have fruited, putting them in bottom-heat of 85°, but not watering them before roots an inch long are made. Shade from bright sunshine, damp the leaves when rooting has taken place, and afford air in abundance. The stock of succession plants for fruiting next season should by the end of the present month be in a state of rest, and attention will be needed in affording water. No more is required than will keep them in perfect health; and as the days shorten damping down, and overhead syringing should be gradually discontinued, and a somewhat lower temperature maintained, 70° to 80° by day, and 60° to 70° by night, are suitable. Plants potted late will perhaps require to be kept growing a few weeks longer, closing the pit early in the afternoon with a moist atmosphere. A good supply of fermenting materials should be kept in readiness for the renewal of linings to dung pits, and any re-arrangement of the inmates of the pinery should now be made. Where the planting out is practised, those plants that have not fruited may be removed to another bed with little injury, and the bed renewed and replanted. The more satisfactory way is to plant a bed with newly-rooted suckers selected all of a size.

TOMATOS.—Train out growing shoots, and afford manure-water about twice a week. Old foliage should be cut off when it assumes a yellow tint, and if white aphis appears, fumigate the house. Pay attention to the plants being grown on for winter fruiting, train them to a single stem, and fertilise the flowers artificially with a rabbit's tail. Pot off the last batch of cuttings or seedlings into their fruiting pots or beds, affording them air night and day, but reduce the amount when the nights are cold, but keep open the upper ventilators at night.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

CABBAGES.—The planting or preparation for planting of Cabbage plants should now receive attention, a warm border being planted with Ellam's Early, 15 inches apart. Late varieties grow to large size when planted in the open quarters, and these may be disposed at 1½ to 2 feet apart. If the Onion-ground was well manured and cultivated, as it should have been, there will be no need for further manuring if it be used for Cabbages, but having cleaned the ground, mark off the rows, and plant with a dibber the plants drawn from the seed bed, or with a trowel those which have been transplanted. If clubbing or attacks of the grub be feared, dip the roots in a puddle made of clay and soot-water, or the holes may be partly filled in and watered with the mixture. Should the land to be planted be in poor heart, give a dressing of rich manure, dig thoroughly, and tread firmly all over before planting. This would be necessary if it is desired to keep the shoots for the production of sprouts. If the weather be sunny at planting time afford water once.

LETTUCES.—The final sowing out-of-doors of Lettuce seed may now be made, employing the varieties before-mentioned, to which may be added Hardy Hammersmith, a useful Lettuce if the winter is very severe. The bed should be sheltered, and dryish. Sow the seeds, if good, thinly, so that sturdy, stocky plants will form at the first. Continue to transplant from previous sowings in positions where they are not overshadowed by trees or other crops.

HORN CARROTS should be thinned to 3 inches apart, and the land kept free from weeds, the soil being stirred with the hoe or hand-fork.

TOMATOS.—Remove all side growths, and expose the fruit to the sun by removing a portion of the leaves, or putting them aside. As fast as the fruits change colour, they should be gathered and placed under a clean mat in the fruit-room to ripen, so that those remaining on the plants may swell up more quickly.

ARTICHOKES are continuing late this season, but as soon as all the heads are gathered, cut the stems down. Young plants may still be treated to liquid manure.

GENERAL REMARKS.—Keep the hoe plied between crops and on all vacant land, and remove all spent crops, diseased Potato-haulm, decaying Cabbage leaves from old stools, &c., preserving a tidy appearance throughout the garden.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

GATHERING PEARS, ETC.—The gathering of fruits of Bon Chrétien, Beurré de l'Assomption, Clapp's Favourite, and Souvenir du Congrès, should be completed, as if these are left on the trees after this date, and especially if on walls, they become mealy, and lacking in flavour. Make small occasional gatherings of Pears Beurré d'Amanlis, Jersey Gratioli, Brockworth Park, Fondante d'Automne, and any other variety maturing at the same season, gathering the finest fruits, and those which part readily from the spur. The trees being thus lightened, the remaining fruits will continue to increase in bulk, which, if gathered at intervals of about a week, will keep up supply for a considerable length of time. The leading shoots on cordons should be trained to wires or stakes, for if allowed to hang about, they mostly take all directions but the right one, and are not easily put right afterwards. Prune back all growths made since the trees were summer-pruned as soon as the wood is become firm, thereby causing the formation of fruit-buds for next year.

APPLES.—The somewhat sudden change to warmer weather is causing early varieties to show signs of ripening. Lord Suffield, Ecklinville Seedling, Frogmore Prolific, Stirling Castle, Pott's Seedling, Keswick, Mank's, and Dutch Codlins, are all showing these signs. It will be as well to gather the ripest fruits, storing them in the coolest place at command if they must be kept for use. In my last week's calendar I advised the placing of a good bed of some soft material under the trees of dessert Apples to prevent falling fruit from bruising; and the same attention would not be amiss with the above-named culinary Apples, and indeed any which are now liable to fall, this being preferable to gathering the crop at too early a date, as the longer time, as a rule, any kind of fruit can be left on the tree the longer it will keep. See that the pruning of bushes and pyramids which may have made sufficient growth is performed as early after this date as practicable, as this, while benefiting the fruit by exposure to sunlight, admits it more fully to the inner parts of the tree, assisting thereby in maturing the wood.

AMERICAN BLACKBERRIES.—Thin out the young as well as all tangled growths, leaving a sufficient number of shoots to be trained in at 1 foot apart after the bearing-growths are removed. Tie them up loosely, as where they are allowed to be pendent, the check given to the flow of sap induces the lower buds to start, which should be prevented, as far as may be. If these laterals do start, pinch or prune them back to one leaf, and pinch again later should it be necessary so to do. Unless growing in a season like the present, in a sunny position, the strong growths which "Wilson Junior" makes can scarcely be matured sufficiently to withstand a severe winter. Instead of depending entirely upon this one variety, Rubus laciniatus should be included in the most select collections, as being quite hardy, it is a surer bearer, besides being ornamental in leafage.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

SEASONABLE OPERATIONS.—The time has again come round when the houses and other structures in which the winter-flowering plants are to be accommodated should receive a general overhauling, and though the beginning of the present month may seem to some persons somewhat early, the time that is needed to do the work thoroughly, and the uncertainty of date of the first frost, renders an early beginning desirable. In peacheries and vineries denuded of their fruits, the work of cleaning, arranging, and repairing may be proceeded with. Hot-water pipes should be examined for leaks in every part, and to bring out their weak places rather strong heat should be applied. Repairs to the pipes having been done, they should have a coating applied to them of lamp-black and boiled linseed-oil. All gravel, coal-ashes, broken shells, shingles, &c., upon which the plants are usually placed, should be removed to the open, and well washed with soft-soap and water; the wood-work and glass should then be washed with the same mixture, and afterwards receive two coats of paint, and the walls a white-washing with the best chalk-lime, in which petroleum and water are used in equal ratio. The gravel, &c., being replaced, the house will be ready for the plants.

IVY-LEAVED PELARGONIUMS.—Ungainly and straggling plants may be cut down if still serviceable, otherwise they may be destroyed. Cuttings of these should be put in, and which, if properly managed, will make plants of useful size by next spring.

GARDENIAS, having now filled their pots with roots, may be afforded at weekly intervals some weak soot-water, or Clay's Fertiliser—the latter at the rate of a tea-spoonful to a 5½-inch pot. Keep the foliage of Gardenias clean by dipping them at stated intervals, say once in a fortnight, in some mild kind of insecticide, which is a much safer practice than to let insects establish themselves, and then clean the plants at a great loss of time, and probable injury to the plants.

DIPLADENIAS.—These plants being liable to infestation by green and black aphis and scale, a similar kind of treatment should be followed. The young growths of Dipladenias should be carefully trained over the roof of the warm-house, or on a trellis.

STATICE PROFUSA.—Plants which have been in flower for the last three or four months may now have their flower-spikes removed, and the foliage cleaned with clear water and a sponge, placing them in some cool, airy structure, such as the Heath-house, and briskly apply clean water by means of the syringe twice daily.

BEGONIAS AND GLOXINIAS, spring-sown, at the present time in flower, may, if well furnished with roots, have applications of weak manure-water twice a week, and the flower-house may be kept somewhat drier—at least, towards the end of the day.

CYCLAMENS.—Seed may now be sown, placing a quarter of an inch of sandy soil over the same, standing the seed-pans in an intermediate-house.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

PHLOXES AND PENTSTEMONS.—When increase of stock is desired, side-shoots may be taken and made into cuttings at this season, and placed in a cold frame, prepared by filling it to within about 8 inches of the glass with loam, leaf-mould, and a liberal quantity of sharp sand, quite firm. In selecting shoots as cuttings, take only those that are of firm texture, and after trimming off the lower leaves for the space of 1½ inch, insert them in the soil in rows of about 4 inches apart each way, shading from bright sunshine, and keeping the frame closed for two weeks, then admit air gradually till the cuttings can stand full exposure without flagging, when the lights may be removed till frosty weather sets in. They will need but little attention throughout the winter, but air should be given in mild weather. Although Phloxes are propagated readily by division of the root when the tops are cut down, the above method will be found advisable, by reason of the superiority of the trusses borne by these young plants.

SAXIFRAGES.—The present is a suitable time for propagating these plants from the small offsets, which are produced plentifully, and which may be put either in pots or placed in the open borders.

GENERAL WORK.—This will consist chiefly of mowing and sweeping lawns, rolling walks, &c. Yew, Holly, Box, Privet, and Quick hedges may be cut. Attention should likewise be given to such plants as are required for spring bedding, viz., Polyanthuses, Wallflowers, Canterbury Bells, Silenes, Myosotis, &c. Dutch Bulbs should be obtained for bedding and other purposes. The patches of Trollius grandiflorus and others of this class should be examined, and where the bulbs are too crowded, it will improve the growth, and consequently the flowering of the same, to divide and replant them forthwith, choosing a moist site for the plants. Staking and tying will occupy much labour at this season to prepare tall-growing plants to withstand the rough winds that we may expect at a little later season, and which often cause havoc amongst them. The layering of Carnations, Picotees, and Pinks should be finished without delay.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, SEPT. 11—Royal Horticultural Society's Committees at the Drill Hall, James Street, Westminster.
WEDNESDAY, SEPT. 12—East Anglian Horticultural Club.
FRIDAY, SEPT. 14—Dundee Horticultural Association.

SHOW.

WEDNESDAY, SEPT. 12—Royal Caledonian Horticultural Society, Edinburgh (two days).

SALES.

MONDAY, SEPT. 10—Dutch Bulbs, at Protheroe & Morris' Rooms. Ninth Great Annual Unreserved Trade Sale of Pot Plants, at Dyson's Lane Nurseries, Upper Edmonton, by order of Mr. H. B. May, by Protheroe & Morris.

TUESDAY, SEPT. 11—Dutch Bulbs, at Protheroe & Morris' Rooms. Great Annual Sale of Winter Blooming Heaths, &c., at the Burnt Ash Road Nurseries, Lee, by order of Messrs. B. Maller & Sons, by Protheroe & Morris.

WEDNESDAY, SEPT. 12—Dutch Bulbs, at Protheroe & Morris' Rooms. Unreserved Annual Sale of Winter Flowering Plants, &c., at the Nurseries, South Woodford, by order of Mr. John Fraser, by Protheroe & Morris.

THURSDAY, SEPT. 13—Dutch Bulbs, Lilies, and Palm Seeds, at Protheroe & Morris' Rooms. Twenty-sixth Annual Trade Sale of Stove and Greenhouse Plants, at the Brimsdown Nurseries, Enfield Highway, by order of Mr. John Maller, by Protheroe & Morris.

FRIDAY, SEPT. 14—Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms. Great Annual Trade Sale of Winter-blooming Heaths, at the Longland's Nursery, Sidcup, by order of Messrs. Gregory & Evans, by Protheroe & Morris.

SATURDAY, SEPT. 15—Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—58°.3.

The Lindley Library.

WE have much satisfaction in giving publicity to the following note concerning the only purely horticultural library in the country that is open to the public. In one of those intermittent convulsions which seem inevitable in great societies, the Royal Horticultural Society many years ago, found itself in such straits that it was compelled to dispose of its library, one of the richest of its kind ever got together. To supply the deficiency, part of the surplus derived from the International Horticultural Exhibition and Botanical Congress of 1866, was applied to the purchase of the library of Dr. LINDLEY, who had died not long before. To prevent the dispersal of this library in any future attack of impecuniosity, it was confided to the charge of sundry trustees. The secretary and the treasurer of the Society are, *ex officio*, trustees, others are Fellows of the Society, and one represents the general public unconnected with the Society. The history of the great "International," the only one held in this country worthy of the name, was alluded to in our issue for August 18 last, p. 197. Among the direct or indirect results of this famous exhibition and congress were the establishment of the Lindley library and the formation of the Scientific Committee. In addition, the substantial sum of £1000 was given to the Gardeners' Benevolent Institution.

Reverting to the Library, it may be mentioned that the amount remaining in the hands of the Trustees after the purchase of the library is only sufficient to allow for the purchase of the principal periodicals, and for binding a restricted number of volumes annually.

There is no provision for a librarian, the Assistant-Secretary, Mr. WEATHERS, at present taking upon himself the duties which are generally, but very unfairly, assigned to the "willing horse." A manuscript catalogue is in existence, but it is evident that the utility of the library is much hampered by the absence of any printed list. The collection of pamphlets is especially rich, but at present they are more or less inaccessible, for want of a catalogue.

Subject to the discretion of the trustees, certain books may be lent out to responsible persons; but if the library is to be a great educational institution, there should also be formed a duplicate collection of standard text-books, which could be lent out to students without much risk of loss or injury. Such books would, in a sense, be more useful than the many costly illustrated works, which cannot be lent, because their loss would be irreparable, but which under existing circumstances, are rarely referred to. Her Majesty is among the list of donors to the library, and it is to be hoped that many of her subjects will follow her example.

It is obvious that this library should be as complete as it is possible to make it. As it is, it is inferior to the collections in Paris or Boston, and other cities. The following is the text of the appeal that is made to the Fellows of the Society and others:—

"THE LINDLEY LIBRARY.—Trustees: W. CARRUTHERS, Esq., F.R.S., Keeper of the Botanical Department, British Museum; Dr. ROBERT HOGG, LL.D.; Dr. MAXWELL T. MASTERS, F.R.S.; HARRY J. VEITCH, Esq., F.L.S. Ex-officio:—Secretary of Royal Horticultural Society (Rev. W. WILKS, M.A.); Treasurer of the Royal Horticultural Society (PHILIP CROWLEY, Esq., F.L.S.).

This Library, established in 1867 as a result of the International Horticultural Exhibition and Botanical Congress held in London in the preceding year, is held in trust for the public benefit, and more particularly for the use of the Fellows of the Royal Horticultural Society, in whose rooms at 117, Victoria Street, Westminster, S.W., it is now placed. It cannot be dissociated from the Society so long as the Society has quarters in, or in the immediate vicinity of, London.

The income at the disposal of the trustees is not more than sufficient to enable them to keep up the current periodicals, and to purchase annually a very restricted number of new books.

It is hoped, therefore, that the Fellows will contribute towards the establishment of a "Library Fund," to be administered by the trustees in conjunction with the Council of the Royal Horticultural Society.

One of the most pressing requisites is a printed Catalogue of all the books and pictures, and of the rich collections of pamphlets, the utility of which is at present much impaired by the want of such a Catalogue. The preparation of this would be the first duty undertaken by the trustees were funds placed at their disposal for the purpose. The following sums have already been promised towards the Library Fund:—

The Council of the Royal Horticultural Society	£25	0	0
The *Gardeners' Chronicle*	3	3	0
Dr. Masters, F.R.S.	1	1	0
Mr. W. Carruthers, F.R.S....	1	1	0
Mr. A. Dean	0	5	0
Mr. F. W. Burbidge, M.A.	0	5	0

Contributions will be gratefully received by the trustees, and should be made payable to the Secretary of the Royal Horticultural Society, 117, Victoria Street, London, S.W.

The name and address of every subscriber will be published in the Catalogue, a copy of which will be sent to each free of charge.

The trustees would also be glad to receive donations of Horticultural and Botanical works for the Library."

The American Tariff Bill.

THIS passed into law at midnight on August 27, after much anxious waiting and excitement. It has its bearing on horticulture, and will possibly have some considerable influence on the importation of horticultural goods. What will be the exact effect remains to be proved, but a note of the changed conditions will not be without interest to the English and European trade:—"Orchids, Lily of the Valley, Azaleas, Palms, and other plants, used for forcing under glass for cut flowers or decorative purposes, 10 per cent. *ad valorem*." These articles were formerly entered free of duty.

A remission of the former 20 per cent. duty occurs on "Plants, trees, shrubs, and vines of all kinds, commonly known as nursery stock," and a reduction from 20 to 10 per cent. is granted on "Garden seeds, agricultural seeds, and other seeds;" while "All flower and grass seeds, bulbs, and bulbous roots, not edible, are still scheduled in the free list. There is a pretty considerable amount of business done between the United States and England in the way of seeds and plants, and it is quite possible that the new duties on Orchids, Azaleas, &c., will have some slight influence on the sales. As concerns seeds, some people think the result will be to shut up the business of small importers, while others say the contrary.

MACARANGA PORTEANA (see Supplementary Illustration).—This is one of the most striking plants in the tropical houses at Kew. It stands in a prominent position on the margin of the Victoria-tank in the T-range, where it has attracted a good deal of attention for the last two or three years, on account of the large size of its leaves, and the noble port of the whole plant. Although only about three years old, it is now a very large specimen, the stem being 5 feet high, 2 inches in diameter, and unbranched. The leaves are peltate, ovate, 3 feet by 2¼ feet, olive-green, with yellowish-green veins; when young they are of a deep coppery-red colour. The petioles are a yard long, at first erect, finally deflexed, and they are semi-terete, with the base swollen and clasping the stem. The stipules are large and conspicuous, being 5 inches long and 2 inches wide. The spread of the whole plant is nearly 7 feet in diameter. It has flowered several times, and although the flowers are small, they are borne in great profusion on the erect, branched panicles, and being crimson, they are decidedly ornamental. We are indebted to the Jardin des Plantes, Paris, for this plant, which is there represented by a tall handsome specimen, the leaves of which, however, are much smaller than those on the Kew plant. It is a native of the Philippines, and was first described under the name of Mappa Porteana, by ANDRÉ, who figured it in the *Revue Horticole*, in 1888, p. 176, fig. 36. The genus Macaranga is a large one, over eighty species having been described, all of them either trees or shrubs. They are all natives of the tropics of the Old World. It belongs to the order Euphorbiaceæ, and is related to Mallotus, of which M. philippinensis, the "Kamala," yields a useful yellow dye, used for dyeing silks. *W. W., Kew.*

THE ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, September 11. At 3 P.M., Mr. A. PETTIGREW will deliver a lecture on "Lord BUTE'S Vineyards."

HARDY TREES AND SHRUBS.—"The Council of the Royal Horticultural Society, being anxious to direct greater attention to the ornament and utility of the trees and shrubs which are to be found growing in the British Isles, and of which many were originally introduced by the Society's collectors, have decided to hold a conference on the subject in the Society's Gardens at Chiswick (close to Acton



Macaranga [Mappa] Porteana, in the Victoria House of the Royal Gardens, Kew.

Green, Turnham Green, and Gunnersbury railway-stations), on Tuesday, September 25, 1894. The Council are particularly desirous that specimens in the shape of branches of trees and shrubs not generally known, and remarkable either for their economic value or ornamental aspect (or both), should be sent to Chiswick Gardens, so as to add thereby a greater interest to the conference. Specimens will be received at Chiswick on the Saturday or Monday before the conference, and it is desirable that the contributors should give as much information as possible as to age, height, economic or ornamental properties, altitude, soil, &c., so that when a report of the conference appears in the Society's *Journal*, owners of Arboreta may have reliable facts placed before them in a concise and convenient shape. In addition to the exhibition and conference on hardy trees and shrubs, there will also be a display of Orchids, and hardy, half-hardy, stove or greenhouse plants, &c., as well as fruits and vegetables, such as are usually exhibited at the Society's fortnightly meetings in the Drill Hall, Westminster.

Programme of Proceedings on Tuesday, September 25, 1894, R.H.S. Gardens, Chiswick.

11.0 A.M.—The members of the Fruit, Floral, and Orchid Committees assemble punctually.

12 0 noon.—Council Meeting.

12 30 P.M.—Opening of the Conference on Hardy Trees and Shrubs.

Part I.—W. T. Thiselton-Dyer, C.M.G., C.I.E., M.A., B.Sc., Ph.D., F.R.S., &c., in the chair.

Papers to be read.—1. Mr. J. B. Carruthers, F.L.S., on "The Larch Disease."

2. Mr. E. J. Baillie, F.L.S., on "Forest Trees for Commercial Purposes," being treated with reference to soil and aspect.

Interval for Luncheon until 3 P.M.

Part II.—3.0 P.M.—Mr. Dyer, F.R.S., &c., in the chair.

Papers to be read.—3. Mr. J. Simpson, on "The Utilisation of Waste Ground unsuitable for Agriculture."

4. Mr. A. C. Forbes, on "The General Management of Woods, Planting, Thinning, Nurse Trees, Coppices, Hedgerows, &c."

Discussion.—It will add very great interest to the proceedings if ladies or gentlemen in the audience, having a special knowledge of the subjects treated on by the readers of papers, would be good enough to relate their experience, to ask questions, or to discuss appropriate matters of interest after each paper."

We trust that there will be a fine exhibition and a large attendance, though it is to be feared that the time and place are not very convenient for the purpose.

The Apple Crop of Nova Scotia.—The Agent-General for Nova Scotia has received the following cablegram from the Premier, the Hon. W. S. Fielding: "Apple crop of Nova Scotia. Trees blossomed most abundantly. June 1 rain and a night-frost prevented full setting. Long drought in July and August checked swelling, and caused fruit to drop. Present condition in export fruit region (King's and Annapolis counties) as follows:—One hundred representing a full average crop—Baldwin, 90; Ben Davis, 88; Blenheim Pippin, 77; Bishop Pippin, 72; Golden Russet, 84; Gravenstein, 84; King Tompkins, 80; Nonpareil, 64; Northern Spy, 73; Ribston Pippin, 73; Rhode Island Greening, 65; Roxburg Russet, 62. No variety up to average in quantity, but quality expected good, as fruit is swelling from recent showers, and will colour well."

Fruit Crops in the United States.—Being deeply interested in the fruit supplies of the nation, we take advantage of every opportunity to lay before our readers such trustworthy information on the subject as is obtainable, from whatever source. The Secretary of the Agricultural Department at Washington having furnished us with a brief report of the condition of the crops in the States up to the latter end of last month, we make a few extracts from it, together with a brief summary from the pen of the Under Secretary, Mr. Robinson, under date August 22, as follows:—"The year is a very poor one, as regards large fruit. There is now but very little fruit of the more perishable sort in central and eastern markets of local production, but its place is taken to some extent by the Californian products; Melons have also been plentiful, and are an admirable substitute for the more delicate fruits, being within the reach of the masses as regards price; while Californian products generally range too high for the most general use." From the Departmental Report for August we learn that the "average for corn (Maize) is much below that raised at the same time last year, owing to the drought and the prevalence of hot winds in Nebraska, Kansas, and Iowa. In many localities the crop has been entirely ruined. In the matter of Potatos, we are told that the condition was represented by 74 per cent., the lowest August condition ever reported by the Agricultural Department. Another instance of the disastrous effect of the general drought, a decline in the condition of Apples is noted. Cause of drop and drought, which continues now. Peaches have fallen lower than Apples. The loss has been general in States which had the best prospects, as well as in those having outlook for lighter yields. The condition of Grapes, while higher than that of Apples and Peaches, is lower than the August return for any year since 1890. It may be noted in passing that the acreage under Grape culture is 401,261. Other crops, in which, however, we are not specially interested, show a falling off in quantity—in hay to the extent of 24 per cent., but quality is reported as being excellent at the latter end of the past month.

Bananas.—The following interesting note on the method of saving Bananas from flying-foxes has been forwarded to the *Agricultural Gazette of New South Wales* by C. Hedley, F.L.S.: "A former neighbour of mine on a Queensland selection grew Bananas of a quality and quantity that raised his society in the estimation of us all. His selection was the most popular place in the district for a time. It was never any trouble to ride over with his mail, to lend him a novel, or tell the latest yarn, for a while. His garden was a bit of hill scrub-land, red stony soil, formerly a jungle of Palm and Pine, and it grew Bananas to perfection. A few years before he had brought carefully in his portmanteau from Brisbane the first Cavendish sucker seen in the district. It throve, and each fresh sucker that it threw off was planted out. The first bunch that ripened was divided with great ceremony; but soon Bananas became so plentiful, that everyone was welcome to eat all he could, and stuff his pockets full when he left. This was when our friend became such a favourite. But as Bananas continued to increase, production outgrew consumption, and more and more were left to waste in the garden. Then the flying-foxes, attracted by the scent, tasted the new fruit, approved of it, and presently devoured all they could find. At last, even green Bananas were destroyed, and the grower had to gather his bunches unripe, and hang them indoors to mature. So the education of the flying-fox resulted in fewer and worse Bananas, which again diminished my friend's popularity. Years afterwards, in the interior of New Guinea, I learnt a trick to save Bananas from flying-foxes. As this simple plan of the savages may well be copied by Australian selectors, I have sketched a Banana plant muffled in Papuan fashion, and add the description from my note-book. A Banana leaf torn in half down the centre is wrapped round the lowest "hand" of the bunch left hanging on the bough, the leaf midrib being tied round the stalk of the bunch; another half-leaf is wrapped round the "hand" next above, leaving enough margin to lap well over beneath, and so on till the bunch be covered hand above hand. The whole then looks something like a huge unstripped Maize-cob. This shelter the flying-foxes are unable to penetrate, and the fruit ripens as well bandaged up as open."

Isle of Wight Horticultural Improvement Association.—The monthly meeting of this association was held at Shanklin on Saturday, when Dr. Groves, J.P., gave an interesting and instructive lecture on the "Geology of the Isle of Wight," R. G. Fox, Esq., J.P., Chairman of the Technical Education Committee of the Isle of Wight County Council, presiding. A hearty vote of thanks was accorded the lecturer. Flowers in season were plentifully supplied by the owners of gardens in Shanklin and the immediate neighbourhood.

United Horticultural Benefit and Provident Society.—The Secretary informs us that the annual dinner of the above Society will take place on Tuesday, October 9, at 6 P.M., at the Cannon Street Hotel, and Arnold Moss, Esq., has kindly consented to preside.

A Hint to Municipalities.—A correspondent writes:—"When we note how important a point of municipal government it has become to provide various attractions in the town, it seems somewhat strange that a corporation should charge the substantial sum of £100 for the use of rooms in which to hold a flower-show. After the happy remarks at luncheon by the President of the Brighton and Sussex New Horticultural and Mutual Improvement Society, and also from the fact that so many of the councillors have joined the mayor in presenting one of the most handsome challenge-cups we have, this promising and rapidly-developed society may surely look for some substantial reduction of rent, if not a free use for a purpose so conducive to the welfare of their town. In the old days, from 1853 to within the last decade, Brighton was one of the shows of the country. As the use of the corporation property was granted free at that time, there seems a lack of public spirit not to do the same again, especially as the present society have so ably revived the former glory of the shows. The president has horticulture at heart, and suggested that if the prizes were already sufficiently large, the £100 annually saved should go towards the formation of some small benevolent institution for the county, a suggestion which was heartily endorsed by all present. The deputy-mayor expressed an opinion that, although they could not help a local society of this description by any grant of public money, it was as deserving of their support in this form as bands of music and other attractions, and held out hopes of a free use in the future. This is at it should be, and the town is to be heartily congratulated upon such energetic lovers of floriculture as Brighton possesses in the council chamber. After a period of stagnation, this town seems thoroughly awake, and has now established one of the very best shows on the south coast. A word of thanks must not be forgotten to the L. B. & S. C. Railway Company, who are by far the most generous supporters of flower-shows in the county. They convey all productions to and fro entirely free of cost, while every facility is given in the way of providing extra vans, &c., for the purpose. For many years they also presented a ten-guinea cup annually, so that Brighton has, and does enjoy great privileges in the matter of flower-shows. But the real secret of success is in keeping the working committee so practical, while much also depends upon the useful and pleasant monthly gatherings of a large body of members, at which various papers and discussions are listened to. This forms the "mutual improvement" portion of a somewhat long title of a Society which is certainly destined to prosper, so long as the present lines are carried through.

Dutch Horticultural and Botanical Society.—The Floral Committee of the above, meeting on August 11, awarded First-class Certificates to Mr. Egb. Kloosterhuis, of Veendam, for Berberis vulgaris alba. spicata Krynsi, B. v. atropurpurea Egberti, Sorbus Aria aurea argentea; to Messrs. E. H. Krelage & Son, of Haarlem, for Gladiolus hyb. Lemoinei Tricolor, G. hyb. Lemoinei Manzoni, G. hyb. Lemoinei Sceptre d'azure, G. hyb. Nanceianus Dr. L. Wittmack, G. hyb. Nanceianus A.

R. Smith, G. hyb. Nanceianus Colonel Archinard, Canna hyb. Königin Charlotte, Tigridia Pavonia rosea grandiflora, Begonia tuberosa fl. striat Surprise, and B. Baumanni carminea. Awards of Merit were given to Messrs. E H. KRELAGE & SON, of Haarlem, for Cactus Dahlia Mrs. A. Peart, C. Dahlia Lord Nelson, C. Dahlia Centenary, C. Dahlia Oban, Montbretia crocosmiæflora Vesuve, M. c. Californie, Begonia tuberosa Henshaw Russell, B. t. Brilliant, B. t. Pride of Bexley, Gladiolus hyb. Lemoinei Tartarin, G. hyb. Lemoinei Guy de Maupassant, G. hyb. Nanceianus Robert Lindsay; to Messrs. GROENEWEGEN & Co., of Amsterdam for Cactus Dahlia Blanche Keith.

A LARGE MAGNOLIA GRANDIFLORA.—A correspondent, Mr. W. HILLS, gardener at East Cowes Castle, writes:—"There is here a standard tree of Magnolia grandiflora 36 feet in height and 56 inches in circumference, which is flowering profusely this season. Is it a tree of unusual size, and where is its rival to be found?

A GARDENERS' HOLIDAY.—On Thursday, August 30, the men who have in former years served under Mr. STANTON, in Park Place Gardens, Henley-on-Thames, were invited by Mrs. NOBLE to spend the day at Park Place, to play a match of cricket with the present *employés*, and to partake of an excellent luncheon, and tea afterwards. The many gardeners who journeyed from all parts of the country to accept the kind invitation thoroughly enjoyed themselves. The early part of the morning was spent in looking over the gardens, which is always full of interest, and especially at this season of the year, when the outdoor departments are at their best. Most noteworthy were the crops of Pears, the many cordon-trained trees on walls being literally ropes of fruit, and forming alone a sight worth a journey to see.

THE POTATO CROP.—In view of the sunless and damp weather we have had since the middle of July, when our fruit correspondents obligingly furnished us with notes on the prospects of the Potato crop at that time, we are afraid the disease has become very prevalent indeed, and many reports we have recently received tend to confirm this view. The extent to which we are dependent upon the elements has been very forcibly illustrated by the Potato crop during the season. At the commencement all seemed favourable to a good crop of early varieties, when on May 20 and 21, and after the tops were much above ground, such hopes were blighted by the unexpected frosts. However, after a time, these recovered in more or less degree, and in many places a good half crop of early ones was obtained; and, at the same time, all late kinds promised an abundant yield, if the weather should prove genial, and, in the words of the great majority of our correspondents, 'Potatos never looked better, being strong, and entirely free from disease." At this date we are again faced with disappointment. The weather has been unusually wet, and as a consequence disease is reported from numerous quarters to be very prevalent. Such has been the experience of Potato-growers this season, at one time full of hope, at another despondent, but dependent always upon the weather of the future, so that it has been altogether impossible to estimate the crop at any time. It may be interesting if we state that, in the middle of July, as many as 192 correspondents reported to us that early kinds had suffered much from the frosts, but had recovered more than it was expected they would have been able to do; and that in regard to the second and later sorts, very fine crops were anticipated, haulms were strong and healthy, and there was no visible sign of disease. On the other hand, fifty-four reported that the quality of all the tubers was bad, and disease had already appeared or was dreaded if finer weather were not forthcoming. A small minority of seven complained that the crop would be small and the tubers also, if there was not rain soon. Here is apparent the very different circumstances that are met with in various districts. The fifty-four correspondents who had at that time already more rain than was good, were principally in the southern and western counties. In Ayrshire, it must be added, great losses were experienced through the very unsatisfactory crops from the earliest varieties, and similar misfortune would be experienced in other districts, where, as in Ayrshire, the greatest trouble is taken to produce very early tubers for the markets.

FRUIT CROPS IN GERMANY.—A Berlin correspondent obligingly favours us with the following summary:—

A.—SOUTHERN GERMANY.

	Apples	*Pears.*	*Plums.*	*Peaches & Nectarines.*	*Apricots.*
Baden	Average	Over !*	Over average	Over !	Over
Bavaria	Over	Over	Over average	Over !	Over !
Württemberg ...	Over average	Over	Under	Over	Over

B.—CENTRAL GERMANY.

Hesse	Over average	Over !	Over !	Over	Over
Pfalz	Over average	Over	Over	Over !	Over !
Hesse-Nassau ...	Over average	Over !	Over	Over	Over !
Rhein provinces	Over average	Over !	Over average	Over	Over !
Westphalia ...	Over	Over !	Over average	Over	Over
Alsace-Lorraine	Average	Over	Over average	Over	Over

C.—NORTHERN GERMANY.

Province of Saxony	Over average	Over	Average	Over	Over !
Thuringia	Over	Over	Under average	Average	Over
Brunswick and Anhalt	Over	Over !	Over average	Over	Over
Saxony (Kingdom)	Over	Over	Under	Over	Over
Silesia	Over	Over	Under	Over	Over
Posen	Over	Over	Over average	Over average	Over
Brandenburg ...	Over	Over	Over	Over	Over
Hanover	Over	Over !	Over average	Over	Over average
Schleswig-Holstein	Over average	Over !	Over	Over	Over
Oldenburg ...	Over !	Over ! !	Over average	Over !	Over !
Mecklenburg ...	Over	Over	Average	Over average	Average
Pomerania ...	Over average	Under	Under	Under	Under
West Prussia ...	Under	Under average	Under	Under	Under
East Prussia ...	Under	Average	Under average	Average	Average

* The ! indicates that the crop will be quantitatively a good one. The ! ! that the crop will be quantitatively a very good one.

MEMORIAL TO THE LATE SIR JOSEPH WHITWORTH.—Few men have given so liberally of their substance to their fellows as the late Sir J. WHITWORTH did, and we may mention a few of the more important of his gifts. The Whitworth Institute at Manchester was built at a cost of £150,000, a library at Openshaw at a cost of £8500, and baths at the same place costing £16,000. It is believed also that the trustees have offered £40,000 for educational purposes to Owens College, Manchester. Then a technical school was built at Stockport, costing £10,000, and the trustees have given upwards of £25,000 to the Derby Infirmary and other charitable institutions. The Memorial, which was unveiled on Saturday, September 1, stands in the Whitworth Institute grounds, Darley Dale, and was subscribed for by all sorts and conditions of men and women. It is of stone, quarried only a short distance away, and is 39 feet in height, standing on a base, rising in four tiers. The pedestal consists of one block of stone, 15 tons in weight, and the monolith surmounting it is nearly 17 feet high. On the pedestal are bronze medallions. One is a bust of Sir JOSEPH WHITWORTH, the other shows the famous Millionth measuring-machine, and on the third is the following inscription:—"Erected to the memory of Sir JOSEPH WHITWORTH, Bart., of Stancliffe, as a tribute to his distinguished achievements in machine and engineering science, and to his unbounded liberality in the cause of education throughout the country, and especially in grateful recognition of the deep interest shown by him in the welfare of the inhabitants of Darley Dale, finally carried out by the establishment of the Whitworth Institute and Whitworth Hospital in the parish, 1894." The design of the monument was supplied by Mr. JOSEPH DAWSON, steward of Stancliffe estate, and was carried out by Mr. T. BOWLER, under the direction of Mr. C. E. DAWSON. The medallions are the work of Messrs. ELKINGTON & Co. It was a happy idea to have the unveiling of the monument on the day of the annual flower show of the Darley Dale Cottage Gardening and Industrial Society, and some 7000 or 8000 people were present at the ceremony. Mr. H. DEELEY acted as chairman, and was supported by Mr. EDWARD BROADHURST (Manchester), Canon ATKINSON, Mr. R. D. DARBYSHIRE, Mr. JOSEPH DAWSON, Mr. J. H. DAWSON, and Mr. T. WRIGHT (secretary). The chairman said that, unfortunately, Lady WHITWORTH was very ill, and the doctor had given imperative orders that she must not go out. With regard to the flower show, it proved the usual success. Two large marquees were used, and in these were stored some splendid specimens of flowers, fruit, and vegetables. There were many exhibits also which were not for competition. Lady WHITWORTH sent from Stancliffe Hall, a grand group of plants, mostly in bloom. Then there was a group of plants from Chatsworth, and Messrs. JAMES SMITH & SONS, of Darley Dale Nurseries, filled the centre of each tent with shrubs and flowering plants. Lady WHITWORTH had also a collection of fruit and vegetables, and the stand of agricultural produce which was so successful at the Bakewell Show. The industrial section of the show was accommodated in the institute, and was quite a revelation to strangers.

BOOK NOTICE.

THE SILVA OF NORTH AMERICA, &c. By Charles Sprague Sargent. Vol. vi., Ebenaceæ to Polygonaceæ. (Boston and New York: Houghton, Mifflin & Co.)

This monumental work progresses in the most satisfactory manner. The text and the plates maintain their high level of excellence, and there is no undue delay in publication. The present volume opens with an account of the Ebenaceæ, represented in America by the Persimmon, Diospyros virginiana, and the much less known D. texana. The account of these trees naturally leads to mention of the nearly-allied Japanese Kakis. "In Japan," says Prof. Sargent, "the Diospyros is the universally cultivated fruit-tree; it is found in every garden and by every cottage, and in the early autumn when the trees are covered with their lustrous leaves and brilliant fruit they form the most striking feature of the rural landscape, and are not equalled in beauty by any fruit-tree of cold temperate climates." Our old friend Halesia tetraptera appears now as Mohrodendron carolinum, a new denomination fabricated by Britton in 1893 upon what are considered by him to be adequate grounds, but one which will be adopted with reluctance, if at all. Halesia tetraptera we knew, and could lay our hands on the literature concerning it, a literature extending over upwards of 130 years; but now, since the spirit of change has been let loose, the plant has been in the course of one year only placed in three genera, so that at one sweep we have three, as we think, needless synonyms, viz., Mohrodendrum Carolinum, Mohria Carolina, *Britton*, and Carlomohria Carolina, *Greene*. We cannot in this place enter upon the dry technicalities of the case, which concern systematic botanists mainly, but we do, on the part of horticulturists, and lovers of plants, protest against this wholesale manufacture of new epithets for old plants. Fortunately, gardeners need not adopt the new name unless they like, and, we doubt not, that most of them will continue to make use of the familiar Halesia tetraptera.

Under the head of Fraxinus we have a full account of the American Ashes, thirteen in number, but of which only a few are met with in English collections, and those mostly as mature trees, the taste of the day not encouraging the planting of these trees. Fraxinus anomala is a species native to Southern Utah and Colorado, and which like the monophyllous

variety of our Common Ash, has the leaves represented generally by a single leaflet.

The American or White Ash, Fraxinus americana, is perhaps the species best known in this country. It is very largely utilised in the United States for carriage building, the handles of tools, &c., whilst its rapid growth, its freedom from disease, and the attacks of insects, its dense crown of large deep green leaves, its clean grey trunk, the beauty of its foliage in autumn and of its leafless branches in winter, make the White Ash in spite of its late leafage, one of the best ornamental trees of the American forest; and in the Eastern States it is more often used for the decoration of parks and streets than any other American Ash." In the Western States the Red Ash, Fraxinus pennsylvanica, is used for like purposes; of this we are told "the beauty of the dark and lustrous foliage of the Green Ash, a variety of the Red, its great hardiness and ability to flourish in regions of small and uncertain rainfall, the rapid growth of seedling plants, and the ease with which they may be transplanted, have made it a favourite ornamental tree!" Chionanthus virginica, the Fringe Tree, with its loose, drooping panicles of tassel-like white flowers, is highly ornamental, though now-a-days rarely met with. Cordia Sebestena seems at first out of place among the trees of the United States, till we are reminded that Florida and Texas contain many plants of West Indian affinity, and this among them. Bourreria, Ehretia, Crescentia, Chilopsis, Citharexylon, Avicennia, Pisonia, Coccolobis, are genera with a similar distribution. Our old familiar friend, the Catalpa, C. bignonioides, which has produced flowers this year freely, in consequence, as it would seem, of the hot summer of 1893, is now to be called according to the Neo-American nomenclature, by the ridiculous name of Catalpa Catalpa, of Karsten. Professor Sargent refers the C. Bungei of gardens to this species, as a dwarf bushy variety. Its name would suggest a Chinese origin, and it is so considered in the "Monograph of Cultivated Catalpas," published by the present writer in the *Gardeners' Chronicle*, May 22, 1880. C. speciosa is the Western Catalpa first made known in 1853 by Dr. Warder, and is remarkable for the durability of its wood.

For accuracy and fulness of information, this volume is a worthy successor of its predecessors, whilst the illustrations are at the same high standard of correctness and finish, and of far more use than many more elaborately artistic productions.



Fig. 40.—CYPRIPEDIUM JAMES H. VEITCH: CREAMY-WHITE WITH PURPLE, LIP DULL RED.
(See *Gard. Chron.*, Sept. 1, p. 258.)

CYPRIPEDIUM JAS. H. VEITCH.

That the enterprising traveller, the record of whose wanderings is given in our pages, should be commemorated in the fashion common to florists, is consistent with the fitness of things. Equally is it so that the plant chosen for the purpose should be one of the very finest hybrids that even the famous Veitchian firm can boast of. It is the result of a cross from C. Curtisi by C. Stonei platytænium, and resembles C. Morganiæ. A descriptive notice of the plant was given in our report of the Orchid Committee on p. 258, for Sept. 1.

HOME CORRESPONDENCE.

REMARKS ON THE FRUIT CROPS.—Fruit crops suffered very much from frost and sleet, the weather at present being very changeable—29 inches of rain from January 1, 1894. I have never seen so much blight on fruit trees for twenty-six years. *H. Clarke, Pakenham Hall Gardens, West Meath.*

——— The severe frost in May spoilt what promised to be a grand fruit season. Apples suffered most, being almost a complete blank. Pears are about half a crop. Plums, one-quarter of a crop. Gooseberries dropped very much after the frost, and yet there is a good crop, and the quality is excellent. Strawberries suffered very much, all early flower being spoilt. I counted seventy-three frosted flowers on one two-year-old plant, the difference of £15 to £18 per ton last year, and £26 to £28 per ton this year, tends to show the drop in supply. Black Currants, Red Currants, and Raspberries, suffered more or less. *A. Angus, Dalziell Gardens, Motherwell, Lanarkshire.*

——— Pears are the best crops, Beurré Hardy, Durondeau, and Conseiller de la Cour being very fine. Apples are very badly blighted. Apricots showed a very heavy crop, and required a good deal of thinning. Strawberries were a failure, the frost and cold nights following it completely spoiling the bloom. Gooseberries have been a heavy crop. Red and White Currants were badly blighted. The Hazelnuts will give an enormous crop; and Walnuts showed well, but the frost cut them off. *A. Parry, Cut Hedge Gardens, Halstead, Essex.*

——— The fruit crop, considering the season and the great strain on the trees last year, is fairly good here. Apples on several of the trees are a full crop, while many have at least half a crop. Some of the best are Cellini, Lord Grosvenor, Seaton House, Pott's Seedling, Grenadier, Small's Admirable, Lane's Prince Albert, Tyler's Kernel, The Queen, Lemon Pippin, Lady Henniker, Winter Hawthornden (one of the best), Ribston, Rosemary Russet, Lady Sudeley, and Mr. Gladstone. Pears are a full crop, both on the walls and in the open; Peaches are good, and consist of Barrington and Grosse Mignonne on a south wall, Violette Hâtive and Lord

Napier Nectarine on a west one. Apricots are a heavy crop, requiring a lot of thinning. Strawberries were a fairly good crop. Noble did well on the south border; President was but half a crop, but the flavour was good. Vicomtesse H. de Thury and Sir Charles Napier on the same piece of ground did not produce a dish. Waterloo on north borders was very good; Elton Pine had half a crop; and Stirling Castle a few small fruits. In comparing the present season with last, there is, with us, one advantage in the absence of wasps; so far, I have not heard of a nest having been found, so that what keeping fruit there is, if the blackbirds and tomtits can be kept away from it, may be stored in good condition. *S. Backhouse, Onslow Hall Garden, Shropshire.*

—— The fruit crops in this neighbourhood, taken on the whole, are fairly good. Pears, Plums, and Morello Cherries on walls, Strawberries, Raspberries, Red and White Currants, were very good crops. Peaches and Nectarines form a good crop, but the fruit is small and of poor quality, owing to the continued wet and sunless season which we have experienced in this part. Apples, which gave great promise in the spring, are not carrying one-fourth of a crop. *S. Clarke, Trengwainton Gardens, Penzance.*

—— Our Apple crops are good. Manx Codlin' Bismarck, Lord Suffield, Bramley Seedling, Ecklinville, Keswick Codlin, Irish Peach, Peasgood Nonsuch, Quarrenden, are amongst the best cropped. Pears are the crops of the year, being generally good. Amongst the best here are Louise Bonne of Jersey, Durondeau, Beurré Superfin, Souvenir du Congrès, and Mons. Leon Le Clerc. Plums are heavy laden, and amongst the best are Victoria, Coe's Golden Drop, Kirk's, Washington, and Red Magnum Bonum. Strawberries and Red Currants were a fair crop. Raspberries and Gooseberries abundant and very large, Carter's Prolific was the best Raspberry; Crown Bob, Warrington, and Whitesmith are among the latter. Peach and Nectarines are good outside, and the best Peaches are Barrington, Alexandra, Noblesse, Hale's Early, Royal George; of Nectarines, Pine-apple, Pitmaston Orange, are good; Lee's Prolific Black Currant was the best; of Apricots there is none. *Thomas Rice, Castle Pygyn Gardens, Abergwili, Carmarthen.*

TRELLIS GOOSEBERRIES.—If you will allow me, I should like to add my recommendation to the above system of growing dessert Gooseberries. But as my method varies somewhat from that recommended by "A. D," perhaps it may be of interest to some of your readers who think of giving the system a trial. Having to make a new plantation of Gooseberries four seasons ago, I made my rows of trellises about 7 feet apart, and 5 feet 6 inches high (but would advise not less than 8 feet), planting a row of bush trees between each. Against the trellis I planted chiefly Lancashire varieties, 2 feet 6 inches apart, carrying up five to six shoots from each. From these, with judicious thinning, I have gathered fruits an ounce in weight. The advantages of this system are obvious at a glance. The trellises support the nets well above the bushes, which allows of easy access for all gathering purposes, and they are not close enough together to unduly shade one another. I use the ordinary netting for protecting purposes, as I have seen Gooseberries that would scarce make any growth, protected permanently with galvanised wire netting. This may have been partly due to local influences. Perhaps some of your correspondents can enlighten me as to whether this is the general experience? *W. Peters, Givons Grove, Leatherhead.*

TRELLIS GOOSEBERRIES AND BLACK CURRANTS.—It does good to ventilate at times the methods of long ago, and thus benefit the youngsters in the craft who may not have had the opportunity afforded them of observing practices once in vogue (see p. 192, August 18). The Gooseberry as a pillar plant can scarcely be excelled for its fine fruits and productiveness, if one or two details of summer and winter pruning be strictly observed. Supposing that the plants are fixed to stout oaken posts, 1½ inches in diameter, and 7 feet high (well dried Hop-pole stuff answers fairly well, but it is less durable), and planted 2½ to 3 feet asunder in the rows, and the rows are 4 feet apart; three or four shoots should be run up each, and in three years, sometimes less, these will be furnished with fruit spurs from top to bottom. Each summer in early June the stronger shoots are cut back to half their length, and the weak ones if not wanted for forming fruit spurs cut out entirely. This will save the plants becoming an impenetrable thicket, allow the fruits to be well ripened and coloured, and readily gathered. In the winter when the plantation is put into good order for the year, the shoots not wanted for upward extension are stubbed back with the *sécateur* or knife, the former by preference, to about ¼ inch snags, long old spurs cut off, and others also if very much crowded. With proper manuring and stirring of the soil to aërate it and keep down weeds, such a plantation will last a dozen or more years, and is easily netted by fastening galvanised wire or other netting over and around it, first nailing thin battens on the tops of the stakes. Red and White Currants do equally well on this method, but the black variety bearing as it does on the wood of the previous year, and less on spurs, should be trained fanwise against horizontally-stretched wire, thus forming espalier plants of about 4 feet in height and 6 feet in width. The fruits of Black Currants come very large and do not drop so soon after ripening as those on bushes waved by the wind. *M., London.*

GLOXINIAS.—In the note (p. 254) inserted in the *Gardeners' Chronicle* last week regarding the Gloxinias at Mornington Lodge, reference is made to Mr. Rogers' practice of not annually shaking the roots out of the soil. This is a point which many cultivators of the Gloxinia believe in; and some of the finest plants I ever saw were those in Sir W. Pink's garden at Shrover Hall, not far from here, which had been so treated. Many of the flowers of these plants measured 4¼ inches across, and they literally smothered them. The plants were seedlings, scarcely sixteen months old, having been sown in February of the previous year. The first year they flowered, I was told, in 4½-inch pots, and the next in 7-inch pots, having been repotted without in any way interfering with their roots, thus maintaining all the fibrous ones intact, which are really the feeders. One essential item in Gloxinia culture is to employ a suitable compost, which must be fairly rich, as the whole of the growth is made in a short period of time. This compost may consist of two parts fibrous loam, one part leaf-mould, and one of peat, a quart of bone-meal and a handful of soot being added to every bushel of potting soil. Gloxinias suffer if the supply of water at the roots is irregular, and proper attention in this respect is a special point in their culture, and the water should be as warm as the air of the house, so as to avoid any checking of growth. *E. M.*

TREE FERNS, AND JUDGING FERNS AT EXHIBITIONS.—I shall be very glad if you, or any of your readers, can explain why some judges at shows give so much weight to Tree Ferns in the Fern classes. Given the space to grow them, I think there are few things more easy of cultivation, certainly in the Fern tribe, neither are they as useful or ornamental as some scores of other exotic Ferns. When staged with Adiantums, Davallia, or Nephrolepis, or some low-growing species, they quite overshadow them, so that, in my humble opinion, they should be classed by themselves, or excluded from the class for exotic Ferns. I should also like to know why a form as easily grown as Nephrolepis exaltata figures successfully in so many collections? *Puzzled.*

PARSLEY PEST.—I send you plants of Parsley destroyed by the Thysanurous insect, Lipura fimetaria, and a slide with the latter. The insects, by browsing on the roots of the Parsley, cause the plants to wither and die. I attribute the numbers of the pests in the Parsley plant to the undecomposed horse-dung with which the ground was manured. Under "Parsley," in Nicholson's *Dictionary*, it is stated:—"It is not uncommon to find a sowing or a whole crop suddenly die away, without, apparently, any satisfactory reason." There is a figure of the animal in Murray's *Economic Entomology*, p. 412. Is the importance of the Thysanura sufficiently recognised by horticulturists? *A. H. Gibson.* [The slide was smashed to atoms. ED.]

SAGE-BRUSH.—Your correspondent "T. S. J.," writing of this plant on p. 185, no doubt refers to Artemisia tridentata, which forms often almost the only vegetation on the great plains of the North-western States. You will find frequent references to its monotony of tint in Mark Twain's *Roughing It*, and in Bret Harte. The grouse of the Western States is usually called Sage-hen, in compliment to this plant. I believe several varieties of Artemisia are included under this name, but A. tridentata appears to be the typical Sage-brush or Sage-bush—it goes by both these names. *E. L. Taplin, Chicago, U.S.A.* [Yes, but what are the "berries" described by our correspondent? ED.]

A FASCIATED LILIUM AURATUM.—We have the pleasure to enclose a photograph of a Lilium auratum, sent us by our friends, Messrs. Nimmo & Blair, seedsman and florists of Dunedin, New Zealand. The plant was grown by Mr. A. Marshall, an enthusiast among flowers, and bore 198 blooms, 135 of which were on one side. The bulb has lain undisturbed for several years in the open ground, but we cannot account for the abnormal amount of bloom. *W. G. Innes & Co.* [These enormous masses of flowers are due to fasciation; that is, the formation and union of several flower-stalks. It is by no means unusual. ED.]

GARDENERS AND THEIR EMPLOYERS.—I was unable to be present when Mr. Dunn read his paper on the above subject at the last meeting of the Royal Horticultural Society, but I hope to read it myself in the *Journal of the Royal Horticultural Society* in due course. From your remarks (p. 252), I gather that what he said was very much to the point, as was natural, coming from a man of such great experience as this Scotch gardener. I am glad to see you lay especial stress upon the rights of employers to select the kinds of plants, &c, that shall be grown in their gardens, and the manner in which plants and other produce shall be employed when grown. I fear some gardeners think that the garden is maintained solely for their personal pleasure, whereas they themselves are kept solely to cultivate the garden, as all of them should endeavour to understand. In the case of flowers that are grown in a special manner, or are simply cultivated in the open, there are gardeners who consider that an employer altogether exceeds his rights if he suggests that a certain flower shall be cut directly it is expanded. This is an absurd notion on the gardener's part, as a moment's thought would convince the most sceptical. I agree with all that was stated as to the right of the gardener to protest in a proper manner, if he consider his employer to be in error, in cases where an error of judgment would militate against success, pecuniary or otherwise, on the master's part, but after a respectful protest, there the matter should end as far as the gardener is concerned. I am glad to find the custom of gardeners to insist on a premium being paid by apprentices or their friends is becoming obsolete. I wonder how much more a youth learns in such a garden than in one of lesser pretentions, where no premium is required? And also, what kind of instruction in gardening some gardeners who take premiums or apprenticeship fees give the youth placed in their charge? I have obtained scores of situations for young gardeners, but never yet favoured the premium business, and never shall, nor have I seen that simply recommended men have made worse gardeners than those who had to pinch themselves in various ways to pay a premium. *E. Molyneux.*

GARDEN APPRENTICES.—The training of young gardeners on the Scottish system is not generally attended to by responsible tutors, as it was many years ago, and it is scarcely possible that tuition in practical details, by most of the head gardeners of the country, can receive the same attention as it once did, because youths have frequently to take the place of men, and do much of the hard work of a garden. The increase of the labour in a garden, and the reduction of the staff, are responsible for much of the want of the proper training of garden apprentices. It is sad to see in many fine gardens the constant struggle which gardeners have to maintain in order to keep up a garden with reduced labour. Great expanses of lawn, numerous walks, and great vegetable gardens, the legacies of former liberality, remain, but "Ichabod" is stamped on it all. Youths engage as apprentices to serve a term of three or four years, and at the expiration of their term they expect to have found for them by the gardener situations as "journeyman," with a man's wages. When they have an all-round training in the use of garden tools, and a knowledge of the general duties of a gardener instilled into them, they are generally as useful workmen at the end of the period indicated as ever they will be, and often much better servants than old hands, who may have fallen into certain grooves, and cannot be easily moved out of them. On the other hand, it is painfully well known to nurserymen at "term time" that many young men are thrust upon their hands to be sent out as journeymen almost devoid of the rudiments of gardening knowledge, and therefore in many respects unfitted for the duties which they are expected to perform. It is difficult for young men to get forward in their business if they have not gone through, in some sort of manner, the routine of apprentice;

and when an engagement is being formed, the journeymen, and foremen, too, are asked "where they have served their time?" If a youth has a love for gardening, to "serve his time" is a proper course to take; but many young men commence gardening with no higher object than to obtain employment. These seldom make their mark as craftsmen, although they may, by means of influential friends, obtain head places, which should have been filled by better men. Some of the evils which enterprising youths have to contend with are the "mysteries" which often are made to envelope very simple duties, creating a spirit of timidity and distrust. The market-men, who must get young *employés* initiated into all the work in the establishment, turn the learners to profitable account sooner than is the case in private gardens. I can still look back with pleasure at being a youthful *employé* in a London market establishment, and I always endeavoured to give youths the same advantages as those that fell to my lot. I am obliged to employ one boy, and find it is best to get one who has a love for gardening. Such a youth will in the course of one season become one of the most useful garden *employés*. One who came to this place about three months ago, can already be trusted to pack Strawberries sent to London by rail or parcel-post, also flowers in quantity; thin Grapes (beginning, firstly, with some bunches cut to relieve the Vines), train Peach trees, plant flower-beds, lay Box-edging, and numerous little jobs, which some of his seniors tackle with diffidence; he can take his turn among the scythe-men, dig and trench land, &c.; but a good lesson is always necessary at first. This fifteen-years'-old youth (like others who served their three years) began at 8*s*. per week, and may be worth his 20*s*. or more before he is out of his "teens." In addition, I expect him to read, and write out answers to horticultural questions. I abhor exacting apprentice-fees. *M. Temple, Carron, N.B.*

ERYNGIUM AMETHYSTINUM — This plant has always been described by me as difficult to increase. I have had one for at least a dozen years, which flourishes, but is still one, and does not spread at the base. I have tried seeds, cuttings, side-slices, in vain; everything, in fact, except cutting the roots to pieces, which I think too heroic a method for one specimen. Last August (1893) the seed seemed very good, and I made two sowings; one plant came up in the spring, but I always keep seed-pans undisturbed for at least a year; and a week ago a good crop came up from both sowings. Whether the seedlings will prove hard to rear I cannot say, but they are very small. I may add that the plant is rare in nurseries, E. Oliverianum (Laroche) being generally substituted for it. *C. Wolley Dod, Edge Hall, Malpas.* [Carefully-made divisions of the root-stock are said to succeed. Ed.]

CLETHRA ALNIFOLIA —Will you allow me to suggest to any of your readers who are moved by "E. M.'s" note, p. 250, to plant Clethra alnifolia, to add C. paniculata, which with us is even prettier and rather earlier, so prolonging the season. *George F. Wilson.*

TCHIHATCHEWIA ISATIDEA (p. 256).—We had one small plant of this under the name Tchichatscheffia isatidea, and planted it in good loam at the side of a piece of stone in full sun on a bank. It is now 9 inches across, but has not bloomed. *George F. Wilson.*

SOCIETIES.

BATH FLORAL FÊTE.

August 29, 30.—The Bath Floral *Fête* and Band Committee held its annual autumn exhibition of plants, flowers, fruits, and vegetables in the Sydney Gardens on the above dates in lovely weather. The show, on the whole, was of good average quality, and in the cut flower classes a decided improvement was noticeable. The committee and the secretaries (Messrs. B. R. F. Pearson and W. Jeffery) may be congratulated on the arrangements made, and the manner in which everything was carried out.

Plants.

Fuchsias always obtain prominence in the schedule of this show, several classes being devoted to them. For nine distinct varieties, the 1st prize was secured by Mr. J. Lye, gr. to the Hon. Mrs. Hay, Trowbridge, who staged Lye's Rival, Finale, Louise Balfour, Seedling W. Iggulden, Abundance, A. Earle, and Mrs. Bright; Mr. George Tucker, gr. to Major Clark, Trowbridge, 2nd; the plants of each grower being pyramids from 8 to 9 feet high, furnished with flowers from the ground upwards.

For six plants, Mr. Marchant, gr. to Sir Jerome Murch, Bath, was 1st, and Mr. J. Wilcox 2nd, both exhibitors having excellent specimens.

Single specimen class (light variety), Mr. Lye 1st, with the variety Harry Lye; Mr. G. Tucker 2nd. In the corresponding class for a dark variety, 1st, Mr. G. Tucker, with Doel's Favourite; Mr. James Lye 2nd.

Eighteen stove and greenhouse plants, distinct, six to be in flower.—Two collections were staged in this competition, Mr. Cypher, Cheltenham, being an easy 1st, with five excellent Crotons, well-coloured specimens; two Ixoras in variety, Phœnocoma prolifera Barnesii, two Kentias, and some other plants. Messrs. Heath & Sons, Cheltenham, were 2nd.

Ericas.—Of these plants, one lot only was staged, that of Mr. Cypher, and the varieties were as follows:—E. McNabiana, E. Austiniana, E. Jacksonii, E. obbata purpurea, E. Irbyana, and E. Marnockiana, a fresh-looking, well-matched half-dozen plants. Mr. Cypher secured also the 1st prize for six stove and greenhouse plants in flower.

Specimen foliage plant.—Messrs. Cole & Sons, Bath, were 1st, with Encephalartos Hildebrandii; 2nd, Mr. Cypher, with Croton angustifolius. In the corresponding class for a flowering plant, Mr. Cypher was 1st with Cypripedium Charlesworthii, and Mr. Harris 2nd, with Cattleya Victoria Reginæ.

Exotic Ferns.—Only one lot was shown of twelve plants, containing a grand specimen of Gymnogramma sulphurea, G. argyrophylla, and Adiantum gracillimum. Mr. G. Tucker, gr. to T. Carr, Esq., had the best six plants of Ferns, large fresh, well-grown specimens of Davallia Mooreana, Adiantum cuneatum, A. Farleyense, A. gracillimum. Three good exhibits were shown in this class.

Pelargoniums.—Some well-grown and finely flowered Zonals were staged. Mr. G. Tucker taking 1st place with Perdita, Lizzie Brooks, Mrs. Strutt, Dr. Hogg, C. Gibson, and Rev. Atkinson.

Orchids.—Two lots, of six plants, distinct varieties, were staged. Mr. Cypher being a good 1st, showing fine plants of Dendrobium formosum giganteum, having five trusses of flowers fully open; Cattleya Dowiana aurea, having three good blooms; C. chrysotoxa, a fine plant of Oncidium incurvum, Cypripedium Harrisianum, having seven good-sized slippers; and Dendrobium Phalænopsis Schroderianum, in fine flower. J. F. Holmes, Esq, Bath, was 2nd, his lot including a grandly-flowered plant of Oncidium macranthum.

Cut Flowers.—Four stands of Dahlias of twenty-four blooms each were staged. Mr. J. Walker, nurseryman, Thame, Oxon, was 1st for a stand of good representative blooms, including Mrs. W. Stack, J. Cocker, J. Wyatt, and Duchess of Albany. Messrs. Keynes, Williams & Co., Salisbury, made an excellent 2nd, with large, even, and fresh blooms. Five stands of twelve blooms were put up, Messrs. Gray & Sons, Frome, were placed 1st, and Mr. George Humphries, Chippenham, was 2nd.

Roses made a good display for this late part of the season. Out of five stands of twenty-four blooms, each distinct varieties, Mr. Bradbury, gr. to Dr. Budd, Bath, was 1st, with good blooms of Duchess of Bedford, Her Majesty, Catherine Mermet, Madame Victor Verdier, and La France of '89; 2nd, Messrs. Keynes, Williams & Co., whose stand contained extra good flowers of Duke of Edinburgh, Marie Baumann, Dupuy Jamain, and Charles Lamb. Mr. Bradbury was 1st for a stand of twelve blooms, distinct, good, fresh-looking, solid blooms; Messrs. Keynes, Williams & Co. taking 2nd place, with good blooms.

Five stands of Teas, consisting of twelve blooms each, distinct, were shown, Messrs. Keynes, Williams, & Co. securing the 1st prize, with The Bride, Madame Lambard, L'Idéale (a beautiful bronze-coppery-coloured Rose), Madame Watteville, Niphetos, &c.; Alex. Gray, Esq, Bath, taking 2nd place, with a good dozen.

Gladiolus.—In the class for thirty-six spikes, in eighteen varieties, Messrs. George Cooling & Sons, Bath, were 1st, with good exhibits; Messrs. Cole & Son, Weston, taking 1st in the class for twelve spikes, with good exhibits.

Groups.

Mr. Cypher was an easy 1st for a group of plants in variety arranged for effect on a space of 100 square feet. It had a fine background, a graceful Palm in the centre, and was surrounded by brightly-coloured Crotons, intermixed with Adiantum, the foreground consisting of five mounds, three small and two large, of Orchids in variety, Pancratiums, &c.; Mr. J. Deacon, gr. to H. Harris, Esq., Chippenham, was 2nd. His arrangement was good as regards the backing of the group, but the plants were too thinly placed on the rest of the space. Mr. R. B. Cater, Bath (who was placed 3rd), had a nice plant of Vanda Sanderiana in it, having seven well-developed flowers.

Mr. Cypher was 1st for a table ornament, with a very elegant arrangement.

Messrs. Keynes, Williams & Co. had some fine stands of their new Cactus Dahlias Earl of Pembroke, Countess of Radnor, Delicata, and Chancellor Swayne.

Fruit

was shown well, but not as extensively as in former years. Four collections of twelve dishes each were staged. Mr. W. Nash, gr. to the Duke of Beaufort, Badmington, being 1st; he had superb Black Alicante and Muscat of Alexandria Grapes, Lockinge and Windsor Castle Melons, Jefferson Plums, Moor Park Apricots, Grosse Mignonne and Violette Hâtive Peaches, Galopin and Lord Napier Nectarines, Brown Turkey Figs, and Black Tartarian Cherries. Mr. H. W. Ward, gr. to the Earl of Radnor, Longford Castle, Salisbury, was a very close 2nd, with a uniformly good lot, including good Blenheim Orange and Lockinge Hero Melons, Pine-apple, and Spenser Nectarines, and crimson Galande, and Violette Hâtive Peaches. Mr. Pymm, gr. to Mrs. Goldsmith, Trowbridge, was a good 3rd.

Grapes were not shown so largely as in other years. Mr. Alderman Chaffin, who used to exhibit successfully in the Grape classes, did not show this year. There were four exhibitors in the class for eight bunches in four varieties. Mr. J. Gibson, gr. to Earl Cowley, Draycot House, Chippenham, won easily the 1st prize, staging large, evenly-sized finely-coloured bunches of Madresfield Court, Black Hamburgh, Black Alicante, and Gros Maroc. The 2nd prize went to Mr. Frowd, gr. to Canon Coventry, Worcester.

For the best three bunches of Black Hamburgh Grapes, 1st, Mr. Gibson, with well-finished bunches; Mr. Marshall, gr. to J. Dole, Esq., Bristol, was 2nd. Ten lots were shown. Muscat of Alexandria were deficient in colour. Here Mr. Forth was 1st, and Mr. Frowd 2nd. Seven pairs of bunches of any other white were tabled, the best being those shown by Mr. Marshall, with fairly good examples of Buckland Sweetwater; Mr. Webber taking 2nd place with rather smaller but very clear and well-coloured bunches of the same variety.

In the class for any other black than Hamburgh, Mr. Nash was well ahead with large bunches of Black Alicante, fine in berry and grandly coloured; Mrs. E. Marriott, Bath, was a good 2nd, showing the same variety. Six lots were staged.

In the class confined to growers residing within six miles of the Guildhall, Bath, four stands of two bunches each were tabled. Mr. Forth was 1st, with Black Alicante; Sir Jerome Murch, Bart., Bath, taking 2nd honours with Black Hamburgh, both staging good exhibits.

Twelve Melons, their merits to be decided by flavour, were staged, and Mr. Wilkins, gr. to Lady Theodora Guest, Inwood House, Henstridge, was 1st in the scarlet-flesh class with a small fruit of Blenheim Orange; Mr. J. Martin, Bath, securing a like award with Sutton's Imperial, in the green-flesh class.

Eleven dishes of Peaches of nine fruits each were shown. Mr. Prodgers, Chippenham, was 1st, with well-coloured fruits of Sea Eagle. Mr. John Deacon, gr. to H. Harris, Esq., Chippenham, was 1st in the class for six fruits, showing medium-sized Alexandra Noblesse. Four pots were shown.

From out of nine dishes of Nectarines, nine fruits to a dish, Mr. Strugnell, gr. to W. H. Long, Esq., M.P., Rood Ashton, Trowbridge, was awarded 1st for Pine-apple, large, even, and well-coloured; and Mr. Pymm was 2nd with the same variety.

Seven dishes of six fruits were put up, and Mr. Marshall was 1st with Pine-apple; and Mr. J. Deacon was 2nd with Violette Hâtive.

Twenty-eight dishes of dessert Plums were staged in the any other than Green Gage class. Mr. R. Denton, gr. to T. W. Dunn, Esq., Bath, was 1st for Golden Gage.

Out of forty dishes of Green Gage Plums, Mr. Moore, Weston, was 1st.

Thirty-five dishes of culinary Plums were tabled, and Mr. G. Hosborne, Bath, was 1st for grand fruits of Diamond; Mr. J. Carpenter, Weston, Bath, taking 2nd place with Goliath.

Cherries were well shown by Messrs. Webber and H. W. Ward, both showing Morellos.

Pears, eighteen lots of three dishes each, were shown, and Mr. Gibson was 1st, with Beurré Diel, Pitmaston Duchess, and Watkin's Seedling.

Apples.—Twenty-eight dishes of dessert fruits were shown. Mr. E. Hall, Bath, was awarded the 1st place for a fine dish of Quarrenden, as was Mr. Frimby, gr. to Miss Maitland, Bath, for Lord Suffield, in a large competition of culinary varieties.

Vegetables.

For a collection of twelve kinds, Mr. Wilkins was a good 1st, staging magnificent examples of Webb's Early Mammoth Cauliflowers, Perfection Tomatos, Stratagem Peas, Ailsa Craig Onions (large, even in size, and quite ripe), Pragnell's Beet, Reading Giant Potatos, Webb's Defiance Carrot, Lyon Leek, Webb's Runner Beans, Student Parsnips, Early Rose Celery, and Green Globe Artichokes; Mr. George Garaway, Bath, was 2nd.

Tomatos.—Twelve dishes of good all-round fruits were shown. Mr. Copp, Holdnest House, Sherborne, was 1st, with a good dish of Sutton's Perfection.

READING HORTICULTURAL.

August 29.—The Reading Society having fallen upon evil days through insufficient support, wisely arranged to hold but one exhibition this season; and it took place as usual in the Abbey ruins, where a very fine display was to be seen.

Groups of plants arranged for effect were a leading feature, the best of the large ones coming from Mr. Pope, gr. to J. P. White, Esq., Wargrave, Berks; Mr. Woolford, gr. to A. Palmer, Esq., Reading, was 2nd. In the case of the small group, Mr. Coates, gr. to R. Hewett, Esq., Reading, was 1st; and Mr. Goddard, gr. to J. W. Hounslow, Esq., Reading, 2nd.

The best six stove and greenhouse plants came from Mr. J. F. Mould, nurseryman, Pewsey, who had fine examples of Ericas Marnockiana and Ewerіana superbs, Allamanda Hendersoni, &c.; 2nd, Mr. W. Finch, Coventry, also with good plants. The best specimen in flower was Erica Marnockiana from Mr. Finch; Mr. Mould coming 2nd, with Bougainvillea glabra. The best new or rare plant was Tillandsia tesselata, from Mr. Ross, gr. to Col. A. Houlton, Welford Park, Newbury. Mr. Woolford coming 2nd, with Cypripedium Charlesworthii. Tuberous-rooted Begonias were an excellent feature, Mr. Woolford taking the 1st prize, with six excellent specimens; Mr. Dockerill, gr. to G. W. Palmer, Esq., M.P., was a good 2nd.

Fuchsias were represented by large, well-grown and bloomed plants, the best six evenly-balanced plants coming from Mr. Turton, gr. to J. Hargreaves, Esq., Maiden Erlegh; Mr. Hinton, gr. to Major Battescombe, Reading, was a close 2nd. Liliums, well-grown specimens of the speciosum type, bedding Pelargoniums, Orchids, &c., were all shown in good character.

Mr. Finch had the best six foliage plants; Mr. Mould came 2nd, also with good specimens. Mr. Willes, gr. to H. J. Simonds, Esq., Caversham, had the best six Ferns, clean, well-grown specimens, of good quality. Three very fine specimen Palms came from Mr. Finch; Mr. Dockerill was 2nd. Coleuses were also good. Table plants excellent.

Amateurs.—In the amateurs' classes for plants there was a fairly good competition.

Groups arranged for effect were shown in two classes, but they were not seen to advantage, as they were placed on raised banks. The best of the small groups came from Mr. Coates, gr. to R. Hewett, Esq., Reading; Mr. Goddard, gr. to J. W. Hounslow, Esq., Reading, was 2nd. The best of the larger groups was set up by Mr. Pope, gr. to J. T. White, Esq., Wargrave, and arranged with good taste; Mr. Woolford was 2nd.

Cut flowers comprised herbaceous Phloxes, well shown in bunches of nine varieties. Mr. E. T. Such, Maidenhead, was 1st; and Mr. Phippen, The Nursery, Reading, 2nd.

Messrs. Cheal & Sons, Crawley, had the best eighteen Dahlias, Mr. Mortimer, Swiss Nursery, Farnham, running them very close. Mr. J. R. Tranter, Henley-on-Thames, had the best twelve; Mr. Such taking the 2nd prize.

Messrs. Cheal & Sons had the best twelve bunches of single Dahlias, set up in their usual excellent style, Mr. Such being 2nd; and with six bunches of Cactus varieties, the same positions were held.

Roses were well shown by Messrs. Perkins & Sons, Coventry, E. F. Such, and J. R. Tranter; and in the amateur's class by Mr. Turton. The best six blooms of any one variety were those of Mr. J. Laing, from Messrs. Perkins & Sons, Mr. Such being 2nd. The best eighteen bunches of cut flowers came from Mr. Finch, Mr. Phippen being 2nd. Gladioli, Asters, and Zinneas were also shown.

Table decorations were represented by epergnes of garden and wild flowers, bouquets, button-holes, &c., and they made a pretty display in the centre of the tent.

Fruit.

Fruit is always good at Reading, and there was little, if any, falling off in this respect. The best eight dishes came from Mr. Smith, gr. to R. Ovey, Esq., Budgemore, Henley, who had fine Muscat of Alexandria and Alicante Grapes, Barrington Peaches, Pine Apples, Nectarines, Williams' Pears, Kirke's Plums, Worcester Pearmain Apples and Melons. 2nd, Mr. Goodman, gr. to Miss Hammersley, Bourne End, who had Alicante Grapes, Nectarine Peaches, Humboldt Nectarine, Apricots, Kirke's Plums, Pears, Figs, &c. With six dishes, Mr. Mowbray, gr. to the Hon. H. C. Legge, Fulmer, was 1st, having Muscat of Alexandria Grapes, very good Plums, excellent Nectarines, Sea Eagle Peaches, Apples, and Pears. 2nd, Mr. Johnson, gr. to A. Gilliat, Esq., Slough, who also had Muscat of Alexandria Grapes, with Crawford's Early Peach, Pine-apple Nectarine, &c. Mr. Howard, gr. to Mrs. Myers, Benham Park, was 1st, with three bunches of Black Hamburgh Grapes; Mr. Wilson, gr. to Mrs. Garland, Lower Redlands, 2nd. Mr. Wilson was 1st with any other black, having finely-finished Alicante. The best three bunches of white were Muscat of Alexandria from Mr. Smith.

Mr. Bowerman, gr. to T. Hoare, Esq., Hackwood Park, Basingstoke, was 1st with a dish of Peaches; Mr. Finch was 2nd, both showing Barrington. Mr. Howard was 1st with Nectarines, having Pine-apple; and Mr. Ashman came 2nd, with Spencer.

Apricots and Figs were also shown. Plums in three dishes were numerous and very fine. The best came from Mr. Goodman, who had Kirke's Nectarine and Washington; Mr. Ashman was 2nd, with Victoria, Washington and Kirke's. Mr. Turton had the best three dishes of dessert Apples, showing Worcester Pearmain, Miller's Seedling, and Red Astrachan; 2nd, Mr. Goodman. Mr. Turton also had the best three dishes of culinary Apples.

Miscellaneous fruits were shown in collections, and several prizes were awarded. Mr. Goodman had the best three dishes of dessert Pears, staging good fruit of Bon Chrétien, Souvenir du Congrès, and Louise Bonne of Jersey; 2nd, Mr. Pope, The Gardens, Highclere, with Jargonelle, Bon Chrétien, and Clapp's Favourite. Melons were also shown. The best brace of Cucumbers was Sutton's A 1, from Mr. Mortimer; Mr. Booker being 2nd.

Vegetables.

Whilst the Society offers few prizes for vegetables, the liberality of seed firms makes good the deficiency, the great Reading firm of Sutton & Sons, devote the whole of their prizes here to the fruit classes, and the field in the vegetable department is left open to outsiders. Good prizes, however, bring a fine competition, and some of the best vegetable exhibitors in the kingdom put in appearance, and the products are truly first-rate.

Messrs. J. Carter & Co. offered valuable prizes for what are practically unlimited collections, as the number in each collection must not be less than twelve kinds. There were four collections staged, and a total of some seventy-five dishes. Naturally, the highest quality is reserved for smaller collections. Here Mr. W. Pope, gr. to the Earl of Carnarvon, Highclere Castle, Newbury, was 1st, having twenty dishes; and Mr. R. Lye, gr. to Mrs. Kingsmill, Sydmonton Court, Newbury, was 2nd. The keenest competition perhaps was in the class for six kinds, given by Messrs. John Sharpe & Co. Here the quality was of the highest.

Mr. Lye was 1st with superb autumn giant Cauliflowers, exhibition Onions, Duchess of Albany Peas, Satisfaction Potatos, Plentiful Tomatos, and scarlet Intermediate Carrots. Mr. Bowerman, gr. to C. Hoare, Esq., Hackwood Park, Basingstoke, was 2nd. Messrs. Webb & Sons also gave prizes for six dishes of vegetables, and Mr. Pope was again 1st, having superb Cauliflowers, Banbury Onions, Duchess of Albany Peas, Defiance Intermediate Carrots, Satisfaction Potatos, and Jubilee Perpetual Potatos. Mr. Lye was 2nd.

For Messrs. Sharpe & Co.'s prizes for dishes of Duchess of York and Queen Peas, Mr. Bowerman took 1st place, having very fine samples of both. In a class for Jubilee Tomatos, Mr. Savage, gr. to Lady Huddlestone, Ascot, had a singularly perfect and beautiful sample, one of the very best medium-sized dishes of fruit ever seen. Mr. Bowerman had the best exhibition Onions.

Among miscellaneous collections were a fine group of plants from Messrs. John Standish & Co., Royal Nurseries, Ascot, a superb feature; Dahlias of various types, Roses, &c., from Mr. C. Turner, Royal Nurseries, Slough; plants and floral decorations from Mrs. Phippen; Dahlias and cut foliage from Messrs. J. Cheal & Sons; fruit from Messrs. Spooner & Son, Hounslow; hardy cut flowers from Messrs. Veitch & Sons, &c.

ROYAL OXFORDSHIRE HORTICULTURAL.

August 30.—The annual summer show was held in the grounds of Wadham College, and a very good display was made, two large tents being quite filled, while the vegetables were staged in the open air.

Stove and greenhouse plants were represented by six good examples from Mr. J. Mattock, nurseryman, Headington. He also had the best specimen stove plant; The Warden of Wadham coming 1st with a specimen hardy plant, Mr. Mattock taking the 2nd prize. Mr. G. Jacob had the best specimen foliage plant, showing a fine Encephalartos villosus; Mr. Mattock coming 2nd, with Kentia Mooreana. Some good Fuchsias were shown by The Warden of Wadham; and Begonias, single and double, were effectively shown by Messrs. Johnson, Stone, and Wootton. Zonal Pelargoniums were very gay. Mr. Johnson had the best six exotic Ferns, having good examples of Neottopteris nidus, and some fine Adiantums; Mr. G. H. Morrell, Headington Hall, was a good 2nd.

British Ferns were well shown by Mr. J. Walker, nurseryman, Thame, and Mr. J. Bates, St. Giles' Street.

In the amateur's division some creditable plants were shown, the best specimen hardy being a capital piece of Statice incana.

Cut flowers included some excellent cut zonals from Messrs. Wootten-Wootten, and fine double varieties from Mr. J. Walker; the latter had the best twenty-four Dahlias; Mr. J. R. Tranter, Henley, was 2nd. Mr. Walker also had the best eighteen varieties; Mr. Taylor was 2nd.

Single and Pompon Dahlias were also shown, also Asters, Zinnias, Helichrysums, &c. Mr. G. Prince, nurseryman, Oxford, had the best eighteen Roses, Mr. J. Mattock being 2nd.

Hardy perennials in bunches were a very fine feature. Mr. W. F. Cross took the 1st prize, Mr. J. Johnson being 2nd, both with large and imposing bunches. In the amateurs' division, cut flowers were numerously shown.

Fruit.

In the fruit classes, Colonel Miller, Shotover Park, was 1st with white Grapes; Mr. S. Brown being 2nd, both showing Muscat of Alexandria. The best Black Hamburgh came from Lord North, Wroxton Abbey (Mr. Doherty, gr.). Mr. S. Brown had the best any other black, showing Alicante; and Mr. Nicholls, Nuneham Park Gardens, came 2nd with the same. Plums, Pears, Apples, Cherries, Melons, Figs, Apricots, Peaches, Nectarines, &c., were also shown, both in the open classes and by amateurs.

Vegetables.

Vegetables are always very good at Oxford; the best six dishes came from Mr. Nicholls; Dr. Ball being 2nd. Runner Beans were truly wonderful, a dish shown from the garden of the Provost of Worcester, measured 12 to 14 inches in the length of each pod, and it is said to be a fine type that has been grown in Oxford for years past.

Pears, Cauliflowers, Onions, Celery, Potatos, Beet, Carrots, &c., were good, but the practice which prevails at Oxford and elsewhere, of rubbing Carrots, Beet, &c., over with oil when they are staged (!) is one that should be followed by disqualification.

Among miscellaneous exhibits of note was one of Tea Roses from Mr. J. Mattock, Oxford; and a fine double white Petunia from Mr. W. F. Cross.

SANDY AND DISTRICT HORTICULTURAL.

August 30.—The twenty-sixth annual show was a great success. Much interest centred in the class for ten stove and greenhouse plants in flower distinct, liberal prizes being offered to secure a good representation. Mr. J. Cypher, Cheltenham, secured the premier position with some finely-flowered specimens, conspicuous being Allamanda nobilis, Statice pro-

fusa, Erica Aitoniana, Bougainvilea glabra, &c., and Mr. J. F. Mould, Pewsey, was 2nd. The last-named exhibitor was 1st for a specimen stove or greenhouse plant in flower, with a well-flowered plant of Erica Hartnellii. Good groups of plants for effect were staged by Messrs. Empson, Claydon, and Redman, who secured prizes in the order named.

The competition for the best six foliage plants brought some fine specimens, and the leading prizes were taken by Messrs. Claydon, Wingfield, and Redman; the last-named exhibitor being 1st also for twelve well-flowered zonal Pelargoniums, and for six excellently-grown Fuchsias, Messrs. Astell being 2nd. The forty-eight cut Roses formed a good class, the prizes being secured by Messrs. G. & W. H. Burch, Messrs. Paul & Son, and Mr. E. B. Lindsell. Dahlias, Show, Pompon, Fancy, and Single, were extremely well shown by Messrs. Keynes, Williams, & Co., Pitfield, Bargin, Darwin, Hunt, Arnold, Myers, and Leeds-Smith, who were the principal prize-winners. Incurved and quilled Asters secured the prizes to Messrs. Burgess, Redman, Davison, Foster, and Darwin. Hardy herbaceous flowers in bunches made a very attractive display, the awards for the finest collections going to Messrs. Paul & Son, Messrs. Laxton Brothers, Mr. A. Prince, and Mr. W. Crouch. Table decoration, bouquets, &c, were a remarkably pretty feature, the principal prize-takers being Miss K. Meadley, Miss M. Foden, Miss A. Mould, Mrs. E. Beckett, and Messrs. Empson and Allis.

Fruit.

Fruit was very extensively and well shown, the leading prizes for Black Hamburgh and Muscat of Alexandria Grapes going to Messrs. Empson, Mon, Allis, Forbes, and Claydon. Peaches and Nectarines (grown out-of-doors and under glass), Apples, Plums (kitchen and dessert), Pears, Figs, Melons, &c, were shown in numbers and excellent condition.

Bedfordshire is justly famous for its Onions, and some fine types were shown. Messrs. Laxton Brothers, sent a very good lot of Laxton's Sandy Prize White Spanish, not for competition. Messrs. James Carter & Co.'s special prize for the best exhibition of vegetables was secured by Mr. W. Empson. Here Telephone Pea, Summer Favourite Carrot, Sharpe's Victor Potato, &c., were finely shown; 2nd, Mr. G. Woodhouse, with a creditable collection.

Messrs. Harrison & Sons' prizes for the best three dishes of new Potatos that have not been in commerce more than two years, were taken by Messrs. Davison and Crawley.

Vegetables.

Collections of Vegetables, and single dishes, &c, were largely shown, adding much to the interest of the exhibition. Potatos, especially, were a remarkable display, those fine varieties, Sutton's Seedling, Satisfaction, Carter's King of the Russets, Reading Giant, Abundance, Reading Russet, Lord Tennyson, &c, being very conspicuous in most of the collections.

Messrs. Laxton Brothers sent a fine clean collection, in excellent variety, of dessert and kitchen Apples, not for competition. Here were those good introductions of the firm, Schoolmaster and September Beauty.

Messrs. W. Cutbush & Son sent an extensive and tastefully-arranged group of foliage and flowering plants, not for competition.

Cottagers' produce, in good quantity and quality, was a feature of the show, and consisted of plants and flowers, fruit and vegetables.

NATIONAL CHRYSANTHEMUM.

September 4, 5, 6.—The early Chrysanthemum show, together with a display of Dahlias and Gladioli, was held, as usual, in the Royal Aquarium, on the above dates. The few classes for Chrysanthemums brought but a moderate number of exhibitors, and the greater display was due to the Dahlias and Gladioli. Mr. E. Vince, of Highgate Cemetery, N., had 1st prize for 24 bunches of Chrysanthemums, and was well ahead of Mr. E. F. Such and Mr. Thos. S. Ware. The varieties consisting chiefly of summer flowering kinds included Madame C. Desgranges, Blushing Bride, Souvenir de Madame Menier, Piercy's Seedling and Golden Fleece, all of which have good decorative flowers, and are the best of those shown. The best twelve blooms of Madame C. Desgranges was from Mr. B. Calvert, gr. to Col. Archer Houblon, Hallingbury Place, Bishop's Stortford, and were fairly good; and the best twelve of any large flowering variety excepting Madame C. Desgranges, were from Mr. W. Wells, Earlswood Nurseries, near Redhill, who had good blooms of Madame Ed. Rey, Beauty of Exmouth, Majestic, and W. H. Lincoln.

Pompons were poor, but the best were shown by Miss Debenham, St. Peters, St. Albans. Mr. Jno. Wright, Middle Temple Gardens, took 1st for six blooms of Mme. C. Desgranges, and also for six yellow sports of that variety. Mr. W. Wells was 1st for six bunches of any large flowering varieties, and for six blooms of Chrysanthemums distinct; but the 1st place for twelve bunches of Chrysanthemums was taken by Mr. Thomas Lister, 90, Alexandra Road, Hornsey, N. The best six blooms of Madame C. Desgranges or its sports were from Mr. Frank Bingham, 6, Bethune Road, Stoke Newington. Mr. J. H. Witty, Nunhead Cemetery, and Mr. H. J. Jones, Ryecroft Nursery, Lewisham, each staged a group of Chrysanthemums in flower, interspersed with Ferns, and in Mr. Jones's case with Begonias also.

Gladioli were shown only by Messrs. Burrell & Co., Howe House Nurseries, Cambridge, who had 1st prize for a very extensive collection of fine flowers. Dahlias were more numerous than Chrysanthemums or Gladioli, and were fine. The best forty-eight blooms of show and fancy were from Mr. Chas. Turner, Royal Nurseries, Slough; and Messrs. Keynes, Williams & Co., Salisbury, were 2nd. Mr. Jno. Walker, Thame, Oxon, who was 3rd in this class, took the 1st position in the class for thirty-six blooms, and was followed by Messrs. Keynes, Williams & Co. and Mr. Chas. Turner. The best twenty-four were from Messrs. Saltmarsh & Son, Chelmsford.

Cactus varieties were shown in wonderfully good form, all the exhibits being staged fresh, and of good quality. Messrs. J. Cheal & Sons were 1st, and Messrs. Keynes, Williams & Co., 2nd.

Messrs. Cheal & Sons, with a capital exhibit, also won for twenty-four bunches of single Dahlias, and were followed by Mr. F. W. Seale, Vine Nurseries, Sevenoaks; and the best twelve bunches were shown by T. W. Girdlestone, Esq., Sunningdale, Berks; followed by Ed. Mawley, Esq., Rosebank, Berkhamsted.

For Pompons, Messrs. Keynes, Williams & Co., were deservedly successful in the class for twenty-four; and Mr. C. Turner was 2nd.

In other minor classes for Dahlias, exhibits generally were good.

Non-competitive exhibits included a collection of cut flowers from Messrs. Jno. Laing & Son, Forest Hill, S.E.; a large exhibit of Dahlia blooms from Messrs. H. Cannell & Sons, Swanley; a collection of fruit from Messrs. Spooner & Sons; Dahlia blooms from Mr. E. F. Such; a very large collection of Dahlia blooms from Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham; a collection of fruits and Dahlias from Messrs. Cheal & Sons; floral decorations from Mr. Chard, Mr. Walter Salmon, &c.; and a collection of Pelargonium blooms in trusses from Mr. H. J. Jones, &c.

STIRLING HORTICULTURAL.

August 30, 31.—Among the many horticultural shows held in Scotland none (considering the size of the exhibition) surpasses that held in Stirling for good management, and for the excellence of the exhibits. Two fine collections of plants came from Messrs. Drummond & Sons, nurserymen. Some Cypripediums from Messrs. Low of Clapton, N., received a large share of attention—C. Charlesworthii was represented by a neatly arranged group of plants in healthy condition. Mr. Cocker of Aberdeen had a very fine exhibit of Roses and cut blooms of herbaceous plants, and was awarded a Gold Medal. Messrs. Halley Brothers, Perth, were awarded a Silver Medal for another excellent exhibit of cut flowers.

The vegetables, especially Peas, Potatos, Cauliflowers, and Onions, were of especial merit. This class was not so extensively represented as in some former years, but the quality was excellent. Mr. Waldie took the 1st prize for a collection.

The display of fruit from under glass was generally first-rate, but that from the open air was of poor quality. The collection of Grapes sent from Keir was very fine.

Mr. H. Thomas was awarded the Gold Medal from Mr. Campbell-Bannerman, for four bunches of Grapes, which were excellent examples of good cultivation.

The 1st prize for a table of plants was won by Mr. Lunt, of Keir; and also for an exhibit of specimen stove plants went to the same exhibitor. Such fine plants are seldom seen in Scotland.

THE GROWTH OF PLANTS.

During the past year several important contributions to our knowledge of the mechanism of growth in plants have been made by foreign botanists. Foremost among these is a paper by M. E. Godlewski, which appeared a short time ago in the Proceedings of an Austrian Academy.*

Since the classical researches of Sachs it has been the custom to recognise a daily period of growth in length, with a minimum towards evening, and a maximum towards morning. For some time past botanists have recognised that this law was not universally applicable, and the researches of M. Godlewski go to prove that the periodicity of growth is not regular. This observer has in some cases discovered two maxima and two minima by day, the minima at evening and morning, the maxima during the day and during the night; in other cases he has only found a maximum in the evening, and a minimum in the morning. These divergences depend on the individual properties of the plants, and also on the period of the year, since certain individuals, which in winter and in spring show a double periodicity, act in a different manner during the month of June. With etiolated plants matters were again different. Here periodicity does not manifest itself, or, at least, is but feebly marked. The humidity of the air, increasing or diminishing rapidly, exercises a short but very decided influence on the growth, which is observed to increase or diminish during the half-hour following the change, to take up again after this time its original state.

If we examine, says our author, the needle of the auxanometer [growth-registering machine] directly after the rapid diminution in the humidity of the air, we observe that this remains at first motionless, and then goes backwards, during the space of five or eight minutes; then after a fresh period of immobility it regains its normal position. These movements show a period of very brief contraction. on the other hand, there is a sharp increase of the humidity in the hygrometric conditions, we may observe a marked elongation in the plant. These observations show that it is not a question of a modification in the intensity of growth in these cases, but of a change produced in the turgidity; as a consequence, correlative modifications in the elongation are produced by this cause. The intensity of growth is, however, modified in a striking manner when we examine young plants which have been placed, some in a dry atmosphere, and others in a damp atmosphere.

It is always difficult to estimate the influence exercised by light on growth, because the variations in luminous intensity bring about as a rule modifications in the hygrometric conditions. M. Godlewski thinks that a sudden change from obscurity to light would bring about a diminution in the rate of growth. This diminution lasts from one to five hours; then in spite of the persistence of the illumination the rate of growth increases, and after several hours it again resumes its normal state.

Sudden variations in temperature can equally cause modifications in growth. A fall of from 19° to 9° or 6° would bring about an increase in growth for an hour or two; a sudden elevation will also cause increase in growth.

In summing up various observations, we may affirm that the temperature of the soil has an influence, often only very feeble, on growth every time it varies in a sudden manner.

The preceding facts show that exterior influences, such as humidity, illumination and temperature, undergoing as they do sudden changes, bring about corresponding changes every minute in the growth of plants and prevent us from admitting the law formerly propounded by Sachs as to the regular periodicity of daily growth. Sometimes, indeed, these exterior influences do bring about a maximum and a minimum. More often they contradict these by inverting them or by establishing a double periodicity.

* Godlewski, E. Studien über das Wachsthum der Pflanzen. Abhand. der Krakauer Akad. d. Wissenschaften Math. naturw. bl. Bd. xxiii., 1893.

The fluctuations presented each day by growth cannot therefore be reconciled for the establishment of such a law as Sachs formulated.

The question as to the manner in which exterior agents act on the rate of growth has engaged much attention abroad. M. Hugo de Vries declared that the rate of growth diminished or increased according to the rate of extension by turgidity.

M. Nortmann confirms de Vries' opinion, and adds that the growth of the cells is proportional to the amount of turgidity and the extensibility of the membrane. These conclusions were founded on the fact that the maximum of growth corresponded with the maximum of turgidity.

MM. Schwendener and Krabbe have, however, shown by experiments that these relations between turgidity and growth cannot be entertained. These authors say that the rate of growth depends on factors by the side of which extension by turgidity is of feeble importance. M. Godlewski gives his ideas on growth as follows. He distinguishes two actions which succeed each other a certain number of times. The first is the extension of the membrane by turgidity; the second, the fixation of the extension and a diminution in the tension of the membrane, or in other words a renewal of its extensibility.

Let us examine the movements of a cell of which the membrane has momentarily ceased to extend its surface by a supply of new molecules. When the water flows into this cell, the internal pressure increases gradually, and under its influence the elastic membrane proceeds to extend itself until it reaches the limit of its elasticity. This is what is called growth by turgidity. If, at this critical moment, the turgidity be diminished by plasmolysis, i.e., if we plunge the tissue into a concentrated saline solution, the internal pressure will diminish, and the cell, by virtue of its elasticity, will gradually shrink into its original conditions. The growth due to turgidity alone is therefore, we may say, determined, because plasmolysis causes it to disappear, and restores the tissues to their initial states.

Suppose, now, that some new molecules enter the membrane while it is extending: growth will then be fixed, and plasmolysis will not be able to restore the cell to its original size. Besides, the elasticity of the membrane being augmented by this supply of new substance, turgidity will provoke a greater extension up to the moment when the new limit of elasticity is reached. We require, however, more proof that the influence of turgidity is as feeble as MM. Schwendener and Krabbe think, for the experiments of M. Godlewski show that cellular tension is still an appreciable quantity in organs where growth has ceased. This author thinks that the daily maximum period of growth in hypocotyls is due, not to a greater turgidity, but to a greater extensibility.

With etiolated plants, which are known to grow more rapidly, all things being equal, than green plants exposed to intermittent light, experiments show that at a certain distance from the top radiation diminishes the extensibility of the membrane.

The inequality in the thickness of membranes in etiolated and in green plants is the consequence and not the cause of the rapid growth plants make in obscurity.

FORESTRY.

OAK *v.* DEAL GATES.

I am glad to see that on some estates, where cheap—or rather low-priced—gates, made from deal, were adopted some few years ago, a return is being made to English Oak. I know the relative merits and demerits of these gates have been discussed in these columns from time to time, but I have lately had my attention drawn to the matter in rather a striking way. I do not remember having seen it done in any other instance, but on the top rail of some field-gates I often have occasion to pass, the initials of the then owner, and what is of more importance for the purpose under review, the date of the year in which they were made, have been deeply cut. Several of these gates I notice were made thirty-two years ago, viz, in 1862, and except that they require perhaps a brace here and there, they are good for quite another thirty years' service. Putting the original cost at a sovereign, which would be above the average now that the price of Oak is low, and the time it would last without outlay at only forty years, we get an annual cost per gate of about 6*d*. A deal gate of the ordinary type would not be delivered to an estate at much less than 10*s*.; so to compare at all favourably with Oak, it should on an average last twenty years without renewal. It would be interesting to know how many are intact after ten years. In my own neighbourhood it is barely so long ago as this that they were first introduced; but broken ones are common enough wherever they have been put up. In fact, so far as my observation has gone, I doubt whether, used as an ordinary field-gate, deal will last without repairs beyond an average of from five to six years, or say, from 1*s*. 6*d*. to 2*s*. per gate per year, as against 6*d*. for Oak. I do not think this at all unfairly represents the position; but even putting the duration of the deal gate at ten years, we still get two to one in favour of Oak. I do not deny the usefulness of deal for gates in certain positions, but for the wear and tear of field use the wood is far too brittle and weak. *D. F. Y.*

Growth of Larch.

It is not a common occurrence for Larch to be found more than 150 feet in height; but there are such instances, as at Laeken, where a few are to be seen of this height, and one mètre in diameter. This growth has not been attained by special aid—thinning and giving room, but by allowing Nature to have her way, since the trees were planted with Beech, Elm, and Oak surrounding them. For 100 feet they have not a branch, and to all appearance one would suppose never had a branch, so smooth and perfect is the stem, and so uniform in its tapering to its great height. *H. K., Brussels.*

PLANT PORTRAITS.

Aërides quinquevulnerum, Lindley, *Orchid Album*, t. 495.

Amaryllis (Hippeastrum) Yvonne flowers white, streaked with red. Horticulture Internationale, *Illustration Horticole*, July 30.

Angræcum Eichlerianum, Kränzlin, *Xenia Orchid.*, t. 273, ii.

Aphelandra dubia ×, Lind. et Rodigas.—A cross between Aphelandra nitens and Stenandrium Lindeni. The plant has the inflorescence of the first named plant and the habit and foliage of the Stenandrium. *Illustration Horticole*, August 15, t. xv.

Bertolonia guttata, Alfred Bleu.—A very richly coloured form with crimson nerves and spots on a green ground. *Lindenia*, July 15.

Bilbergia Wittmackiana ×, *Gartenflora*, August, t. 1405.—A hybrid from B. amœna, by B. vittata.

Bulbophyllum mandibulare, Rchb. f., Kränzlin, in *Xenia Orchid.*, t. 271.

Cirrhopetalum delitescens, Hance, *Xenia Orchid.*, t. 273, i.

Cœlogyne speciosa, Blume. *Orchid Album*, t. 494.

Cypripedium Stonei platytænium, *Orchid Album*, t. 496.

Dendrobium Wardianum var. Lindenæ, a variety with flowers pure white, except the throat of the labellum, which is orange-coloured. *Lindenia*, t. 419.

Epidendrum Wendlandianum, Kränzlin, *Xenia Orchid.*, t. 274, i.—ii.

Eucharis Stevensi, *Garden*, August 11.

Eupatorium serrulatum, *Revue Horticole*, July 1. Introduced from Uruguay by M. Ed. André. Greenhouse culture.

Lissochilus Graefii, Kränzlin, in *Gardeners' Chronicle*, 1892, June 11, p. 749; *Xenia Orchid.*, t. 272.

Luisia Amesiana, Rchb. f., *Xenia Orchid.*, t. 279.

Maxillaria galeata, Scheidweilér, *Xenia Orchid*, t. 274, iii.

Maxillaria mirabilis, Cogniaux, *Lindenia*, t. 417.—Flowers large, sepals broadly lanceolate, yellow, thickly spotted and flushed with reddish-brown; petals much smaller, erect, orange-yellow, striped with brown; lip of about the same size, yellow, pointed.

Miltonia Bleui splendens, *Garden*, August 4.

Odontoglossum crispum var. Dallemagneæ.—Flowers stellate, segments broadly lanceolate undulate, white, with a central red-brown blotch. *Lindenia*, t. 420.

Odontoglossum crispum var. Wrigleyana.—Flowers large, segments lanceolate, heavily blotched with purplish-brown. *Orchid Album*, t. 493.

Odontoglossum Dallemagneanum ×, O. crispum var. violaceo-punctatissimum, O. c. var. Triomphe de Rambouillet, O. Harryanum var. superba *Moniteur l'Horticulture*, August 10.

Pentstemon Cobœa, Nuttall, *Meehan's Monthly*, August.

Pleurothallis leptotefolia, Barb. Rod., *Xenia*, t. 276.

Pleurothallis nemorosa, Barb. Rodr., *Xenia Orchid.*, t. 275, ii.

Pleurothallis tribuloides, Lindl., *Xenia Orchid*, t. 275, iii.

Plum, Mitchelson, a good market Plum raised by the market gardener whose name it bears, at Kingston-on-Thames, *Bulletin d'Arboriculture, &c*, June.

Rhododendron Schlippenbachii, *Garden*, July 28. A Chinese species. See *Gardeners' Chronicle*, April 14, p. 469.

Saccolabium Sanderianum, Kränzlin, *Xenia Orchid.*, t. 276.

Selenipedium Lindleyanum, Rchb. f., *Xenia Orchid.*, t. 278.

Stanhopea connata, Klotzsch., *Xenia Orchid*, t. 277.

Stanhopea tricornis, Lindl., *Xenia Orchid.*, t. 275, et 280.

Stauropsis fasciata, Bentham, *Xenia Orchid.*, t. 275.

Tamarix hispida, *Revue Horticole*, August 1; syn. T. Kashgarica, Hort. Lemoine.

Tillandsia Sieboldiana (Schlechtendal), *Revue Horticole*, August 16.—Remarkable for the large brilliantly-coloured bracts, twice the length of the flower. Central Mexico.

Zygopetalum intermedium var. Peruviana, Rolfe, *Lindenia*, t. 418

TRADE NOTICE.

CAUTION TO ADVERTISERS.

A few weeks ago I was advertising for a situation for weeks in succession without apparent success. I was continually being pestered by advertising agents, who "happen to have one or two places in at present, and will place your name on their books," on payment of various sums, the least 2*s*. 6*d*. Some of them will send you an address from which you will be almost sure to hear no more; other firms will tell you that they have (after you have been fool enough to pay their fee) forwarded your name and address to some one who is in want of a servant, and he pays good wages. All whom I have had to deal with, three in number, hail from the same quarter. I wrote to this firm, sent my fee, 2*s*. 6*d*.; they promised to send me names of ladies or gentlemen in want of gardeners. I received a letter saying they had sent my address to a vacancy, and I should be sure to hear in a day or two, but no more. All these people want is your cash. If you want as much as a letter from them, you must pay postage for it. I hope others will profit by my experience. *Victim.* [Our correspondent supplies the name and address of the agent in question. Ed.]

VARIORUM.

Action of Light on Bacteria.—It would, perhaps, be too much to say that all bacteria were plants, but at any rate, many of the organisms so denominated belong to the vegetable kingdom and have been carefully studied by botanists. During the last few years Professor Marshall Ward, F.R.S., has been making a series of elaborate experiments

in order to find out which of the rays composing the solar light are effective in retarding and killing bacteria. This subject, while interesting to the botanist, appeals to the ordinary observer as bearing on the general welfare of mankind. One of Professor Ward's lectures at the Royal Institution was full of suggestive thought, and offered not a little food for reflection. The experiments which have been carried on at Cooper's Hill are not yet finished, and it is likely that more additions to our knowledge on this subject may be furnished. Professor Ward's experiments with certain colour screens, which cut off the destructive rays, show that bacilli can germinate as easily as if no light at all was playing upon them. Here, then, is an additional piece of evidence to a truth Nature has already told us. Plants are provided with screens, in order to cut off the blue-violet rays of ordinary sunlight. These screens are red, orange, or some shade such as cuts out the blue-violet rays. The majority of plants are protected by the green chlorophyll-screen. In dull warm weather it has been noticed that the Potato and other diseases spread more rapidly than in bright sunny weather, while Martinaud has shown that certain yeasts, which normally vegetate on the exterior of ripening Grapes, are destroyed if the sunshine is very intense. Professor Ward started with this fact, which had been observed by several scientists, i.e., the sunlight in some way directly kills the spores even in pure water, while these spores will withstand for days temperatures far higher than they are subjected to when exposed to the sun's rays. Professor Ward exposed part of a gelatine plate, containing about 5,000,000 invisible spores, to the sunlight, and covered up the rest. It was found that those spores which lay imbedded in the parts of the gelatine sheltered from the light by foil and other coverings had germinated out normally, while those spores which had been exposed to the light were all killed. With these facts one can appreciate the Italian proverb, which says that, "*Dove non va il sole va il medico*" (Where the sun does not enter the doctor does). After a long series of experiments, Professor Ward found that the rays which kill the bacteria were the blue and violet ones. This explains why organisms are destroyed more rapidly by the light of the summer sun than in winter, why a clear blue sky is so much more effective than a hazy one, why direct sunlight acts so much more quickly than reflected or diffuse daylight. It is interesting in this connection to note that the electric arc is very efficient as a disinfecting agent in hospital wards, railway carriages, &c. Professor Ward has also made several experiments as to the effects of light on the individual bacterium cell itself. Regnard, Fol, Forel, and others have shown that the blue-violet rays penetrate into deep water, even to the depth of 400 mètres. This coincides with what has been observed when the typhoid bacillus falls into turbid dirty water in summer. It multiplies because it is supplied with food; the suspended particles of matter supply it with food, and impede the penetration of the destructive light rays. These, then, are a few facts which Professor Ward has ascertained during his course of experiments. Both from an hygienic and a botanical point of view they are extremely interesting. *H. C. Fyfe.*

THE CURRANT-BUD MITE.

The most suggestive account of the history of this creature that we have seen, is contained in a paper by Mr. R. Newstead, in the *British Naturalist*. Mr. Newstead is lecturer on Economic Entomology for the Cheshire County Council, and has studied the life-history of the creature more thoroughly than any of his predecessors. We give a summary of his observations, as they are of great practical importance:—

"(1) That there were a succession of broods produced during the months of February to September. Egg-laying taking place in March, April, June, July, and September, which was therefore very probably carried on throughout the whole season.

(2) That one of the mites, i.e., the red one, was found wandering about the flowers on March 22, and there might have been others.

(3) That the mites first established themselves between the base of the leaf stalk and the young buds early in June (June 2), but were not found actually inside them until July 27.

(4) That so long as any life remained in the old buds, swarms of the mites were found in them; as the buds died numbers of the mites disappeared, either dying a natural death, or being destroyed by predaceous insects. Of course, as I have already stated, some of them did certainly migrate and set up fresh colonies.

Let us now consider these facts from a practical point of view, taking first of all the period during which the mites travel from bud to bud. This, as already stated, takes place in March, and I may here add, in corroboration of this, that mites were also detected in the act of travelling from one bud to another in the spring by the writer of the pamphlet issued by the Board of Agriculture (*l.c.*). How long the mites continue their migrations has yet to be proved, but I am confident that it takes place during spring and summer, or, at any rate, so long as any mites remain in the old buds; hence, if we wish to apply any insecticide as a remedy, it should certainly be applied at the period of migration; but as this extends over an indefinite period, it is difficult to fix a time when spraying would be most effectual. March would appear the best time for an application, but spraying at this time would be sure to injure the flowers, therefore, the application should be made between the time of the setting of the fruit and the beginning of July. Spraying at such time would be sure to affect some of the mites, although I doubt very much if it would render any real service in clearing them off.

Prevention and Remedies.

In very bad cases I would certainly recommend that the bushes be cut down in *winter, and burnt on the spot*, but this should never be attempted at any other time of the year. In winter the mites are all safely housed inside the buds; therefore, the removal of the bushes at such period could be accomplished with little or no fear of shaking the mites to the ground, or scattering them to the winds.

Where the disease is only partial, I would strongly advise hand-picking the infested buds, and burning them; they must on no account be thrown to the ground, or "dug in." If hand-picking be annually adopted, the disease in the course of three years would be reduced to such a minimum that the crop would in no way suffer.

In districts where Black Currants are grown on a large scale, hand-picking is a serious item; yet I cannot recommend any system that is more effectual.

If the grower wishes to apply insecticides, I may say that it is useless to do so between the fall of the leaf and the expansion of the buds in spring, because the mites, as already stated, are then carefully housed; I have never found a single example outside the buds during that period. The Board of Agriculture (*l.c.*) recommend "spraying . . . in the autumn before the weather becomes cold, and just after the leaves have fallen, if possible. This will economise liquid and labour, and will affect the mites before they get into the buds." This statement is, I venture to say, most misleading and inaccurate. I have proved beyond doubt that the mites begin to enter the newly-formed buds in July; therefore, any application made "after the leaves have fallen" would be practically useless in clearing off the mites. As a proof of this, last winter I tried dipping the infested branches in the well-known "Paraffin Emulsion," which had no apparent effect on the mites, thus proving the uselessness of the application of insecticides while the mites are in the buds."

ENQUIRY.

"He that questioneth much shall learn much."—Bacon.

A correspondent, writing under initials "H. E. G.," would be glad if any reader of the *Gardeners' Chronicle* can inform him who raised the variety of Adiantum named Flemingii?

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending September 1.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	80	0	+ 341	— 51	7 —	156	37·4	13	34
1	1 —	81	0	— 12	+ 8	5 —	141	26·1	21	34
2	0 aver	100	0	+ 74	— 51	2 —	142	17·6	23	33
3	0 aver	118	0	+ 98	— 100	5 —	133	17·1	39	36
4	1 +	113	0	+ 105	— 79	6 —	134	16·8	36	33
5	1 +	133	0	+ 132	— 119	5 —	131	19·0	55	37
6	1 —	86	0	+ 74	— 69	8 —	150	34·4	17	32
7	1 —	106	0	+ 193	— 120	8 —	149	24·2	17	33
8	1 +	120	0	+ 125	— 81	8 —	150	26·3	64	33
9	1 —	93	0	+ 60	— 33	6 —	168	27·2	4	30
10	1 —	102	0	+ 111	— 67	7 —	154	28·7	7	31
*	2 +	142	0	+ 235	— 18	4 —	151	24·2	73	43

The districts indicated by number in the first column are the following:—
0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 1, is furnished from the Meteorological Office:—

"The *weather* during this period was much finer and drier over England than for many weeks past. A good deal of haze or slight fog, however, was experienced in many parts of the Kingdom, and the conditions over Ireland and Scotland were generally dull.

"The *temperature* did not differ very materially from the mean, but was a little above it in the 'Midland Counties,' 'England, S. and S.W.,' and the 'Channel Islands.' The highest of the maxima were recorded either on the 26th or 31st, and ranged from 80° in 'England, S. and the Channel Islands,' and 76° in 'England, E. and S.W.,' to 63° in 'Scotland, N. and Ireland, N.' The lowest of the minima were recorded on rather irregular dates, and ranged from 36° in 'Scotland, E.,' and 38° in 'England, S.W.,' to 48° in 'England, N.W.,' and to 55° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts; over the greater part of 'England' the fall was scarcely appreciable.

"The *bright sunshine* varied greatly in different parts of the Kingdom; over 'England, S. and S.W.,' and in the 'Channel,' there was a considerable excess, while in the 'Midland Counties and England, E.,' the amount recorded was just equal to the normal. Elsewhere there was a deficit—that over 'Ireland' being very striking. The percentage of the possible duration ranged from 73 in the 'Channel Islands,' 64 in 'England, S.W.,' and 55 in 'England, S,' to between 13 and 21 in 'Scotland,' and to between 4 and 7 over 'Ireland.'"

MARKETS.

COVENT GARDEN, September 6.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Asters, per dozen	3 0	6 0
Balsams, per doz.	3 0	6 0
Calceolarias, per doz.	3 0	6 0
Campanulas, p. doz.	6 0	12 0
Chrysanthemums, p. dozen	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	6 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	3 0	6 0
Hydrangeas, per doz.	9 0	18 0
— specimens, each	2 0	3 6
Ivy Pelargoniums, dz.	3 0	6 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	6 0	10 0
— scarlets, p. doz.	3 0	6 0
— scarlets, small, per dozen	1 6	2 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	2 0	4 0
Asters, doz. bun.	2 0	6 0
— French, p. bun.	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	0 6	1 0
— doz. bun.	2 0	6 0
Chrysanthemums, p. 12 blooms	0 6	1 6
— p. 12 bunches	3 0	8 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	1 0	4 0
Gaillardias dz. bun.	1 6	3 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	4 0	12 0
Lapageria, 12 blooms	0 6	1 0
Lavender, 12 bunches	4 0	6 0
Lilium Harrisii, doz.	2 0	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9	1 6
Maidenhair Fern, per 12 bunches	3 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	1 0	3 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
— 12 sprays	0 4	0 6
Pinks, doz. bun.	1 6	4 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	4 0
— red, per dozen	0 6	1 0
— outdoor, doz. bun.	3 0	9 0
Stephanotis, dozen sprays	1 6	2 0
Sweet Sultan, 12 bu.	2 0	3 0
Tuberoses, 12 blms.	0 3	0 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, half-sieve	1 9	2 6
Figs, per dozen	1 0	1 6
Grapes, black English, per lb.	1 0	1 6
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	2 0
,, Muscat, 2nd quality, per lb.	0 9	1 0
Grapes, Guernsey, per lb.	0 5	0 9
Melons, each	1 0	1 6
Peaches, large, p. doz.	4 0	6 0
,, small, per doz.	1 0	
Pears, p. sieve, small	2 0	2 6
,, (Dessert), half-sieve	3 0	4 0
Pine-apples, St. Michael, each	2 0	5 0
Plums, half-sieve	2 0	3 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, half-sieve	2 0	2 6
,, Runners, half-sieve	1 0	1 6
Cauliflowers, p. doz.	1 6	3 0
Cucumbers, per doz.	1 6	2 6
Marrows, per doz.	0 9	
Mushrooms, per lb.	0 8	0 9
Peas, per bushel	4 0	5 0
Tomatos, per lb.	0 3	0 4

POTATOS.

Better demand for best samples. Prices:—Snowdrops, 80*s.* to 100*s.*; Hebrons, 60*s.* to 80*s.*: Giants, 50*s.* to 70*s.* per ton.

SEEDS.

LONDON: *September* 5.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that a further quantity of yearling Red Clover seed has just changed hands, at hardening rates. French Trifolium, on the spot, is getting into narrow compass. Winter Tares, as yet, both offer and sell slowly; a good demand for them is anticipated later on. The unprecedentedly low price of Rye, attracts speculative attention. The Canary seed market exhibits remarkable stubbornness, with a meagre consumptive inquiry; quotations refuse to go lower. Mustard is neglected. Rapeseed continues steady. Buckwheat and Linseed unaltered.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *Sept.* 4.—Quotations:—Cabbages, 2*s.* to 3*s.* 6*d.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.*; Carrots, 1*s.* 6*d.* to 2*s.* 6*d.*; Parsley, 1*s.* to 1*s.* 9*d.* per dozen bunches; Scarlet Beans, 1*s.* 3*d.* to 2*s.*; French do., 1*s.* 3*d.* to 3*s.* per bushel; Horse-radish, 1*s.* 3*d.* to 1*s.* 9*d.* per bundle; Apples, 1*s.* 6*d.* to 3*s.* per bushel; Pears, 9*d.* to 2*s.*; Plums, 9*d.* to 1*s.* per ½-sieve.

STRATFORD: *Sept.* 4.—Cabbages, 1*s.* 9*d.* to 4*s.* per tally; Savoys, 1*s.* 9*d.* to 3*s.* per tally; Cauliflowers, 1*s.* to 2*s.* 6*d.* per dozen; do., 4*s.* to 10*s.* per tally; Pears, 2*s.* to 4*s.* per bushel; Plums, 1*s.* to 1*s.* 9*d.* per half-sieve; do., 2*s.* to 3*s.* per flat; Green Gages, 1*s.* 9*d.* to 2*s.* 6*d.* per half-sieve; do., 3*s.* to 4*s.* per flat; Tomatos, English, 4*s.* to 4*s.* 6*d.* per dozen lb.; do., Guernsey, 3*s.* to 3*s.* 6*d.* do.; Cucumbers, frame, 1*s.* to 3*s.* per dozen; do., field, 4*d.* to 8*d.* do.; Celery, 9*d.* to 1*s.* 2*d.* per roll; Beans, Scarlet, 2*s.* to 3*s.* per sieve; French do., 2*s.* to 3*s.* do.; Vegetable Marrows, 5*s.* to 10*s.* per tally; Horeradish, 1*s.* to 1*s.* 3*d.* per bundle; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, household, 40*s.* to 45*s.* per ton; do., cattle-feeding, 25*s.* to 28*s.* do.; Mangels, 16*s.* to 21*s.* do.; Swedes, 16*s.* to 18*s.* do.; Onions, English, 80*s.* to 90*s.* per ton; do., Dutch, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; do., Oporto, 5*s.* to 6*s.* 6*d.* per case; Watercress, 6*d.* per dozen.

FARRINGDON: *Sept.* 6.—Quotations:—Cabbages, 2*s.* 6*d.* to 3*s.* 6*d.*; Collards, 1*s.* 6*d.* to 2*s.* per tally; Greens, 1*s.* to 1*s.* 6*d.* per dozen; Turnips, 2*s.* to 2*s.* 6*d.*; Carrots, 2*s.* to 2*s.* 6*d.* per dozen bunches; Vegetable Marrows, 4*s.* to 6*s.* per tally; Apples, Suffields, 4*s.* to 4*s.* 6*d.*; Keswick Codlin, 3*s.* 6*d.* to 4*s.*; Pears, Williams, 3*s.* 6*d.* to 4*s.* per bushel; Plums, Victorias, 2*s.* to 2*s.* 6*d.* per half-sieve; Cob Nuts, 3*d.* per lb.; Green Walnuts, 5*s.* per bag; Tomatos, English, 4*d.* per lb.; Spanish Grapes, 7*s.* per barrel; English, hothouse, 1*s.* per lb.; Duchess Pears, 1*s* 6*d.* per box of 18; Melons, 5*s.* per case; Horse-radish, 1*s.* 6*d.* per bundle; Cucumbers, frame, 1*s.* 9*d.* to 2*s.* per dozen; Pickling Cabbage, 1*s.* to 1*s.* 6*d.* do.

POTATOS.

BOROUGH AND SPITALFIELDS: *Sept.* 4.—Quotations ranged between 45*s.* and 70*s.* per ton.

STRATFORD: *Sept.* 4.—Quotations:—Dark Magnums, 45*s.* to 50*s.*; do., Uplands, 50*s.* to 60*s.*; Snowdrops, 55*s.* to 70*s.*; Hebrons, 50*s.* to 65*s.* per ton.

FARRINGDON: *Sept.* 6.—Quotations:—Essex: Bruces, 50*s.* to 55*s.*; Imperators, 50*s.* to 68*s.*; Reading Giants, 50*s.* to 70*s.*; Hebrons, white, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 75*s.*; Her Majesty, 50*s.* to 60*s.* per ton. Beds: Hebrons, white, 70*s.* to 80*s.*; do., red, 70*s.* to 80*s.*; Imperators, 50*s.* to 60*s.*; Sutton's Abundance, 60*s.* to 70*s.*; Bruces, 55*s.* to 65*s.*; Magnums, 55*s.* to 60*s.* per ton.

LONDON AVERAGES: *Sept.* 5.—Regents, 50*s.* to 60*s.*; Magnums, 50*s.* to 60*s.*; Hebrons, 60*s.* to 80*s.*; Snowdrops, 60*s.* to 80*s.*; Kidneys, 55*s.* to 60*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending September 1, and for the corresponding period in the preceding year:—1894: Wheat, 22*s.* 7*d.*; Barley, 24*s.* 1*d.*; Oats, 17*s.* 1*d.* 1893: Wheat, 25*s.* 5*d.*; Barley, 26*s.* 9*d.*; Oats, 18*s.* 7*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 110*s.* to 138*s.*; do., inferior, 80*s.* to 110*s.*; do., new, 75*s.* to 125*s.*; hay, best, 100*s.* to 130*s.*; do., specially picked, 140*s.*; do., inferior, 60*s.* to 100*s.*; do., new, 70*s.* to 100*s.*; Mixture, 90*s.* to 125*s.*; and Straw, 43*s.* to 60*s.* per load.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

BEECH TREES: *C. Lincoln.* Your trees are affected with a kind of Aphis, called Chermes fagi. We fear there is no hope for your tree, so badly affected is it; but before the insects have become so numerous, petroleum emulsion, or a mixture of one part of kerosene to four of oil may be brushed over the trunk in autumn, so as not to injure the leaves. Gas-lime may also be applied to the roots, at a distance of 5 or 6 feet from the trunk.

BOOKS: *J.* There is a book (out of print) on the subject. You might meet with it at the second-hand book-shops. It is entitled *Table Decorations*, by Miss Hassard.—*S. P. D. The Tomato: its Culture and Uses.* By W. Iggulden. *Mushroom Culture*, and Wright's *Mushrooms for the Million*; both published at 171, Fleet Street, E.C.

CARNATIONS: *T. S.* Your Carnations are most probably affected with eel-worms in the leaves, such as have been repeatedly figured and described in our columns. Destroy all affected plants, and get fresh soil.

NAMES OF PLANTS: We thankfully acknowledge the receipt from *H. M. E.* of a P. O. O. for £1 for the Gardeners' Orphan Fund. This donation is made in acknowledgment of service rendered by naming plants in this column.—*S. P. D.* sends more than six specimens. 1, Adiantum pedatum; 2. Anemone japonica; 3, Adiantum pedatum; 2. Anemone japonica; 3, Anemone japonica var. Honorine Jobert; 4. Phlox, we cannot name varieties; 5, Vallota purpurea; 6, Selaginella Wildenovii; 7, Acer Negundo variegatum; 8, Thuya plicata of gardens; 9, Retinospora pisifera var. plumosa of gardens.—*J. E. R.* 1, Aira caryophyllea; 2, Agrostis canina; 3, Poa rigida; 4, Festuca pratensis; 5, Melica uniflora.—*A. F. G.* Helminthia echioides, Ox-tongue. The Jacob's Ladder is Polemonium cœruleum.—*J. C., Romsey.* 1, Choisya ternata; 2, Ceanothus azureus var.; 3, Hypericum Moserianum; 4, Clethra alnifolia; 5, Olearia Haastii; 6, Veronica Traversii.—*R. K.* Euphorbia Lathyris, the Caper Spurge.—*F. L.* Nicotiana rustica, probably.—*H. M. E.* Artemisia sericea.—*G. D. P.* Spergula arvensis, or "Spurry."—*P. W.* Rodriguezia refracta and Epidendrum elongatum, with the side lobes of the lip imperfectly developed.—*T. R. J., Leeds.* Your hybrid Cypripedium is C. × Savageanum, O'Brien.—*J. Milson.* Prunus myrobalana, much used in the northern parts of the kingdom for culinary uses. The fruits come from Dutch and German ports.—*E. M. C.* Bulbophyllum calamarium, Lindl., West Africa.—*W. A.* 1. not known in present stage; 2, Durondeau; 3, Beurré d'Amanlis; 4, Nonsuch; 5, Dumelow's Seedling; 6, Red Quarrenden.—*F. C. S.* 1. Euphorbia Lathyris. the Caper Spurge; 2. Calycanthus floridus (Carolina Allspice); 3, Chelone barbata; 4, next week; 5, Centaurea montana; 6, Salvia Horminum; 7, Selaginella (next week).—*J. C.* Pyrus (Sorbus) americana and Saxe Gothea conspicua.

ONION WITH VARIEGATED LEAVES: *C. H. J.* Of occasional occurrence. No value whatever.

RHUBARB: *F. L.* The answer to your question depends on the terms of the schedule. If you take the word in its plain natural sense, Rhubarb is certainly not a fruit. By "fruit" in a schedule we should understand either dessert fruit or cooking fruit. Rhubarb is neither.

TOMATO: *J. and A. B.* It seems to be a free-setting variety, and it resembles in form and colour many others now in commerce. We cannot identify the variety.

TOMATO GOING OFF: *A. B.* Bad cultivation, probably. No fungus was discovered in the specimen sent.

VEGETABLE EXHIBITION: *B. W. W.* There are no classes for vegetables at the Fruit Show to be held at the Crystal Palace, nor do we know of any other exhibition arranged where vegetables will be shown, but they may be exhibited before the Fruit and Vegetable Committee of the Royal Horticultural Society at any of their fortnightly meetings These are held at the Drill Hall, James Street, Westminster, and the next one will be on Tuesday next, 14th inst.

WILD CONVOLVULUS: *Convolvulus.* Nothing will rid the garden of this troublesome plant short of forking-over the ground, and extracting every bit of the roots, and the free use of the Dutch hoe during the summer. When the roots are mixed with those of fruit bushes, it is more difficult to eradicate, but hand-weeding and hoeing will even in this case keep the plague in check. Vacant plots should be trenched after getting out as many of the roots as possible.

COMMUNICATIONS RECEIVED.—W. Cutbush & Son.—A. Parry (we cannot now revert to the matter).—J. L. B.—R. B.—U. D., Berlin.—J. D.—H. H. D'O.—A. H. G.—J. T. D.—M. & L.—W. F. P.—M. D.—J. D.—G. Hansen, California.—E. C.—C. de B.—T. T.—M. T.—M. M., Mallow.—J. O'B.—J. G. B.—A. M.—A. N.—R. L. H.—J. B.—J. D.—E. M.—A. D.—P. W.—W. D.—A. C. F.—E. J.

PHOTOGRAPHS RECEIVED WITH THANKS.—R. P. (will probably be used later on).

SPECIMENS RECEIVED,—W. T. H.—C. D.—B. W. W.—H. Strauss, Cologne.—G. A. W., Middlesex.—J. C., Ochtertyre, with thanks.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

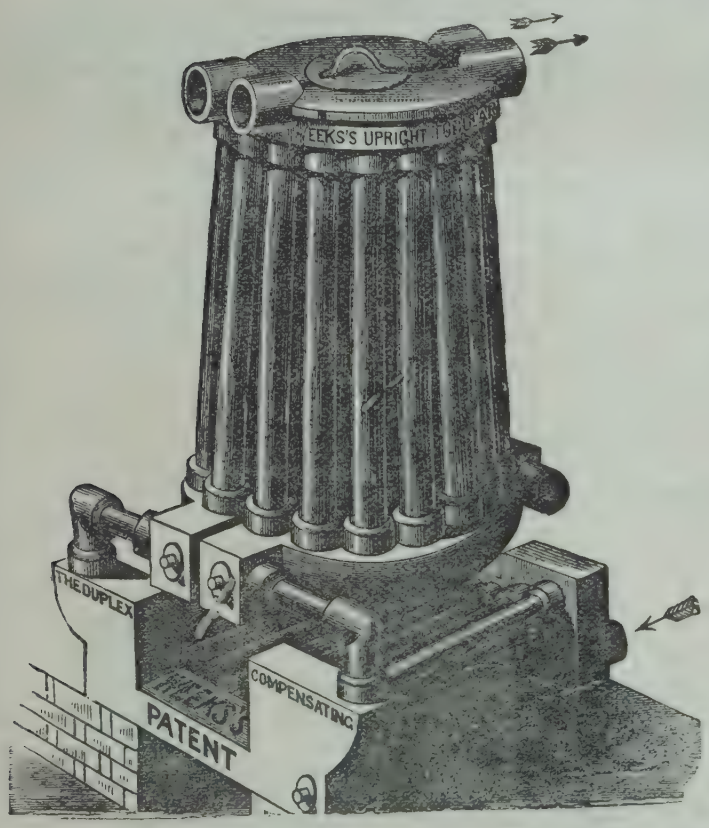
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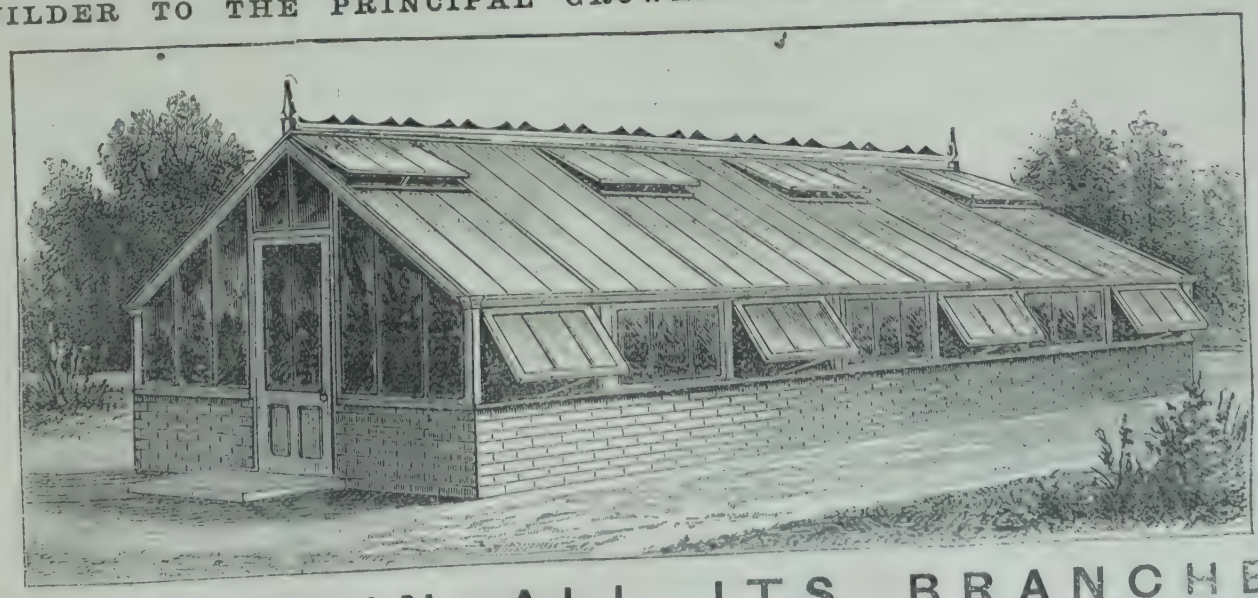
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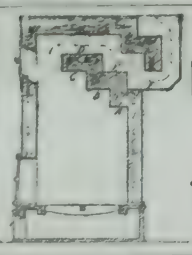
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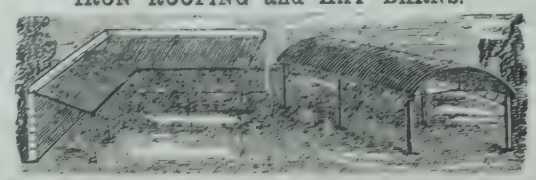
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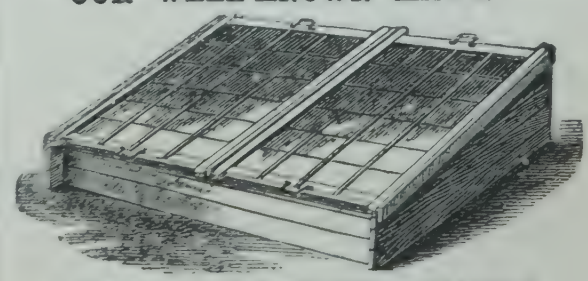
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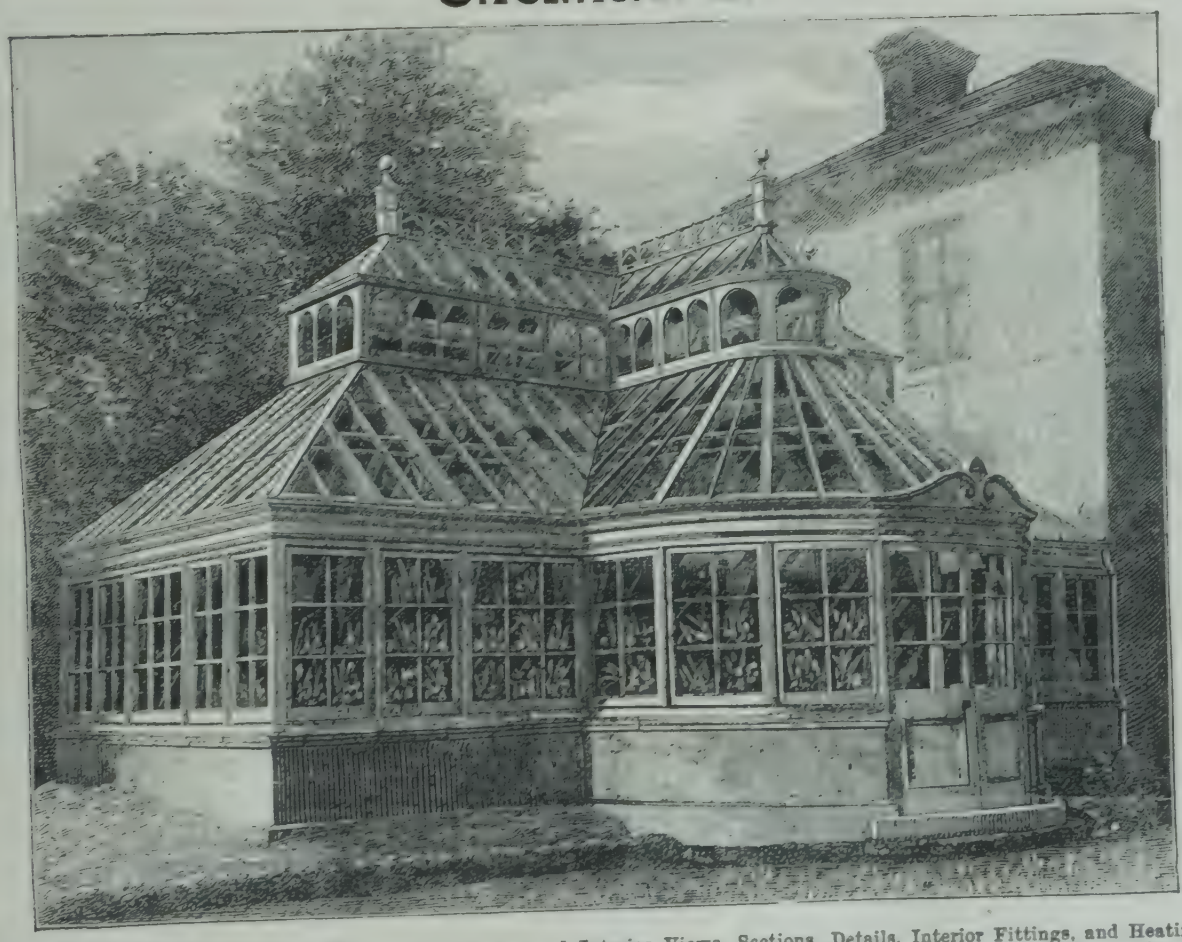
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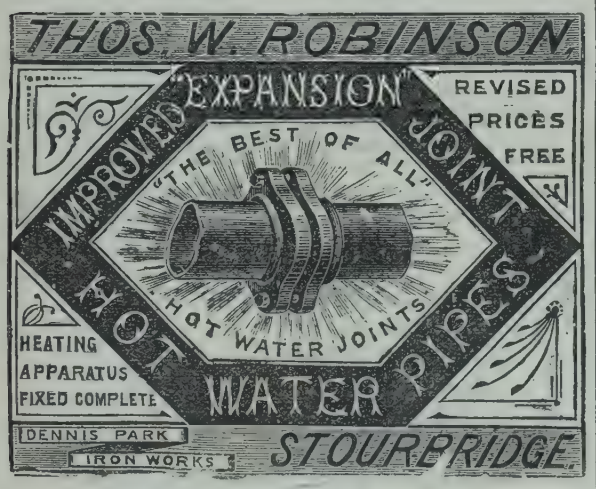
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No Cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from **300 to 300,000 gallons per day.** Will force to a height of 800 feet.



Fig. A.

This Ram raises a portion of the same water that works it.



This View represents Fig. A. Ram forcing up a part of the same water that works it, which is supplied from a spring. Special Rams of A. make can be supplied to force to a height of 800 feet.

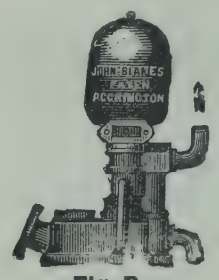


Fig. B.

This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

Blake's Hydraulic Rams have been supplied to the following among others:—

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His Grace the Duke of Westminster.
His Grace the Duke of Cleveland.
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His Grace the Duke of Marlborough.
His Grace the Duke of Grafton.
The Most Hon. The Marquess of Ripon.
The Most Hon. the Marquess of Downshire.
The Most Hon. the Marquess of Abergavenny.
The Most Hon. the Marquess of Londonderry.
The Most Hon. the Marquess of Cholmondeley.
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,, insigne Sanderæ	,, nobile, Hardy's var.
,, javanico superbiens	Odontoglossum Edwardi
,, Leeanum giganteum	,, Wilckeanum
,, Morganiæ	,, Halli
,, insigne Ernestii	,, Ruckeriana
,, Bartetii	,, Hebraicum
,, insigne Wiottii	,, Andersonianum, Stand Hall var.
,, ,, albens	Cattleya Hardyana
,, Patersonii	,, Massiana
,, Sallierii	,, Bluntii
Lælio-Cattleya calystoglossa bella	,, Claesianum
Lælia anceps Schroderii	,, Reichenbachiana
,, Schroderiana	,, Iriana alba
,, Tressideriana superba	,, Schroderæ alba
,, anceps Dawsoni	,, exoniensis
,, ,, Schroderæ	,, aurea
,, ,, Schroderiana	,, Dowiana
,, Gouldeana	Cymbidium eburneum
,, anceps Protherœana	Lycaste Skinneri alba
,, elegans Turnerii	Sobralia, pure white
Cœlogyne cristata alba	Vanda Sanderiana
,, Lemoniana	Dendrochilum glumaceum
Eulophiella Elisabethæ	
Dendrobium Dominianum Stand Hall var., two plants	

Together with 150 PHALÆNOPSIS SCHILLERIANA, AMABILIS, SANDERIANA, P. GLORIOSA, amongst which are extra fine plants, numerous Cattleyas, Odontoglossums, Oncidiums, Dendrobiums, Vandas, Aërides, Masdevallias, Lælias, Sophronites, &c.

STOVE AND GREENHOUSE PLANTS.
PALMS, FERNS, CROTONS, AMARYLLIS.

Garden Implements, Tools, Frames, Hand-barrows, Mowing Machines, Grindstone, capital Barouche, a Mail Phaeton.

Together with a portion of the late Mr. Hardy's well-known cellar of choice WINES, comprising 22 doz, Claret Château Kerwen, vintage 1884; 11 doz. Claret Château Leoville; 7 doz. Port, Sandeman's; 24 doz. Port, 1 doz. Bots.; 20 doz. Champagne, Deutz and Gueloerman Gowlac; 34 doz. Do., Veuve Clicquot; 3 doz Magnums; 11 doz. Bots. Hennessey's old Brown Brandy, 1875; 17 doz. Bots. Geo. Roe's old Irish Whisky.

Catalogues may be obtained of the Auctioneers, 67 and 68, Cheapside London, E.C.

Choice Artists' Proof Etchings, Engravings, Photogravures, and Prints, including a large selection of fine signed Proofs.—Important four days' unreserved sale.—By order of Messrs. B. Brooks & Sons, the old-established Art Publishers, of 171, Strand.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY, Sept. 17, and three following days, at 12.30 each day, PROOF ETCHINGS and Engravings, embracing well-known examples of Sir E. Landseer, Alma Tadema, Marcus Stone, R.A., Thos. Blinks, B. W. Leader, R.A., F. S. Cooper, R.A., J. M. W. Turner, R.A., Yeend King, Sir J. F. Millais, R.A., Briton Riviere, R.A., and other eminent artists. Amongst the numerous subjects will be found many new publications, and the whole are, with few exceptions, in the remarqué and artist proof state of the plate. May be viewed on Saturday, Sept. 15, and each morning of sale. Catalogues had of Messrs. Brooks & Sons, 171, Strand, W.C.; and of the Auctioneers, 67, Cheapside, E.C.

Friday Next, September 21.—Without Reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by S. G. Lutwyche, Esq., of Eden Park, who is contemplating making alterations to his Glasshouses, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 21, at half past 12 o'Clock—

100 Lots of CHOICE, CLEAN, WELL-GROWN ORCHIDS, in vigorous and robust health, without reserve. Amongst them will be found—

Dendrobium Falconeri (specimen	Odontoglossum pulchellum majus, specimen bulbs
,, hybrid Endocharis	,, polyxanthum
,, hybrid Roebelingianum, very rare	Cypripedium Schroderæ
,, hybrid Lutwychianum (Wardianum Lowii × splendidissimum superbum), new	,, Io Grande, specially fine variety
,, nobile nobilius, very fine piece from the original plant	,, javanico superbiens, in bud
,, chryseum, rare	,, polystigmaticum, in bud
Cymbidium devonianum	,, Seegerianum, in bud
Cœlogyne cristata alba	,, Lathamianum, fine variety
Trichopilia suavis alba, very fine plant	,, Leeanum Burfordiense, extra large plant
Cattleya aurea	,, œnanthum superbum, in flower
,, Eldorado Wallisii var. crocata, rare	,, selligerum
,, Mossiæ aurea, with seed-pod	,, Laforcadei
,, Lawrenceanum	,, Druryii, very fine variety
,, Boweringiana, in sheath	,, Dautherii superbum
,, Schofieldiana	,, Crossianum, fine variety, in bud
Lælia anceps Fostermanni	,, Rothschildianum
,, purpurata alba	Masdevallia Schlimii
	Oncidium Reichenbachiana, rare

On view morning of Sale, and Catalogues had.

Every Day.
DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sales, and Catalogues had.

Windlesham, near Bagshot.
Re Richard Mason, deceased.

PRELIMINARY NOTICE of SALE of the valuable FREEHOLD and LEASEHOLD PROPERTIES, presenting a rare opportunity to the Trade and others for securing some of the most valuable and productive Nurseries in this country.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, immediately preceding the Sale of the Nursery Stock, on TUESDAY, October 2, at Half past Eleven o'Clock, the well-known FREEHOLD NURSERIES, covering an area of nearly 23 Acres, and the LEASEHOLD PROPERTIES of 16 Acres, together with the GOODWILL of the BUSINESS. The purchasers will have the opportunity of purchasing at the Sale the Nursery Stock, which is to be offered in suitable lots, and also of taking at a valuation the remaining Stock.

Particulars may be had of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Welford Park.
About 6 miles from Newbury and 4 from Kintbury Station.

SALE of the Extensive and Superb Collection of STOVE and GREENHOUSE PLANTS, ORCHIDS, FERNS, and upwards of 100 Fruiting and Succession PINE PLANTS, over 50 of the former being good Specimens, and most of which have gained first-class prizes at the leading local and distant Exhibitions. All are in good health and vigorous growth, and reflect great credit upon Mr. Charles Ross, who has been gardener at Welford for many years past. At the same time will be offered the whole of the BREWING PLANT, consisting of coppers, mash tubs, coolers, Lawrence's patent refrigerator, twenty-two 120-gallon casks, and the Fittings of the Laundry and various effects.

MESSRS. FEW AND DREWEATT have been favoured with instructions from Colonel G. B. Archer Houblon to SELL the above by AUCTION, on the Premises, on TUESDAY, September 18. 1894, at 11 for 12 o'Clock.

The plants may be viewed any day prior to the Sale on application to Mr. CHARLES ROSS, The Gardens, Welford Park, near Newbury, of whom Catalogues may be had; or of the Auctioneers, Newbury.

SEED TRADE.—The Advertiser will be glad to communicate with anyone wishing to DISPOSE of his SEED and NURSERY BUSINESS.
E. H., 41, Wellington Street, Strand, W.C.

To Fruit Growers.

TO BE LET on LEASE, PARK NURSERY, Chadwell Heath, six minutes of Station, nine miles of London; 450 feet well-fitted Glass-houses, with good six-roomed House. Rent, £50 per annum.—Apply as above.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.
All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE, on THURSDAY, September 20, about 10,000 feet of 21-oz. HORTICULTURAL GLASS, clean and loose; 1600 feet of 4-inch PIPING; a ROCKFORD TUBULAR BOILER, and 2 others; 4000 STRAWBERRIES, good sorts, &c. Sale at half-past 2 o'Clock, at Pine Nursery, Fleet, Hants.—WETHERALL AND SONS, Auctioneers, Hartley Wintney, Hants, of whom Catalogues

TO BE SOLD, with Immediate Possession, small NURSERY GROUND, with 360 feet run of GREENHOUSES. Capable of great extension. Houses have been erected about one year, of modern construction. The whole is held on lease for 21 years, at the low rent of £4 per annum. Probably freehold might be acquired. Price £250. Stock at valuation. Apply,
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MESSRS. JAMES AND BAXTER have for IMMEDIATE DISPOSAL, owing to domestic affliction, a thoroughly genuine FLORIST'S and SEED BUSINESS, situate in a good Market Town close to Birmingham. Will bear every investigation. A small capital only required.
For particulars, apply to the Auctioneers and Valuers, 35, Temple Street, Birmingham.

FOR IMMEDIALE SALE.—A MARKET NURSERY in North London, seven Houses, 590 feet run (all hot-water), 8-roomed Dwelling-house, one Greenhouse Maréchal Niels, others Cucumbers and Tomatos. Plant Stock, Van, Sheds, Lights, &c.—X., Uxbridge House, Barnet.

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(See *Gard. Chron.*, May 12, 1894).
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EXHIBITIONS.

Alteration in Dates.

HEREFORDSHIRE FRUIT and CHRYSANTHEMUM SOCIETY.—The THIRD ANNUAL SHOW will be held in the Shire Hall, Hereford, on WEDNESDAY and THURSDAY, November 14 and 15, 1894, when Prizes amounting to upwards of £100 will be offered for competition.
Schedules of Prizes and all particulars on application to—
Mr. JNO. OUGH, F.R.H.S., Hon. Sec.,
7, Clifford Street, Hereford.

BRISTOL CHRYSANTHEMUM SOCIETY.
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PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

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GERMANIA CARNATION.—Strong plants, in 60's, 15s. per 100, £5 per 1000. Old Crimson CLOVE, strong-rooted layers, 10s. per 100, £4 per 1000.
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Cheap Named HYACINTHS, for Bedding, Doubles and Singles, Reds, Whites, and Blues, per dozen, 2s. 3d.; per 100, 16s.

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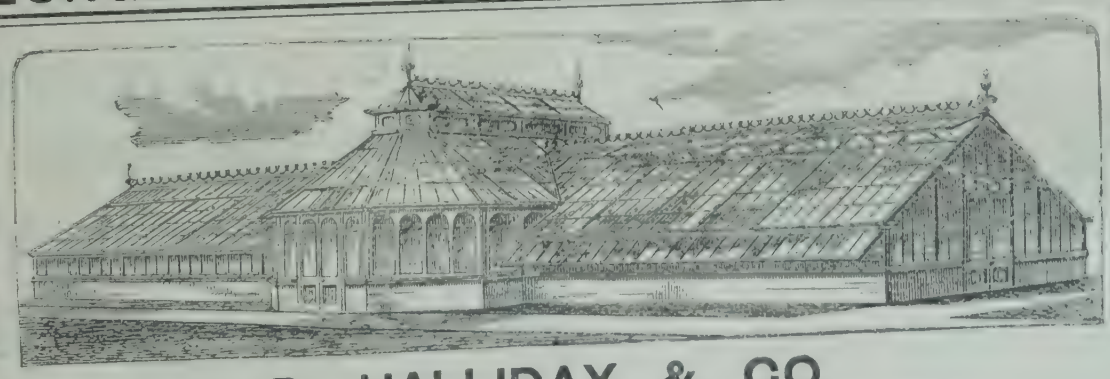
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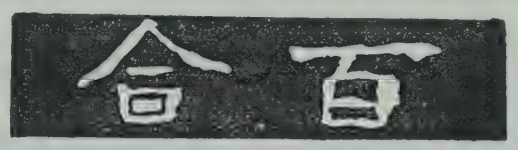
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ROYAL SOVEREIGN, grand new, Three Certificates, and EARLIER and IMPROVED PAXTON, flavour very rich.
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 15, 1894.

THE "SULLA" (HEDYSARUM CORONARIUM).

THERE exists throughout all North Africa a plant which botanists have named Hedysarum coronarium, but which is known to the Arabs as "Sulla." It is a species of Sainfoin, a magnificent plant, growing some 3 feet 6 inches in height, with branching foliage and fine red flowers, so that it makes a fit ornament for bedding purposes, which our florists may do well to introduce largely. It more nearly resembles a Trefoil than the French Sainfoin of commerce; in fact, it is like a gigantic Clover, with leaves double the size of the ordinary large French Clover. Lately, an enterprising Alsacian immigrant to Algeria has succeeded in domesticating this wild plant for agricultural use on a large scale at his small farm—the Amouchas—between Sérif and Bougie. Hitherto the Alsacian immigrants have not thriven very successfully in Algeria, from the difficulty they have experienced in procuring good forage-plants in a dry climate and unproductive soil; but the introduction of this "Sulla" will, it is hoped, enable them to do better in the immediate future.

M. Knill has published the results of his experiments in a small pamphlet, which we recommend our own farmers, and especially emigrants who may be taking up land in America and South Africa, to study: *Le Sulla, sa culture basée sur l'année de repos de la terre, et permettant d'obtenir de tout sol cultivable de l'Algérie et sans irrigation, les céréales et les fourrages aux prix de revient les plus réduits.* This pamphlet marks for Algeria, and possibly for other countries similarly situated, a new epoch of agriculture.

The Emperor Joseph II., it will be remembered, towards the close of the last century, created Schubart, Baron von Kleefeld (i.e., Baron Clover-field),* as a fitting reward for his propaganda of Clover cultivation in Germany (the memoir of Johann Christian Schubart was published in 1782 at Berlin), and it may be expected that the French Government will mark its sense of M. Knill's services by, at least, the Cross of the Legion of Honour.

The great obstacle to the propagation of the Sulla was found in the fact that, although its seeds are produced in abundance, they germinated with great irregularity, at different times of the year—never could a crop be raised at the same moment. For upwards of fourteen years M. Knill steadfastly pursued his experiments to obtain regular crops, with little success; until, in 1890, M. Schribaux, the Director of the Laboratory at the Agricultural Institute, recommended him to steep the seeds in boiling water for five minutes. (It will be remembered that

* Baron Schubart von Kleefeld was one of the strictest of Freemasons, and promoter of that Society. Vide *Esquisse de la vie de Schubart, Baron de Kleefeld*, Traduction; Berlin, 1790.

the Chinese horticulturists used to be accused of boiling their Aster and Chrysanthemum seeds for exportation). Ever since that time, M. Knill has been enabled to raise superb crops of Sulla. In 1892 he invited the Agricultural Society of Sétif to visit the crops on his farm. The delegates measured the crop on the ground, and they found that the yield was upwards of 585 quintals of green forage per hectare, which would give 114 quintals of dry hay. The finest leguminous crops in Europe do not yield more than from 50 to 55 quintals to the hectare.

After having been regarded so long as an unproductive country, North Africa now exhibits herself to Europe as the possessor of the most productive forage plant in the world, which will thrive in a thirsty soil without irrigation. Nevertheless, this hot-water steeping process (*ébouillantage*) is doubtless even now a very delicate and troublesome undertaking, requiring great care; otherwise, the results may be hazardous and precarious. There is, happily, a less hazardous expedient.

Curiously enough, this secret of raising the Sulla regularly from seed, which has cost M. Knill years of experiment, has been practised for centuries past at no very great distance from Algeria. The Italians, it is known, have divided their country into three regions: in the north is the region of the Trefoil, the centre that of the Sainfoin, whilst the south they regard as the Sulla region. It was the Maltese who derived from their Arabic ancestry their long-known method of cultivating the Sulla, even before St. Paul landed on the island of Melita. This secret knowledge has at last been arrived at by M. Knill. As we all know, the majority of seeds lose their germinative properties as they grow old. The seed of the Sulla, as Joseph knew in the days of Pharaoh, acquires its certainty of germination after being kept for some time. It does not become fit for sowing until at least two years after it has been gathered. Thus the seed reaped in 1894 ought not to be sown until 1896; and, moreover, in order that the germinative faculty should be perfected, it is necessary also that the grains should be well exposed to the rays of the sun. This was the solution of the long-preserved secret problem which puzzled the Algerian farmers as it perplexed the Egyptian sages before the Sphinx was carved from the live rock. No doubt hieroglyphs will some day reveal the history of the measures of Sulla, with the seed of which the sarcophagus of the great Pyramid was found filled by the Arabs of Mahommed II. It is no wonder that the freshly-gathered seed, with which the French farmers in Algeria attempted to sow their fields, refused to grow except in sparsely-scattered patches, at irregular times. The natural process was revealed to the ancient agricultural tribes who crossed over to Malta (the builders of those stupendous megalithic towers in Gozo and Pantellaria), and, like the Balearic islanders and Sardinians, carried this secret with them from their African home, where it was lost under the Mahomedan invasion.

The Maltese, as Tommy Atkins has often witnessed with ignorant disdain at their apparent carelessness, have followed the instincts of Nature, and sow this two-year-old seed, which has been well sun-dried, in the summer-time, among the uncleared stubble, without taking the least trouble even to harrow the surface. Nature's method pure and simple; consequence, a certain fine crop! The seed springs up with the first rains, and it is cut in the following month of April. From 1800 to 2000 acres of ground are thus cropped every year in Malta and Gozo. The yield is estimated at from 85 quintals in good years, to 35 quintals in the worst seasons, per acre. From experiments tried this last year in Tunis, a yield of 75 quintals per acre has been produced. The variety experimented upon by M. Knill at Amouchas, near Sérif, appears to be slightly more productive, and the analysis of M. Schribaux shows it to be more nutritive than that in cultivation at Malta. By applying to it the ancient Maltese process of cultivation, Algeria will at last possess a forage-plant, easy and cheap to cultivate, affording a product of rich abundance, superior to ordinary clover-hay; with native vigour it is found to destroy foreign weeds and other noxious vegetation, whilst it enriches the soil by the considerable quantity of azote which it leaves in its roots. "It is a revolution in our system of agriculture," is the conclusion drawn by the agricultural committee of Sétif. It will be well worth the while of our settlers in South Africa to obtain seed of this Sulla from Malta and the Mediterranean. We have no doubt that in the West Indies, and even in such islands as St. Helena and Ascension, and at the Cape, this economical forage plant will prove easy of acclimatisation; and, anyhow, throughout large regions in India such a forage plant will be found a boon to our camps of exercise, where our cavalry often find green forage difficult to obtain.

Malta possesses another valuable forage plant in the Scorpionis subvillosa; and experiments are now being made to introduce this into Algeria and Tunis. *S. Pasfield Oliver, Captain, late Royal Artillery, Moray House, Stokes Bay, Gosport.*

New or Noteworthy Plants.

DENDROBIUM METTKEANUM, *n. sp*, *Krzl.**

This is a very peculiar Dendrobium, very near to D. nitidissimum, Rchb. f., from which it differs only in some characters of merely botanical value. As was pointed out by Professor Reichenbach, the Dendrobes of the Diplocaulobium group have two kinds of bulbs, some with a single leaf, others leafless, but with some pallid scales at the base, and a single one at the top. From this latter rise the flowers in succession as in Oncidium Papilio. The pale rose-coloured flowers are very tender, and justify the comparison with those of Thrixspermum arachnitis, made by Reichenbach in his description of Dendrobium nitidissimum. They may also be compared with the flower of D. Treacherianum, with sepals and petals narrowed to thin filiform tails. The lip is also very narrow, with two small rounded side-lobes, and a lanceolate middle-lobe, on the surface of which a small cushion of dense hairs makes an exception to the rule that the lips of Dendrobes are almost glabrous and without crests or protuberances of any kind.

The plant was detected by Mr. William Micholitz, one of the most successful travellers for Messrs. F. Sander & Co., St. Albans. I received dried materials, which I regarded at first sight as belonging to Dendrobium nitidissimum, Rchb. f., but a re-examination of my material and of a fresh plant sent to me by Mr. F. Sander, showed such differences that I resolved to establish this new species, the more so as Reichenbach's description is a very accurate one. The plant was named in the honour of Lieutenant Rich. Mettke, an old friend of mine, and one of the most zealous cultivators of Orchids in Germany. *F. Kränzlin.*

* *Dendrobium Mettkeanum*, n. sp, Krzl. (Diplocaulobium).—Bulbis junioribus foliaceis 6-costatis, vetustioribus subteretibus (!) anguste ovatis monophyllis; folio lineari basi angustato bilobo; bulbis floriferis tenuibus basi cataphyllis quibusdam vestitis; scapo ancipite supra bractea squamiformi coriacea nitida vestito; floribus heterochronicis (more Oncidii Papilionis); sepalis lateralibus basi late triangulis mentum antice apertum breve formantibus, intermedio anguste lanceolato; petalis linearibus, omnibus in caudas filiformes angustatis; labelli lobis lateralibus in tertia parte superiore semiobovatis obtusis, lobo intermedio lanceolato acuminato; callis minutis 2 in basi; disco piloso ante lobulos laterales non in apicem lobi intermedii descendente; gynostemio perbrevi utrinque triangulo-alato; androclinii dente postico acuto, ceterum generis. Tota planta 25 cm. alta; flores tenerrimi pallide rosei sepala petalaque 2 cm. longa tenuissima. *F. Krünzlin.*

Catasetum macrocarpum, *var. Lindeni, new. var.*

This is a most remarkable variety, displaying both in colour and form sufficient variation from the type to induce one to carefully examine it in order to make sure that it is not a new species. The main differences from the ordinary forms of this variable species are the larger and more squarely-formed opening to the lip, its broad, tongue-like apex, and the richness of its colours. The sepals are greenish-white spotted with purple; the broader petals white with purple spotting over nearly the whole surface. The lip, which is finely dentate at the edge, is rich orange with dark red sides and base to the interior. Column purple on the basal third, the rest ivory-white. Several plants of it came as a welcome surprise among an importation of Catasetum Bungerothii to l'Horticulture Internationale, Parc Leopold, Brussels. *James O'Brien.*

Edinburgh Botanic Garden Notes.

Lycoris aurea.—Amongst the many beautiful members of the order Amaryllideæ this attractive species of Lycoris takes a high rank. The bulbs are strong, generally throwing off several side bulbs, the leaves appearing after the inflorescence. The scape is long (about 2 feet), and carries about six flowers. The divisions of the perianth are of a golden-yellow colour, assuming a lighter tint towards the undulated margins. The segments of the perianth all turn upwards, while the stamens and pistil all take a downward direction. To cultivate this plant successfully, it should receive a stove treatment while growing, and an intermediate temperature while resting. A figure may be seen in the *Bot. Mag.*, t. 409, under the name of Amaryllis aurea, where it is stated to have been introduced in 1777.

Costus igneus.

The above plant may also be seen flowering freely in the Palm-house, the brilliance of its flowers making it an object of attraction. Of comparatively recent introduction, this species is as yet far from common. The stems, which rise to a height of about 2 feet, bear thick green sheathing leaves of elliptical shape, which form a rosette at the apex, out of which the brilliant orange flowers, about 3 inches in diameter, protrude. As these are produced successively, the flowering period is prolonged for a month or longer.

Quisqualis indica.

This tall-growing climbing plant is now flowering in the dome of the Palm-house, where it has enveloped the spiny stem and foliage of a plant of Plectocoma assamica, against which it is planted. The inflorescences are terminal or axillary, the calyx tube being long. The petals upon the upper surface are deep red, while the under-side is of a lighter tint. The leaves are opposite, the bases of the petioles becoming hardened and hooked after the blade has dropped, thus giving great assistance to the plant in its upward growth.

Aristolochia trilobata.

Where this plant can be afforded space on a glass roof, it is a remarkably pretty object. The name indicates the form of the leaves, in the axils of which the peculiar light purple flowers are produced, the lip being turned over the mouth of the perianth. Among the other members of this genus worthy of note which are flowering here, are the pretty A. elegans with its purple-streaked flowers; A. ornithocephala, and the giant A. gigas var. Sturtevantii, now so well known on account of its size and peculiarity of shape.

Arelia rupestris.

This ornamental shrub is flowering freely in the temperate-house, where it occupies a position in one of the beds. It is of slender habit, the foliage being dense and bright-green in colour. The flowers which are terminal, are white, the corolla being funnel-shaped. *R. L. Harrow, Royal Botanic Garden, Edinburgh.*

Orchid Notes and Gleanings.

LÆLIO-CATTLEYA × ELEGANS.

Of late we have seen a great variety of forms of this fine plant, some distinguished by varietal names, and in other cases very fine ones without distinctive names. F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, sends us a flower of a noble form. The sepals of this flower extend to a width of nearly 7 inches, and are of a pale mauve-purple; the petals, which are individually more than 1½ inch wide, are of a similar colour, with darker veins. The side lobes of the lip are snow-white, with showy recurved purple tips. A purple band half-an-inch wide runs from the base of the lip to the broad front lobe, which is of an intense purplish-crimson colour, with small lavender patches between the veining towards the front. It is of the class formerly known as L. elegans Turneri, but a very distinct, large, and showy variety, the lip showing very remarkable peculiarities.

Odontoglossum Coradinei splendens.

From F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), comes a showy natural hybrid Odontoglossum, at first sight appearing like O. Wilckeanum, but which on examination shows the simpler crest of O. Coradinei instead of the more complicated crest of O. Wilckeanum. A side view of the flower, showing the long straight column, and the long spur to the labellum, carrying the blade of the lip far in front of the rest of the segments, settles the question. It is a showy and distinct variety, larger and broader in all its parts than the ordinary forms of O. Coradinei. In colour it is bright yellow, with two broad bars of chestnut-brown on the sepals, and two smaller blotches of the same colour on the petals. The column and base of the lip are white, with a few brown markings, the blade of the lip is chestnut-brown, bordered with white. In spite of the suggestion of Professor Reichenbach that O. Coradinei was probably O. triumphans × O. odoratum, it is known in gardens to be O. crispum × Lindleyanum, as it only appears in importations where these two are mixed, and the O. Lindleyanum column is evident. *J. O'B.*

The Woodlands, Streatham.

A recent visit made to Mr. R. H. Measures' garden proved so interesting, that a few notes as to what I saw there may be of use to some of your readers. About four hundred plants of Cattleya labiata var. autumnalis fill the first division of one of the houses in a range, the plants being in perfect health, and all of them pushing up their flower-sheaths.

In another house in this range were noticed well-grown plants of Cattleyas Mendeli and Trianæi, intermixed with those of Cattleya gigas var. Measuresæ, a form of rare beauty—flowers not too large, beautifully formed and coloured. Probably the finest feature of the entire collection is the stock of Lælio-Cattleya × elegans, which I do not hesitate to say is the most superb in Europe. Of the exact number I am not quite sure, probably 500 to 600. At the time I counted 120 flower-spikes, many of which possessed five and six flowers on a spike. Mr. Measures considers the best to be L. elegans var. incantans, after which comes L. e. var. MacFarlaneii, dedicated to the clever artist who has painted every choice plant in this collection, and there are hundreds.

A few other notable varieties of Lælia elegans are Macrolabia, Nyleptha, Measuresiana, Weathersiana, Juno, Cyanthus, &c. Many of these varieties are described in Williams' *Orchid-Growers' Manual* (7th edition), recently published. Lælia Perrini alba is a beautiful and rare plant, which is now pushing forth its delicate white flowers.

In other houses devoted to Cattleyas was a good lot of Cattleya gigas and its varieties, and C. g. Hardyana, represented by a handsome plant, bearing three flowers of much beauty. One rarely sees such a fine lot of C. Lawrenceana as is here represented. It is not yet the flowering season, but the plants are making vigorous growth, and give promise of a good display at a later date.

A house is devoted to Lycastes and Anguloas, and several good plants of Lycaste Skinneri alba were remarked, and L. plana Measuresiana, Barringtoniæ, lanipes, &c., have representatives. Among Anguloas are some plants with enormous pseudo-bulbs of a very dark hue, and their flowering is awaited with much interest. A white form of Anguloa Ruckeri existed in this collection a year or two ago, but it has, I fear, been lost.

Masdevallias occupy a house, and the plants, at one time sickly, are improving. In this house are some small plants of a species of Cypripedium which were sent from the interior of India. It is believed by competent authorities that these are C. Fairrieanum, once more discovered; the plants are doing well, and apparently of flowering size.

A house has been erected for the culture of Odontoglossums. These plants, although represented at The Woodlands for some twelve or fifteen years, have never been very successfully flowered, the position of the house and its surroundings being unsuitable; but in this new building we may expect the best results.

Vandas and Angræcums occupy one house, and some noble plants, well-furnished with leaves, were noted. Many fine plants of Vanda cœrulea are now throwing out their flower-spikes. Lælia purpurata and its varieties also occupy a house, and their clean healthy appearance testifies to the care bestowed upon them.

Of the Cypripediums grown in this collection, much has been written in these columns from time to time, it being a well-known fact that no really good variety or species is unrepresented, and as a great deal of attention has been paid of recent years to the hybridisation of these plants, no idea can be formed of the number of species, varieties, and new crosses there existing.

Numbers here again assert themselves, and not a few readers will be astonished when they learn that of Cypripedium insigne and its varieties alone, upwards of 4000 plants exist, about half of which have yet to flower.

As most persons know, this is the home of the beautiful C. insigne Sanderæ; and another variety quite as beautiful, and certainly as distinct, is C. insigne Bohnhofiana, a variety which has an enormous white dorsal sepal, save for a number of lines of a Chestnut hue, which radiate from the staminode about an inch into the dorsal sepal. It may not be long ere the Orchid world will be astonished by even a finer variety than Sanderæ, and this surprise I can safely predict will be in the form of an almost white variety of C. insigne. The plant is at Streatham, and is named C. insigne clarissimum. A painting which I have seen of this variety represents a wonderful plant, and one that must afford delight to any orchidist. Another "albino" recently acquired is C. callosum Sanderæ, a brother plant to that exhibited at the Temple show this year. Most notable amongst the crosses which have flowered this year are C. × Measuresiæ, an exquisite thing having bellatulum and Veitchii for its parents, the flower partaking principally of C. bellatulum, but with more vivid colouring.

C. × Paris (bellatulum × Stoneii) is another fine thing, well formed and nicely coloured. C. × Edwardii (Fairrieanum × Veitchii), raised in America, is a plant likely to remain rare for a long time to come. C. × Annie Measures, also figured in these columns, and first flowered by Mr. R. I. Measures, of Camberwell, is a charming plant between bellatulum and ciliolare. A new cross between Stonei and Lawrenceanum is pushing a fine flower-spike, a noticeable feature being its hairiness, whereas in the parents this peculiarity is not very apparent.

Other crosses worthy of notice are Cypripedium × Numa, the reverse cross of the foregoing one, C. × Tautzianum lepidum, still a rare plant; C. × tesselatum porphyrium, C. × concolor, C. × Telemachus, C. × Umlauftiana, C. × southgatense, and a host of others.

A handsome batch of C. Godefroyæ leucochilum is just now in full bloom; it is a fine variety, a cheap plant, and certainly superior to either Godefroyæ or bellatulum, being a much bolder flower than the former, and not so "squat" as the latter. It should be extensively grown.

I cannot leave the Cypripediums without making a note of C. Fairrieanum, one of the survivors of the original importation; and, although only possessing four or five growths, which are by nature small in character, this plant is, I believe, the largest in Europe. It occupies a 4-inch flower-pot.

The Carnation-house is a feature of the garden, which reflects great credit on Mr. Coles, who has as fine a collection of Souvenir de la Malmaison as I have seen anywhere this year, the plants well furnished throughout, and scores of fine blooms now open. Carnations, Mrs. Hemsley, Duke of York, Uriah Pike, and Winter Cheer, are considered the leading varieties. A batch of Carnations which were shown to me give promise of something good, judging by the quality of the "grass" or foliage, which on some of the plants measured over 8 inches in length, and three-quarters of an inch in width. Several hundreds of Chrysanthemums of the choicest varieties are very well grown. The grounds are small, but everywhere there is neatness, cleanliness, and good order. *P. W.*

ROOT TUBERCLES OF LEGUMINOSÆ.

Tubercles on the roots of leguminous plants were known 200 years ago. Malpighi concluded that they were galls, and consequently attributed their cause to insects. Later, De Candolle considered them simply as diseased tumours, without assigning a cause. Clos contended that they were hypertrophied rootlets, and were caused by injurious influences in the soil. Gasparrini regarded them as abortive rootlets; and Treviranus as swollen rudimentary adventitious buds. This brings us down to the recent interpretation that they are caused by fungi of some form or other. Eriksson considers that they are caused by fungus. Woronin that bacteria, and subsequently that Plasmodiophora threads are at the root of the mischief. And Prillieux that they originate with some vegetable parasite of the nature of plasmodium. This is a remarkable history of the fluctuations of opinion, or rather of successive opinions, based upon theory rather than fact. Since 1885 they have constantly furnished material for speculation.

Brunchorst contested the view of Woronin and Eriksson that the rod-like bodies found in the structures were bacteria, genetically connected with the hyphæ found so frequently with them, since he found that the hyphæ were often entirely wanting. The bacterium-like bodies he regarded as albuminoid particles separated from the normal protoplasm, to which he applied the name of "bacteroids." These he found in all Papilionaceæ, from all climates and soils, and regarded them as the means by which the food materials obtained from the soil were assimilated. T. Schirch having admitted that he never found the tubercles wanting in any of the Leguminosæ he had examined. These he classed under two types, the Lupin type, and the Robinia type. Details of these forms are not essential here, but this author subscribes to the doctrine last named, that the bacteroids are not parasites, but organised albuminoid structures, so that the tubercle has to be regarded as a storehouse of albuminoid reserve material, to be used by the plant as wanted, especially while maturing

the seeds. The hyphæ, also, he declines to believe are fungoid, but of the same nature as the bacteroid tissue.

Nearly at the same time, or shortly after, Marshall Ward was examining the same productions, and arrived at a different conclusion, to the effect that the tubercles are due to the action of a parasite. He produced the tubercles by infection from without. He has repeatedly seen the hyphæ budding like yeast cells, extremely minute and numerous, resembling bacteria at first sight, but differing in their mode of multiplying. "The action of the minute germ-like bodies causes the protoplasm of the cells of the root to assume plasmodium-like characters, and induces the flow of nutritive substances to these cells, and hypertrophy results. On the decay of the tubercles the germ-like bodies pass into the soil, and infect other roots."

After a rest of nearly two years, Beyerinck resumed the controversy, admitting the existence of the so-called "bacteroids," but contending that they were microbes, to which the name of Bacillus radicicola was given, "because," he says, "the bacteroids are metamorphosed bacteria which have lost their power of development, and now are virtually albumen corpuscles, though between the two conditions there exist many intermediate stages." These observations were practically confirmed afterwards by Professor Delpino.

In 1888 Dr. Prazmowski reviewed the various theories which had been propounded, in order to clear the way for his own. He made cultures of plants in sterilised soil, without possibility of infection, and no tubercles appeared. Having established the point of infection, he proceeded with his examination, and found the hyphal filaments, these he traced into the tissue of the root. The first substance produced was starch, subsequently the so-called "bacteroid tissue," and also the peculiar bodies which some had called bacteria. These he regards as internal protoplasmic structures found within the fungus hyphæ before the development of the bacteroid tissue. His conclusion is that the fungus presents in some respects the closest analogy to Plasmodiophora Brassicæ, differing in its early filiform stage, and the peculiar "bacteroids" contained within its hyphæ. He thinks the connection between the plant and the fungus is a symbiotic one.

In the following year (1889), Frank entered the list of investigators, and denied a cell-wall to the hyphæ, which he regarded as a formation from the protoplasm of the host for the reception of the microbe. This latter he designates Rhizobium leguminosarum,* and considers it a schizomycete; that the bacteroids are not fungi, but formations from the protoplasm in which the microbe is contained. He concludes it to be a case of symbiosis, and that "when the supply of humus is deficient, the microbe is of the greatest service to the host in promoting the various vital processes of assimilation, &c."

Koch disputed Frank's decision on the hyphæ, and contended that they have a true cellulose membrane; whilst Laurent confirmed that one plant could be inoculated from another by the microbe, whatever it might be. Beyerinck returned again to his Bacillus radicicola, and recorded his infection therewith, causing tubercles on the roots of Vicia faba. Finally (in 1891) Frank returned to the attack, and affirmed that the organism was a schizomycete, which he had called Rhizobium, which was a parasite in Phaseolus, but in most other Leguminosæ the relation was a symbiotic one, enabling the host to obtain normal development under unfavourable conditions of growth, in soil containing but little humus." And here it is that Frank leaves it, which is in effect that the microbe is taken up from the soil into the cells of the root, and there digested in the root-tubers formed for the purpose. When the bacteroid tissue has been absorbed, some germs still remain, which return to the soil on the decay of the tubercles.

If we follow this controversy through, we arrive at the following result: that the tubercles found on the roots of Leguminosæ are produced by a small organism resembling a bacillus, but that the name and functions of the organism are in dispute; that the tendency of all the investigations do not show any injury to the plant attacked, whilst some contend that the microbe is beneficial. At any rate, it is established that in this case the microbe is not a putrefactive one, and as it now stands, cultivators may console themselves that, at least, the tubercles are harmless. *M. C. C.*

(To be continued.)

* Afterwards called Phytomyxa leguminosarum.

DISA NERVOSA.

Our illustration (fig. 41, p. 309) gives a representation of a very singular and beautiful Disa, which recently flowered at the Royal Gardens, Kew, and was shown from there at the meeting of the Royal Horticultural Society on August 13. The strong habit of its tall inflorescence, and the clear pink colour of its singularly-shaped flowers, make it a striking object; and if as much success is obtained through its introduction as has been already brought about at Kew by hybridising some of the other species, a new and beautiful race of hybrids may be expected. It is a native of the Natal district.

A TRAVELLERS' NOTES.

(*Continued from p.* 250.)

Melbourne: *April* 9.—During Mr. Guilfoyle's twenty years' tenure of office in Melbourne, he has rendered the Botanic Garden one of great interest to a landscape gardener. Covering some 97 acres of ground, including a lake of 8 acres, there is doubtless ample opportunity, more especially as the nature of the site considerably aids this end. Rich grassy undulating slopes, interminable winding walks, and bold sweeping beds in pure English style, complete as fine a general landscape effect as is to be met with anywhere. Beds devoted to natural orders, others reserved for the flora of various countries or continents, others still arranged from the gardener's point of view, offer interesting studies to all lovers of plants. The lawns, of Buffalo and English Rye-grass, are perfect, and kept in excellent condition; the paths, 10 to 20 feet in width, no less so, though from motives of economy, on account of the general retrenchment the Victorian Government is now enforcing, these are being rapidly asphalted—a most unfortunate necessity.

In glass, the gardens are comparatively weak, but the most hypercritical would find it difficult to take exception to much else. It is unquestionably the best labelled garden I ever entered, florists' varieties of Verbena, Phlox, or Pentstemon, receiving the same attention as the rare species of a little-known genus from a distant land. In addition to the botanical name, the name of its author, the popular name, the habitat, order, and, in some instances, the economic or medicinal value of the plant are legibly given.

From the above, it is easy to gather that the vote for the garden must have been large, but, as in every other department, it has been, and is still being reduced.

Eleven entrances admit from the reserves, which, with the domain of Government House, enclose the garden; from these, on the highest level, a series of broad, sweeping, undulating slopes fall to the lake—an artificially improved lagoon of the Yarra—at the lowest.

Opposite the various entrances large beds are apportioned to the various natural orders, whilst for nearly two-thirds of the garden circumference a broad border is devoted to the flora of the Australian continent—a singularly complete and useful collection.

Approaching by the office-entrance, two tall Araucaria excelsa on either side of the gate, the magnificent stretch of verdant green known as the "Oak Lawn," is relieved at the bend by a bed devoted to Magnoliaceæ. Illicium anisatum is represented by a good bush 12 feet high. Magnolias obovata, Yulan, tripetala, fuscata, and Campbelli, are amongst others; and Eupomatia laurina, a glossy-foliaged shrub, the young leaves of a pale brown, and said to bear small white sweet-scented blossoms, grows well.

As a single lawn specimen in the rear of the bed is a seedling Magnolia grandiflora. On the other portions of the "Oak Lawn"—so named from its single specimens, for the most part chiefly belonging to that genus, are beds devoted to Berberideæ, Ranunculaceæ, Ternstrœmiaceæ, Saxifrageæ, &c.

Of Oaks, Mr. Guilfoyle considers he has some seventy species and varieties. Amongst the most noticeable on the lawn in question are Q. alba, 30 feet, Q. heterophylla, Q Robur, Q. incana, Q. lusitanica, Q. Mirbeckii, very fine, and two exceptionally even specimens of Q. virens and Q. Ilex. Berberis stenophylla, a flowering mass, 10 feet in diameter, Nandina domestica, 5 feet, and as much through; and amongst the plants of less dimensions, B. cratægina, B. orientalis (?), B. Guimpeli, B. japonica, the strong-growing and distinct B. laxiflora, B. iberica, B. pallida, bearing numerous drooping heads of the palest sulphur-coloured flowers, and B. vulgaris seeding, amongst others represent the Berberideæ. Camellias, Chinese and Assam Tea, a fine bush of the latter now in full bloom, occupy the major portion of the Ternstrœmiaceous bed.

In a mixed border, but a few yards distant, are good bushes of Podocarpus elata, P. totara, 25 to 27 feet high, foliaged to the ground; flowering Tecomas, Daturas, relieve the sombre effect of the heavier Evergreens. In the bed devoted to the Urticaceæ is a large Oriental Plane, the foliage burnt considerably, whilst beneath the shadow of some of the finest Araucaria excelsa in the garden lay the Cistineæ, most of the various species of Cistus at this time in bloom.

The Solanaceæ are close by the fine purple flowering Iochroma grandiflora, the equally decorative scarlet I. lanceolata, both bearing innumerable long tubular blossoms, and Habrothamnus fasciculatus and Cestrum fœtidissimum, equally well flowered, make this bed a gay one.

Amongst the most interesting beds is that devoted to the Proteaceæ, in which I had the satisfaction of noting some old friends from Western Australia, good trees of Banksia integrifolia and B. marginata were both in flower. Leucadendron glabrum and several Hakeas do well, but, certainly, the most curious is Protea cynaroides, with numerous pointed whitish buds and last year's dried flower-heads. Amongst the Polygaleæ many were in flower, a striking similarity in the colour of all being noticable. As might be expected the Pittosporeæ were exceptionally fine, P. rigidum, P. eugenioides, P. tenuifolium, and the more ordinarily met with species being represented by massive bushes.

Mr. Guilfoyle has a good eye for colour, many of the beds being picked out with yellow-foliaged Nerium, purple Castor-oil, yellow and silver variegated Euonymus, Silver Box, the great unwieldy greenish-grey Fatsia japonica (Aralia Sieboldi), purple Iresine, Coprosma Baueriana variegata, yellow Elder; whilst for flowering plants, Artichoke, single and Cactus Dahlias, red Salvia, Indigofera decora, Iris stylosa, Tecoma Smithii and T. capensis, Plumbago, tall bushes of Lasiandra, Ericas, Erythinas, the very handsome purple-flowering Salvia africana, Convolvulus, and Gladiolus are but a few amongst many.

Near by are several beds devoted to a large collection of medicinal plants, every label stating in red the various properties of the plant, in addition to the ordinary information in black. Opposite is one of the many Rose-beds, of considerable area, and containing several hundred plants.

In this immediate vicinity are the sheds for the painters, carpenters, and other workmen. Here I learned that the wood at this moment chiefly employed for labelling is that of Podocarpus dacrydioides and of Sequoia sempervirens, small slabs of which are screwed to stout iron pins. Labels entirely of metal are used in some instances.

Occupying Mr. Guilfolye's attention at the present moment is a large shade-house in which he intends representing by pot plants, all known botanical orders. It is at present but partially completed. The roof consists of three spans, each at an angle of about 55°, 51 feet in width; from the nature of the ground the house is built on terraces, the length of each being 38 feet, the floors are all to be asphalted.

Stringy Bark (Eucalyptus obliqua), Victorian Red Gum (E. rostrata), Oregon, Baltic, and hardwood Pines, are the woods employed, the rafters of the sides being fixed diagonally to break the direct rays of the sun. Three Pinus insignis 80 to 100 feet (of the many specimens of this Pine in the garden none are finer), stand at the head of the Fern-gully, a most distinct feature.

Here Mr. Guilfoyle leaves everything to ramble at will—everything to be as though it had "happened." A walk nearly 1000 feet in length winds through the gully, lined on either side by tree Ferns, Aralia

papyrifera, Astrapea mollis, Ferdinanda eminens, Alsophilas, Dicksonias, Cyathea dealbata and C. medullaris, Strelitzia Augusta, Panax elegans, tall Grevillea Hilliana, and G. robusta, with stems 8 to 12 inches in diameter, and a host of Platyceriums, Aspleniums, &c., Dracænas, Hedychiums, Alpinias, trailing masses of Tecoma and Plumbago in full glory, is a Gleditschia triacanthos, freely bearing its red and black pods. Araucaria Cunninghami towers aloft near a Taxodium distichum, one side of which is lost in the tangled vegetation of the gully.

From the level of the lake, and looking over the



Fig 41.—Disa nervosa: flowers rose coloured. (see p. 308)

Livistonas, Chamærops, &c. All is left to nature. One opening reveals a perfect carpet of Alsophila excelsa fronds on low stems, a delightful picture. A stream runs through, trickling over moss-covered boulders, and fallen Fern-stems,—and a barbed wire restrains the youth of Melbourne.

At the exit, facing the lake, opposite magnificent rustic bridge at the slopes beyond, single specimens of Jubæa spectabilis and other palms, Eucalyptus rostrata, and various Araucarias may be seen; whilst golden Euonymus, variegated Phormium, variegated Arundo donax, purple Iresines, and flowering Pampas, show up well in the surrounding borders.

Near the Fern-gully are three beds devoted to Monocotyledons, Dicotyledons, and Acotyledons, neatly-painted boards explicitly explaining the various differences. In the first-named, Aloe latifolia, with numerous heads of red tubular flowers, and in the second a good piece of Abies Nordmannians, most attracted my attention.

Passing by a fine lot of flowering Cannas, representing the Scitamineæ, the Palmetum is reached. The specimens are as yet young, Jubæa spectabilis, Seaforthia elegans, several Sabals, Diplothemium maritimum, as handsome here as in other parts of the Eastern Hemisphere, and Washingtonia filifera are amongst the more ordinarily represented. Ascending the slope, past the borders devoted to New Zealand vegetation, and passing beneath several fine Eucalypti, such as E. occidentalis, E. megacarpa, E. maculata, &c., the orders Liliaceæ, Amaryllideæ, and Irideæ are reached near a clump of Pinus insignis.

From this point the finest view in the garden is obtained. Stretching away some 1½ mile to the right, over the low valley of the Yarra, rise the spires and domes of Melbourne, the huge business blocks lining Collins Street and the factory chimneys of the largest city of Australia. Immediately opposite, on a high slope, commanding the surrounding country, stands the Government House, in its domain of 60 acres, a handsome solid block in the Italian style, dark Pines, tall Araucarias, winding shrubberies abound in the grassy slopes extending to the edge of the lake. Behind this point is the largest lawn in the garden, close on 14 acres in extent—a large bed devoted to American vegetation, is somewhat small compared with the area it represents; Maurandya Barclayana, Itea virginica, Agave americana, Thuia occidentalis, Ilex Cassine, Prunus serotina, Fuchsia conica, Crataegus mexicana, fruiting freely, convey one's thoughts over some stretch of country. The mixed beds on this lawn are good. Eucalyptus ficifolia, of which Mr. Guilfoyle has some nine varieties, is freely represented, several ranging from crimson to the palest pink, were in full glory at the date of my last visit in January; indeed, at that season, there was more flower generally. Jacaranda mimosæfolia and Sterculia acerifolia, the New South Wales Flame-tree, I particularly miss amongst others. Doryanthes Palmeri and excelsa are now fruiting, as is the possibly most interesting plant in the garden, Doryanthes Guilfoylii from Queensland, with a flower-spike over 7 feet long.

A collection of Cactaceæ faces the entrance to the Palm-house on the summit of the slope. The specimens are well grown, in good condition, but not of great size. Areca madagascariensis, Dæmonorops melanochætes, Areca Verschaffeltii, Caryota Menado, Areca Catechu, Pritchardia grandis, some exceptionally well-developed Stevensonia grandifolia; and in addition to a collection of Dracænas, Caladiums, Dieffenbachias, &c., on the side stages, I noticed Ravenala madagascariensis, 25 feet; Aralia Guilfoyleæ, Heliconia metallica, a fine thing; Dioscorea discolor, D. illustrata, and Petræa volubilis on trellis; Medinilla magnifica, the narrow purple Javanese Musa Rumphiana, &c. Pinus Pinaster does well in this part, and Acacia Baileyana, pale grey in foliage and free-flowering, is very handsome. A rockery lies beyond the borders, devoted to herbaceous plants and annuals, in which the Cactus Dahlias just now make a brave show. Growing freely are various kinds of Arundos, Papyrus, Kleinias, Cistus, Hemerocallis, Acanthus, Ficus repens, variegated Agave, &c.

Again reaching the level of the lake, an island but a few feet from the shore is passed; it is almost entirely occupied by Tea scrub. In the shrubberies near, Sparmannia africana, several fine bushes, 12 to 15 feet high, are now flowering freely; Lavender and China Roses likewise, whilst a circular bed, entirely devoted to Cuphea ignea, is exceedingly pretty. Pinus longifolia (40 feet), Pinus Pinea (30 feet), a magnificent Red Gum (Eucalyptus rostrata), are passed on the way back. Beyond the lake lining the walk are single specimens of Diospyros virginica, Royena lucida, a good Weeping Willow, Veronica passiflora, 10 feet in diameter; flowering Laurestinus and Callistemon speciosus, and Lantana in one shrubbery. A handsome Fraxinus Ornus, Grewia hirsuta, with pinkish star-shaped blossoms; Psidium Cattleyanum, Laurus nobilis, Fraxinus excelsa, 50 feet; Excæcaria sebifera, the handsome Queensland Flindersia Oxleyana, with long, glossy, pinnate foliage, &c. Dracæna Doucetti does well, a handsome piece, 4 feet high, clothed to the ground, is very striking. Erythrinas are good, and well represented; E. Humei and E Blakei being now in flower. Musa Ensete fruits, and Lagunaria Patersonii attains a height of 30 feet.

The Director's house, over the walls of which

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creep Ampelopsis Veitchii, is prettily situated. From the study-window one looks down on several Alsophila australis, their fronds spreading from 20 to 30 feet; to the right stands a Pinus insignis, 80 feet; a Seaforthia robusta, 20 feet, and a Cocos plumosus close on 40 feet; a fruiting Pittosporum undulatum, 18 feet in diameter, occupies a prominent position on the lawn within a few feet of an old Robinia Pseudo-Acacia.

The walk leading to the gate is arched in by two Agonis flexuosa, from Western Australia, a particularly graceful tree, whilst the gate itself is shaded by a perfect specimen of Quercus lusitanica.

The nursery is of no great extent; in one of the two glasshouses, Orchids are largely and well represented, in flower at this moment I noted Coelogyne speciosa, Lælia pumila Dayana, Angræcum sesquipedale, Calanthe veratrifolia, Cypripedium Dominianum, Pholidota imbricata, and Dendrobium Veitchianum.

The Museum of Economic Botany, founded by Baron von Mueller, is of exceptional interest; the Carpological Collection consists of over 2000 specimens, and in the various cases are collections of gums, Eucalyptus oils, dyes, tobaccos, fibres, perfumes, medicinal products, cocoa, coffee, teas, sago, &c., accompanied by dried specimens of the plants they are extracted from, and labels explaining their uses, &c.

Woods are well and largely represented in many instances by fine broad slabs. The section of a stem of Araucaria Bidwilli is 4 feet 7 inches in diameter, the bark alone being 5 inches deep all round. On the walls are massive planks of "Blackwood," Acacia melanoxylon, Podocarpus dacrydioides, P. spicata, and Dacrydium cupressimum, the more general collection being arranged in groups round the sides. As usual, the Japanese Government have sent a collection. Papers and veneers occupy several cases.

The annual three days' Chrysanthemum show of the Victorian Horticultural Improvement Society was opened on April 26. Some of the Japanese blooms were equal in quality and general substance to those grown in England. Incurved varieties and specimens show room for improvement, and in several instances a good effect was spoilt by indifferent staging. *J. H. Veitch.*

(To be continued.)

ROBERT DOUGLAS.

"Robert Douglas was born in Gateshead, near Halifax, in England, in 1813, and having learned the tailor's trade, emigrated to Canada in 1836. Two years later he settled in Whitingham, Vermont, where for a short time he kept the country inn; but the tide of emigration was setting to the west, and in 1844 he drove through the then sparsely-inhabited country to Illinois, and established his home on the shores of Lake Michigan, about thirty miles north of Chicago, in what is now the town of Waukegan. Here he opened a tailor's shop; but in 1848, impelled by a strong love of Nature, which had declared itself in his boyhood when he lived with his parents in Fallon's nursery, near Newcastle, he established a small nursery business. The next year, the California gold fever being at its height, Mr. Douglas joined a party of his neighbours and started to cross the continent. In fording the Bear River, among the Wahsatch Mountains, he lost his team of cattle, and impatient of the slow progress of the emigrant train, walked on alone ahead of his party, crossing the deserts of Utah and Nevada and the Sierra Nevada on foot. After a short stay in California, Mr. Douglas returned home by the Isthmus of Panama, and has since devoted himself to raising Conifer and other tree seedlings, of which he has distributed millions. In recent years, Mr. Douglas has taken large contracts for planting trees in different parts of the country, and the most successful plantations of Catalpa speciosa in the United States were made by him near Farlington, in Kansas, on the line of the Kansas city, Fort Scott and Memphis Railroad, in 1879 83 (see *Sixth Ann. Rep. Kansas Forestry*, 47). No one in his time has been more active than Mr. Douglas in increasing the love of planting trees in the United States, or has studied them from the cultural point of view with greater zeal, intelligence, and success." *The Sylva of North America.* By Charles S. Sargent. Vol. vi., pp. 90, 91. [To Mr. Douglas we are indebted for the Weeping Spruce *Picea* Breweriana. Ed.]

CULTURAL MEMORANDA.

CAMPANULA PYRAMIDALIS.

This old favourite, both the blue and white, are particularly useful when well-flowered in pots, for conservatory decoration. At this place a good number are grown for placing in rooms at the Castle, the flowers lasting a considerable time if the plants are properly attended to in the matter of watering. The plants are raised from seeds sown in pans of loam and leaf soil, pressed firmly together, and placed in a slight warm frame. When the seedlings are large enough for handling, they are pricked off into boxes of similar soil at 2 inches apart, and when they possess nice balls of roots the best plants are potted, and the rest are planted out on a well-prepared bed for lifting either in the autumn or spring. Those in the pots are kept growing, and well supplied with manure-water, and stood in the open. During winter the plants are kept in cold frames, the supply of water at the root being afforded with great care. If these plants are required for indoor decoration, they should be kept in the open air till the flower-spikes are of good height, or they are apt to grow tall and spindly. Being hardy plants, all coddling should be avoided; and a good loam is the best kind of soil for them in the flowering pots, the manure used consisting of dry cow-dung or spent Mushroom-bed stuff. If the plants are finally potted when the spikes are about 1 foot in height, and when the pots are filled with roots fed liberally, both strong enduring foliage and fine flowers will result. *H. Markham.*

Streptocarpus.

These have been more useful to us this season as decorative plants for the greenhouse than any other of the inmates of that house. Some of the eminent seedsmen do not trouble to cross-fertilise, but have produced all their variations by selecting the very best varieties from their groups of seedlings year after year, and in the course of years their strains of plants have attained to a high degree of excellence. By this method any garden flower may be improved in the course of years; but more may be done to produce variation in form and colour amongst garden flowers in three years than can be done by selection in thirty. The sexual organs in Streptocarpus are very prominent, and can easily be manipulated to produce new varieties. The anthers are attached to the corolla, and are quite prominent, so also is the stigma attached to the ovary; it can readily be touched with the pollen from another selected flower, but as a precaution, the anthers of the seed-bearing parent must be removed before the pollen-cases burst. If a flower is allowed to become self-fertilised, it is useless to dust the pollen from another flower upon it. Good form in the seed-bearer, with rich and decided colours in the pollen-parent, according to my experience, give the best results. The seed is quite small, and requires care in getting it to germinate. I sow in February, and, with care in pricking-off the tiny seedlings, they will produce their flowers in the autumn of the same year, and will thus give a good succession of bloom quite into the winter in a warm house. A rather light soil suits them best, composed of, say, two parts good loam, one part peat, and enough of sand to keep the compost open; they will also be better for a portion of well-decayed manure in the compost. When the plants are in growth in the spring, what gardeners term an intermediate-house suits them best, that is, a minimum temperature of about 55°, with a moderate degree of moisture in the atmosphere. When the plants are in flower, they may be removed to the greenhouse, where they flower freely for a very lengthened period, or they will also flower well and do well in the window of a dwelling-house. *J. Douglas, Great Gearies, Ilford.*

Layering of Hardy Grape Vines.

The varieties Pitmaston White Cluster, Black Cluster, and Royal Muscadine ripened well last year, but this season they will have failed to ripen their fruits, or even to develop them to any useful size in any part of the country. It is this uncertainty as to obtaining returns from out-of-doors Grape-vines which prevents anyone troubling himself much about their culture; but under the protection afforded by glass, and without the use of fire-heat, they succeed admirably. The difficulty with amateurs who have no means of striking "eyes" of the Vine in a hot-bed, sometimes acts as a deterrent to Vine culture; but when it is known that layers can be obtained with ease from a Vine growing out-of-doors, this difficulty ceases. The objection to the method of layering as usually practised is, that too much old wood is retained as compared with a bud or "eye;" still, there is a way of doing the work by which much of the old wood is got rid of. The operation should be performed when the leaves begin to fall, 8 inch pots being sunk a little below the surface, and three-parts filled with good soil, pasture-loam if procurable, twisting the shoot to be layered till it splits, and then fixing it in the pot, covering it with soil, and shortening it to two buds.

In the spring, when the shoots from these buds have reached a height of 1 foot, they should be fastened to a stake, and all other shoots which may spring from the layer between the old Vine and the pot cut off. When the shoots have reached a height of 2½ to 3 feet, the upper one must be cut away, training the other to the stake from time to time till it reaches a height of 6 or 7 feet, when it should be topped. The object of leaving two shoots to grow together for a time is to induce the formation of roots in greater numbers than would be the case if one shoot only had been allowed to grow. The layer may be cut off in the first autumn after the operation was performed.

POWIS CASTLE, WELSHPOOL.

The ancient Castle of Powis stands upon a rocky eminence in the centre of the park, and was the old stronghold of the Welsh Princes. It commands extensive views of the long ranges of hills and grand mountains on either side of the valley of the Severn. Powis Castle Gardens have always had a certain celebrity, Pine-growing having been carried on here for a long number of years, and the late William Wildsmith, amongst other noted men, was at one time on the staff here.

The park itself has been justly described as one of the finest demesnes in the kingdom, and is fully three miles in extent, with a magnificent range of finely wooded hills rising to over 1,000 feet above the river Severn, with the castle on one portion of it. The park contains many superb specimens of timber trees, and the richly undulated character of the ground is pleasing.

The gardener's house, an excellent one, is shut in by garden-walls and hedges, giving privacy to it, but is close to the houses in the home kitchen-garden, and here three houses and large pits are devoted to Pines; and Grapes, Peaches, Melons, &c., have houses devoted to them. Young ornamental flowering and foliage plants are grown in quantities for the castle decoration, but the glass portion of the gardens is the least imposing part of the garden work at Powis, though what is done is well done.

There is another kitchen garden a little further away for vegetables, fruit occupying principal attention in the home gardens. Good walls exist here, and Pear trees especially are in fine condition, many of them grand old trees, and well cared for; some of them are 30 feet high, trained up the offices, and have heavy crops, especially Glou Morceau, Easter Beurré, and Swan's Egg. Amongst trees of a less size against the walls, Pitmaston Duchess is bearing a large crop. This garden lies at the foot of the long mountain on which the castle stands, and by means of zigzag hilly paths, with beautifully thick clipped Yew or Box hedges on either side, the lower terrace of the hanging gardens is reached.

These terraces, with their beautiful hanging gardens, as they are called, are cut out of the rock on which the castle stands and are laid out in the Louis XIV. style, with statues, vases, &c.

The lower terrace has a broad walk running along it, with an orchard on a sloping grass bank, and on the other side is a very long wall, on which Peaches and Nectarines in excellent health, and cordon Pears are trained, and in the centre, a flight of steps leads to the second terrace. One portion of the wall 60 yards in length is devoted to Plums and Apricots, and on the eastern end of the wall are fine crops of Duchesse d'Angoulême and Williams' Bon Chrétien Pears. The wall of this terrace is 12 feet high, and supports the third terrace, and is planted with cordon and other Pears; a broad walk runs from the east to the western end, with a large central oval bed in front of the old orangery, with two superb clipped Golden Queen Hollies, and a large vase in the centre. A broad border runs along on either side excepting where the large bed is, and grand circular masses of various kinds of Clematis are seen here, each from 5 to 6 feet in diameter. A very fine Garrya elliptica is a notable object, as are also specimen Cupressus, massive Irish Yews, Tree Pæonies, and clipped Golden and Green Hollies. Dracæna indivisa is hardy here, and bushes of a Japanese Maple, and masses of Scophularia nodosa variegata grow well. At the western end of the wall Peaches and Plums are grown.

On the Orange-house walls, there are fine examples of the Loquat, Pomegranate, Edwardsia grandiflora, and other plants not often seen; and from the sides of this building flights of steps lead to the third terrace, which has a back wall about 14 feet high, on which Figs grow well. Pears also are grown here, chiefly on cordon trees; but there are three or four fine old specimens with excellent crops, especially Beurré Clairgeau and Easter Beurré. A broad walk runs along this terrace, with a sloping grass bank to it; and the eastern end of the wall is covered with Peach trees, in front of which is a border of Carnations and Picotees 200 feet long and 6 feet wide, with from three to eight rows of a sort running across it.

A broad flight of steps leads to the third terrace, on a level with the foundation rock of the castle, the ground sloping towards the front, with a broad curved walk along the centre. Here are very fine specimen Arbutus, Golden Queen Hollies, Irish Yews, Sweet Bay, spreading Cypress, grand, clipped sugar-loaf-shaped Yews, about 24 feet high, and fully 20 feet through at the base; others conical—all of enormous size, and closely clipped. At the east end of this terrace there is a Yew hedge nearly 40 feet high, meeting the rock formation of the end of the castle. Nestling in a corner close by is a good sub-tropical bed, and a long flight of steps leads to the castle. At the foot of these steps there is a charming example of carpet bedding on a sloping bank, in shell-shaped beds on a carpet of Herniaria, each bed consisting of Alternantheras and other plants, and margined with Echeveria secunda glauca.

The upper terrace, 210 yards long, and in front of the whole length of the castle and walls, is a sloping grass bank, with magnificent Yews, ten in number, of various large sizes, the two end ones being about 25 feet high and 20 feet through. All are closely clipped and in excellent condition. Mr. J. Lambert came to Powis Castle Gardens about three years since, and he has done a great deal in sweeping away masses of evergreens on these terraces, in forming sloping grass banks, and opening out the very fine specimen trees. Under his guidance, the beauties of Powis (and they are legion), will be further developed.

The western end of the terrace from the castle walls is 240 feet long, the back wall supporting the courtyard entrance being about 25 feet high. Four fine old Pear trees of great size and age against this wall are in admirable health, well cropped, and rising to the top of the wall. Eighty fine cordon Pear trees have also been planted, several of which are already from 8 to 9 feet high. Beurré Diel, Duchesse d'Angoulême, Olivier de Serres, Catillac, Louise Bonne of Jersey, Beurré Superfin bearing a heavy crop; Beurré Sterkmann, Glou Morceau, Beurré d'Anjou, and Williams' Bon Chrétien were



Fig 42.—Powis Castle, Welshpool. (see p 310)

also all bearing freely. This terrace is rich in clipped Yews; a tall massive specimen, 30 feet wide in the front, with a conical roof, forming a summer arbour. Close by are a massive Irish Yew and two other superb Yews.

The extensive Wilderness, as it is called, is rich in ornamental trees. Here may be seen some fine specimens of Cupressus horizontalis, and many other kinds of Conifers, a monster Magnolia tripetala, a a Cork tree, and a host of other specimens of great interest to lovers of our fine old trees and shrubs. There are miles of well-kept walks through the Wilderness and park. The immense deer park and outer park contain so many noble specimens of timber trees that much time is needed to obtain even a cursory look at them. *W. D.*

PLANT NOTES.

EREMURUS ROBUSTUS.

ONE spike of the above flowered here this summer, and has two seed-pods. A spike of E. himalaicus was 7 feet 3 inches in height, and was covered with flowers 3 feet 6 inches of its height, and is now bearing seed. *R. W. Hosier, Swaylands.*

FRENCH MARIGOLD LEGION OF HONOUR.

This variety is single, of dwarf compact growth, having yellow flowers, with a brownish-crimson centre, and it is an excellent plant for beds or borders. It comes quite true from seed, and withstands bad weather. It is a variety that will greatly please all who may grow it. *D.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

CARPET BEDS.—The continuous rainy weather causes a good deal of attention to be needed by these beds, in keeping the growth of the plants in trim order, Sedums and other ground-work plants soon getting out of bounds. The edges of the figures should be clearly defined, and the surface made level by flattening down. The shoots of Mesembryanthemum cordifolium, when removed in this kind of trimming, should be saved, or at least the best of them, and struck for stock, being careful not to bruise them, and using plenty of sharp sand in the soil. Plunge in cocoa-nut fibre or tan in a pit or frame having mild bottom-heat. Be careful not to afford the cuttings much water; such a frame is suitable for striking cuttings of Alternantheras. In selecting cuttings of these plants, reject all shoots which show a tendency to flower. The sucker-like shoots from the roots make excellent cuttings. If a moist atmosphere be kept in the pit, and the cuttings are shaded from bright sun, rooting soon takes place. After the cuttings are sufficiently rooted, harden them off gradually before putting them on the shelves in an intermediate house. Lobelia speciosa, if kept true to variety, should be struck from cuttings, and these should be selected from the best type of plant. In this way the stock can be much improved, and the habit of growth made uniform, and the colour improved in any given direction.

CALCEOLARIAS.—Cuttings taken at this season, especially those of C. amplexicaulis, which are sometimes difficult to obtain, may be rooted successfully, another batch of them being put in at a later date. This plant has grown very strongly, owing to the moist weather, and requires support and to be neatly tied to canes or stakes. This variety, which is more of an autumn than summer bloomer, does not manifest the malady of dying off when planted out, like the others. Dotted about in the herbaceous borders, it is an effective plant. It is also a useful plant for furnishing cut flowers. A cool frame, shaded from sunshine, suits the cuttings of these plants, and a soil should be used that is not light, or when taken up in the spring, for transplanting previous to bedding them out, a ball of soil and roots will not be obtainable. Fresh loam surfaced with sand is best. Dibble-in the cuttings at about 3 inches apart, having first made the soil firm by treading it. Keep the frame close till the leaves recover their freshness, which will be in three weeks or so, when they may be carefully hardened-off, and the lights removed entirely on all favourable occasions. Calceolaria floribunda, and other varieties, may all be treated in the same manner, but cuttings of C. floribunda are better put in a little later.

TUBEROUS-ROOTED BEGONIAS will have gained favour with gardeners this year, and deservedly so, they keep so bright and cheerful-looking when other plants are past their best.

VIOLAS AND PANSIES, &C., are amongst plants that have done well this year; and sub-tropical plants, although not very bright in colour, are effective still.

FUCHSIAS AND PELARGONIUMS have grown too strongly, but the variegated varieties show up well, more especially the silver-leaved varieties like Flower of Spring. I never remember seeing this variety so effective as this summer. The large-trussed Pelargoniums suffered the worst of all from the rain, the centres of the trusses rotting and not expanding; and Coleus and Iresine are not bright as usual, owing to the lack of sunshine. Hollyhocks seem to revel in the rain, and I have not seen them so telling for years. When all alterations have been settled upon, see that sufficient cuttings are put in to supply all wants, and allow of a good margin for losses.

ALOES.—Suckers or offsets of these may now be taken from the old plants, planting them singly in small pots in a light, dryish soil, making the soil firm about their base. Afford water, and stand them on some coal-ashes in a place shaded from the mid-day sun, and syringe them occasionally of an evening if dry weather occur.

ARRANGEMENTS FOR 1895.—The present is a convenient time for making a bedding-plan for next year, and as a more or less complete change is looked for in most gardens, it is advisable to fix upon one and keep it for reference. Most gardeners will well be able to make improvement in respect to colours, and the kind of plants used.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

BUDDED APPLE, PEAR, AND PLUM STOCKS, ETC.—All those stocks budded in July should now be examined, and tight ligatures loosened, or, where a union has taken place, removed. This is a matter that gardeners should not neglect, as after the growth of a stock begins to ripen, marks left by tight bindings are not readily got rid of. If any buds have started to grow, the upper part of the stock should be cut down, either to a point about 4 inches above the bud, or quite down to it; the first method thus affords a piece of the stem to which the growing scion can be secured with matting, failing which a thin rod must be made use of. Examine all grafted trees, making safe from injury by the wind all grafts which may have become heavy with growth, by securing them to stakes tied on to the stock; and as in the case of budded trees, remove all bandages that are getting tight.

PEACHES AND NECTARINES.—As fast as the trees are cleared of fruit, cut out the shoots which have borne it. This operation, besides doing away with much of the winter-pruning, affords the inexperienced gardener or amateur an opportunity of determining the proper distance between the shoots, the foliage being now of full size, enough space being allowed as will admit of the thorough exposure and ripening of the young wood. In carrying out this autumnal pruning, no injury should result to the foliage of the young shoots, or a check will be given to bud-development; moreover, it should not be delayed, as leaves approaching maturity are readily detached whilst carrying out the work, which is not the case at an earlier part of the season. Strong shoots having laterals growing thereon, should have the best-placed lateral near the base reserved as the new leader, the shoot being cut back to that point. Never lay-in an entire shoot with its laterals, with the idea of filling up a blank space; a little experience soon teaching anyone that so doing is bad practice, rather hindering than assisting in the formation of symmetrically-formed and fruitful trees. Having finished the pruning, with a large syringe or the garden-engine thoroughly wash the trees with clean water. Peach trees of large size, and, in fact, fruit trees of any kind worked on the Plum, which are to be transplanted at a later period, may be root-pruned at the present time. To do this expeditiously, a trench of a width convenient for working in should be dug out at not less than 4 feet from the stem. Having thrown out this trench, with a sharp knife cut back the roots which have become exposed by the digging of the trench, and fill in with the soil. The root ends that are thus severed soon heal and form a callus, and the latter pushes forth roots the next year. Transplanting being done in November, there will be no loss of crop next year.

COBS AND FILBERTS.—Filberts now ripening should be gathered at intervals of five or six days, taking them before they get too loose in the husks. The red-skinned Filbert is an excellent early variety, which is now ripe enough for consumption. Its red skin is a point in its favour, and it should be eaten in the fresh state. Cobs should hang a week or fortnight longer than Filberts, but they must be gathered betimes. The floor of the fruit-room being cooler and less drying place than the shelves, is a very suitable storing place for nuts. Those required for use from Christmas onwards, may be taken out of the husks on wet days, placed in boxes as near air-tight as possible, and again returned to the floor of the fruit-room, where they will keep fresh for twelve months, if required so long.

DELAYED WORK.—Morello Cherries may still have the bearing wood cut out as recommended for Peaches. The pruning back also of foreright shoots and laying in their places the shoots left for filling vacant spaces in Apricot trees, should receive early attention. The protection by means of netting of Pears, on bush, pyramid, and wall trees, should have attention, or the birds first, and afterwards the wasps and flies, will commit great havoc.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

PREPARING FOR THE WINTER.—A most important matter in Orchid culture in the autumn months is the thorough ripening of the growths made during the summer, thus preparing them to live without injury during our winter, always a distressing time for these children of the tropics. They should, as much as possible, be exposed to sun, and opportunity should be taken in favourable weather to open the ventilators, and permit a circulation of air in every part of the houses. These two agencies, light and air, when properly balanced, are the best means we have to give solidity to the growth of pseudo-bulb and leaf, avert attacks of the dreaded "spot," and minimise the ill effects of fluctuations in the temperature of the houses, which are sometimes difficult to avoid. Another precaution that may be adopted against "spot" is careful attention to the drying up of each compartment during the middle hours of the day. In reducing the amount of shading afforded the plants, much discrimination is needed, especially with Orchids which have been accustomed to be heavily shaded, the tissues of such plants being very liable to injury from an amount of sunshine which would have no such effect on plants that have had no more shading than has been absolutely necessary. A great deal will likewise depend upon the aspect of the house, its height, and the distance of the plants from the glass, and only careful observation of the circumstances of each case can decide the quantity of shading required. By reducing the amount by degrees, it will be safe in a few weeks to dispense with it altogether. Whilst on the subject of shading, it is well to remind beginners that certain species of Orchids are liable to be greatly injured if much exposed to strong sunlight either in the autumn or spring. For instance, Phalænopsis, especially those with green foliage; Angræcums, Phaius tuberculosus, P. Humbloti, Cœlogyne Cummingi, C. asperata Lowii, Cypripediums generally, and C. superbiens in particular; Bolleas, Pescatoreas, many small-growing Oncidiums, Masdevallias, and Odontoglossums, are easily affected by too much direct sunlight. Henceforth, those plants which occupy the Mexican division, viz., Lælia anceps, L. autumnalis, L. albida, L. Gouldiana, &c.; Schomburgkias, Barkerias, Cyrtopodiums, Vanda teres, V. Kimballiana, Eulophias, Oncidium splendidum, Odontoglossums citrosmum and Londesboroughianum, will require only the thinnest of shading under any circumstances. It is only plants in houses exposed to sunshine at mid-day that will require shading, and then only from noon till 2 P.M. No doubt these plants delight in plenty of sunshine,

but to enable them to withstand its effects under the roof glass and prevent scorching, a movement in the air surrounding them is necessary, and this is best effected by opening the ventilators.

LÆLIA ANCEPS AND BARKERIAS.—The varieties of this species are now showing their flower-spikes, and should be placed in positions where a considerable amount of sunlight can be obtained. Where a mixed collection of Orchids is grown, and accommodation is small in amount, some difficulty will be found in arranging the plants according to their requirements; but with a little ingenuity a great deal may be done without interfering with the well-being of other plants. By doing this, much can be done to strengthen a plant and improve the colour of the flowers, and save plants that might otherwise be lost. Whether I may rightly place the new Eulophiella, Elisabethæ under the category of plants that do not appreciate sunlight, it is yet too early to decide; still up to the present time our plants have had close shading, which appears to suit their needs admirably, as growth and rooting are both free. It is certainly a species which needs great heat and copious watering, even in the winter. It is advisable to keep the atmosphere in which it is growing well charged with moisture, or thrips and red-spider will give trouble. A suitable contrivance for this plant is to put an inverted flower-pot into a pan of water, standing the plant upon it, and in that manner keeping these injurious insects at a distance.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

WINTER ENDIVE.—The blanching of Endive should be followed up at short intervals, and plantings made from the last sowings, watering the plants should the weather be dry at the time.

CELERY.—Earthing-up should be regularly carried on as fast as the plants have grown above the previous addition of soil, the soil and plants being dry at the time. Upon light soils, and in the absence of heavy rains, it will be advisable to afford the plants root watering before each earthing-up, but waiting till the plants are again dry in leaf and stem. Liquid manure, or some kind of artificial manure may be used if the growth is not very strong or quick. If slugs are troublesome, dust the plants with fresh soot.

BRUSSELS SPROUTS AND KALES.—If these need any assistance, now will be the time to give it, in the shape of a dressing of nitrate of soda or liquid manure, hoeing the land after using nitrate. If the foliage of late Cauliflowers does not meet between the plants, the plants will be much benefited by such dressings.

TURNIPS.—It is very important that late sowings should have early attention in the matter of thinning, crowding at this season being detrimental to a crop. A proper distance apart to leave the plants now is 8 inches, and the hoe should be frequently used between the rows. Earlier sowings now forming bulbs may be assisted with a manurial dressing, and be hoed for the last time.

ONIONS.—August sowings should have an occasional hoeing, and a dressing of fresh soot or of nitrate of soda, a dressing applied now being more effective than later. All mature Onions being dried should be laid out thinly, and if heaping them is unavoidable, the heaps should be turned on alternate days.

COLEWORTS.—Continue to plant out these and Cabbages for early use, whenever spaces can be found for them. The hardy green Colewort is the best to plant at this season.

PLANTS UNDER GLASS.

By J. McLeod, *Gardener, Dover House, Roehampton.*

HINTS ON CURRENT WORK.—It may seem to some gardeners rather early to pot up Eupatoriums, Bouvardias, Solanums, Salvias, &c., but in my neighbourhood and others where fogs prevail during the months of November and December, the above-named plants require to be well-established in their pots and the wood well-ripened, otherwise the leaves will soon drop, and the prospects of a good succession of flowers are poor. The preparatory cutting of the roots at a suitable distance from the stems, having been some time since performed, the plants may forthwith be potted up, first removing all the worms from the soil. The pots should be well drained and quite clean, and the soil a good loam, a quarter of the whole consisting of partially-decayed horse-dung, and enough coarse sand afforded as will render the compost easily permeable to water. Press this compost firmly about the roots, and stand the plants in a shady place for a fortnight, syringing them in sunny weather. Towards the end of the month, remove them to a sunny position, and in such a manner that the sun reaches all parts. Such as have been growing in pots throughout the season may now be afforded weak doses of soot-water, and liquid dressings of sheep's dung and farm-yard drainings twice a week. Cyclamens needing a stimulus to growth should have similar treatment, care being taken to keep the foliage untouched by the manures used.

TREE CARNATIONS.—Examine freely-growing plants for green-fly, fumigating mildly on two consecutive nights if any be observed. If tree Carnations are scarce, the border varieties may be potted, three in a 6-inch pot. The best for this purpose are Gloire de Nancy, Crimson Clove, Walter Ware, G. H. Sage, and Mrs. Reynolds Hole. Failing these varieties, good results may be obtained by employing some of the border varieties which possess a robust habit of growth, which, if not unduly hastened by artificial warmth will flower freely.

CROTONS.—The present is a good time to top plants that have by reason of frequent use in indoors decoration become unsightly, the ringing process previously noted being again put in practice, when tops of from 9 inches to 1 foot in length have to be dealt with; smaller tops being dealt with in the usual manner. All those Crotons which have been ringed and mossed should be stood together in the shadiest part of the house, to facilitate the emission of roots.

DRACÆNAS.—Leggy and ragged specimens may also be cut down, the stems cut into pieces three-quarters of an inch in length, put into pans filled with sand and peat in equal proportions, and stood in the propagating-pit, potting them singly in 60's when growth of top appears, using a sandy potting soil. If the tops are healthy, with some sound leaves, they may also be put into 60's, and plunged in a brisk bottom-heat.

FOLIAGE BEGONIAS.—The potting of these into 60's should not be delayed, the young plants now growing freely, and therefore likely to injure each other if not separated. Another batch of large leaves may be placed on to pans of sand, the ribs being broken in several places. Cuttings should also be put in of Begonias Arthur Malet and Mons. A. Hardy, these making useful winter plants.

PANAX VICTORIÆ.—As this is a plant which roots freely at any time of the year, cuttings rooted at this season, and potted first into 60's, and later into 48's, soon make useful decorative subjects.

THE APIARY.

By Expert.

CONTRACTING HIVES.—The brood chambers of hives may soon now be contracted to the number of frames the bees are able to cover, and although a plan not universally adopted, it is no doubt a wise one. Bees are not nearly so liable to dysentery when this is done; and economy is effected, as combs left in hives all the winter that the bees do not require to cluster on, are generally affected by the damp, so that when spring comes round they are often found to be mildewed or rotten, and thus rendered useless. Dummy frames, to take the place of the frames that have been removed, may be easily and quickly made by nailing a piece of ¼-inch wood on each side of an empty standard frame, letting it project ¼ of an inch on each side, so that it will touch the sides of the hive, and by fitting tightly keep all snug and warm. The inside of the dummy may be packed with chaff, sawdust, peat-moss, or any warm material nearest at hand.

WINTER PASSAGES.—It is not the practice now to mutilate combs by cutting holes through them for the purpose of providing winter passages. It is necessary, however, to adopt some plan to prevent the bees from having to pass round the ends of the frames in the winter, when the position of the cluster has to be changed through food getting exhausted. If two pieces of wood, about three-eighths of an inch square, are laid across the tops of the frames an inch apart, and the quilt placed over, a channel will be provided in the warmest part of the hive, through which the bees can obtain access to any combine the coldest weather.

WARM COVERING AND VENTILATION.—Several thicknesses of felt, old carpets, flannel, or other warm material, should be provided for each hive, and to prevent these from getting damp and mouldy, hive roofs should be so arranged that there is a current of air through them. If the quilt used for the hive is American cloth, the entrance should be left open 6 inches all the winter to ensure sufficient internal ventilation; but if it is made of calico or other pervious material, 2 inches will suffice, taking care that it is looked to from time to time and kept clear of dead bees.

HIVE ROOFS.—These will require attention, to see that all are water-tight. Small leakages may be made good with white lead, but if of an extensive character, it may be found necessary to nail on pieces of tin or felt to keep out the moisture.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

TOMATOS FOR LATE FRUITING.—All plants, whether in pots or beds, should have attention paid to the fertilisation of the flowers, the prevailing sunless weather not being conducive to their impregnation, so that shaking the plants, or distributing the pollen by means of a soft brush, are very necessary. Fire-heat will now have become needed to keep the temperature from falling below 55° at night; failing this, the leaves will turn of a yellow tint, and the flowers drop. Pinch out the laterals, and train the leaders onwards, doing what is necessary to obviate crowding of the stems or shoots, but do not cut off or mutilate the principal leaves in the neighbourhood of the fruits. I have found that if a good set be not obtained in September and October, fruits are few in the winter. Where fruits of good shape are required, thin out freely directly they are large enough to thin out, and top-dress with loam and rich manure. Cut the ripe fruits as soon as they are fully coloured, keeping them in a cool place. The question is often asked—is the Tomato a fruit or a vegetable? and it would be an advantage to growers and exhibitors if some definite answer could be given to the question. It is said by some of our best gardeners that Tomatos, Cucumbers, and Vegetable Marrows should be classed as fruits; and, certainly, some amount of confusion would be avoided by a decision being arrived at on this point.

PEACHES AND NECTARINES.—Trees in the early houses will now be casting their leaves, and a gentle brush over with a light birch switch, or a shake of the trees or the trellis would remove many, and let the sunlight into the trees. Young trees making wood of too great strength should be carefully lifted and replanted. If the house requires painting, the present is a good time to get such work done; the pruning, training, cleaning, &c., may likewise be proceeded with after the leaves have fallen. If brown-scale or mealy-bug infest the trees, use petroleum-and-water when the trees are in a state of rest, as previously recommended. [For insects which suck, the *Canadian Horticulturist* recommends hard soap, ½ lb.; boiling water, 1 gall.; kerosine, 2 galls. Dissolve the soap, and churn with the syringe for ten minutes. Dilute ten to fifteen times before using. Ed.] Late trees, the wood of which is not ripening satisfactorily, will be benefited by a small degree of artificial heat being applied, air being at the same time freely afforded. Keep the shoots at widish intervals apart. Trees in unheated houses, and those that have not ripened their fruit, should be exposed to the light as much as possible, keeping the house warm and dry, or the fruit will have scarcely any flavour. Removeable lights of early or midseason Peach-houses may now be taken off.

VINERIES, in which the ripening of the fruits is not finished, should be carefully ventilated and artificially warmed, a small quantity of air being afforded by means of the upper lights during the night. The Muscat and Alicante Vines should have a night warmth of 60°, and by day of 70° without sun-heat, and 10° higher if the weather be sunny. Keep laterals thinned out near the bunches; but I advocate the retention till the fruit is ripe of such young shoots as do not shade the bunches. Attend to the watering of vine borders, especially those inside the vineries where Grapes have to be kept through the winter. These Grapes require to be thoroughly ripened and full of juice, so that the berries do not soon shrivel, and these cannot finish well if the soil is dry, nor will they do so if it is too moist. If the rainy weather should continue, outside borders will need to be protected with shutters or tarpaulin.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	SEPT. 17	Dutch Bulbs, at Protheroe & Morris' Rooms. Engravings and Prints, at Protheroe & Morris' Rooms.
TUESDAY,	SEPT. 18	Dutch Bulbs, at Protheroe & Morris' Rooms. Engravings and Prints, at Protheroe & Morris' Rooms.
WEDNESDAY,	SEPT. 19	Dutch Bulbs at Protheroe & Morris' Rooms. Engravings and Prints at Protheroe & Morris' Rooms. Annual unreserved Sale of Greenhouse Plants, at the Floral Nurseries, Maidenhead, by order of Mr. Bowen, by Protheroe & Morris. Sale of Leasehold Nursery at Plumstead; also Stock, by order of Mr. C. N. Newman, by Protheroe & Morris.
THURSDAY,	SEPT. 20	Dutch Bulbs at Protheroe & Morris' Rooms. Engravings and prints at Protheroe Morris' Rooms.
FRIDAY,	SEPT. 21	Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—57°.

British Wines.

THE lecture of Mr. PETTIGREW before the Royal Horticultural Society on Tuesday last attracted much attention. Vineyards existed in many places in the South and West of England in monastic times, but we suspect it has been reserved for the Marquis of BUTE to produce wine in England, or rather in Wales, of the value of 115*s.* a dozen! Mr. PETTIGREW has shown that it can be done, and he has shown moreover, that whilst in most seasons the yield is commercially not remunerative, yet in other seasons, so much wine and of such quality can be and is produced as to compensate for the poor produce of the bad years. The wine-grower, then, must take the average of seven or ten years if he wishes to know whether the crop is a profitable one. There is nothing unusual in this; the Kentish Hop-growers have to adopt a similar plan. Mr. PETTIGREW gave a full account of the plantation and management of the vineyards near Cardiff, and of the manufacture of the wine. Full details on these points were also given, as a result of a personal inspection of the vineyards, in our columns last year (September 9, 1893), so that we need now only refer to the more important points. Mr. PETTIGREW, a highly competent cultivator, was sent by his employer to France to learn the details of culture and management in the vineyards, and the results show how much he has profited by what he saw. The Vines are grown from cuttings, which are struck in the garden, and after three years are transplanted into the vineyard in rows a yard and a half apart, running from north to south, each Vine being about a yard from its neighbour. Each Vine is tied to a stake 4 feet in height, and the canes are cut back each year to two eyes. The variety which has proved the best for the purpose is a black one called Gammy Noir. There are two vineyards, one at Castle Coch, 5 miles from Cardiff; and one at Swanbridge, close to the shore. At Castle Coch, which is distant 5 miles from the sea, the vineyard slopes to the south, and is protected from the north by a wood, and from the east and west partially by hills. The soil is a red friable loam on a broken limestone rock, and no artificial drainage has been required. The first Vines were planted a little more than eighteen years ago.

The first wine was made in 1877, and amounted to forty gallons, but in the following year the produce was poor; whilst in 1879, although the Vines broke away well, and showed abundance of fruit, the season was so very bad that not even a bunch was ripened. A bad season, when the fruit is not ripened, generally (but not always) means two bad seasons, as the wood is not matured thoroughly in such a year. In 1880 the crop was again a failure, but in 1881 some excellent wine was made, a good portion of which was sold to a wine merchant at Cardiff at 60*s.* a dozen bottles, and some of this, when sold from the cellar of Mr. LAWSON TAIT, at Birmingham, last year, fetched the wonderful price of 115*s.* a dozen. In 1882 and 1883, failures were again sustained, and the Vines on the Castle wall also failed to ripen any fruit. During 1884 the vintage amounted to 4 hogsheads, and the same quantity was made in 1885, but complete failure followed in 1886.

Here it may be remarked that the results of the Grape growing experiment during the preceding years were thought by the Marquis to be sufficiently promising to warrant further planting, and instructions were given to Mr. PETTIGREW to select any sites in the South Wales district he thought suitable, and to make additional experiments. A field of 11 acres at Swanbridge, 7 miles from Cardiff, lying close to the Channel, and sloping to the south, was selected amongst others. The soil and situation of this one are very similar to that at Castle Coch, but the depth of soil is much less, not more than 8 inches in many places covering the limestone rock. An acre of this was planted in 1887 with cuttings, in the absence of rooted plants, at a distance of 3 feet either way, but the season was dry and many died. The following spring the gaps were made good, but still little headway was made, until the third year, when becoming fairly established they made good canes, and since then they have thriven remarkably. The yield is earlier than that from Castle Coch, and from its proximity to the Channel less danger exists from spring frosts. There are 2 acres planted now, and propagating will be continued with the intention of planting an additional acre each year. The site is now expected to prove a more favourable one than that at Castle Coch.

In the course of his narrative, Mr. PETTIGREW spoke of the warm, dry season of 1887, which many of our readers will remember. During this season there were seven hogsheads of capital wine secured. The rainfall in that year in the district where the vineyard is situate was 29·22 inches, which fell on 160 days.

Another tolerably good year was 1890, and 6 hogsheads were made, the rainfall for the year being 31·52 inches, which fell on 189 days. The following summer was a remarkable short one, and the vintage was only 2 hogsheads. In 1892 the temperature and the rainfall were below the average, the Vines were frosted when showing flower, and only two hogsheads of wine were yielded. The rainfall in 1893 was 33·56 inches, there was abundant sunshine, and an enormous crop of first-class fruit, being by far the best yield and vintage up to date. Forty hogsheads of wine were made, and of such quality that the value of the vintage is estimated at £3,000, computing the wine to fetch not less than 60*s.* a dozen. Moreover, the Grapes ripened last year nearly a month in advance of the usual time, another illustration of the *annus mirabilis* we recently referred to. The crop last year is computed to have paid the rent of the land ever since the Vines were planted, and the whole of the cost of the labour expended upon them up to date. The present season, however, furnishes another disappointment: the Grapes did not set until the middle of July, and the weather has been so cold and sunless, that the yield may be counted as next to none.

The Fellows of the Society had the opportunity of tasting the wine on Tuesday, the lighter kind, not unlike Sauterne, being generally preferred. Wine of another vintage seemed rather strong and heady, as if spirit had been added, but this we were assured was not the case. The wine is not fortified, but is the pure juice of the Grape, with a little sugar added, when necessary, to compensate for the defective sunlight. A good number of the hogsheads made last year were made without any cane-sugar whatever.

During the short discussion which followed the reading of the paper, Mr. J. WRIGHT urged that there are sites in the south of England on the limestone or chalk, with a shallow loam, and where the rainfall is considerably less than in South Wales, and he hoped that some one would be enterprising enough to make the experiment. Mr. PETTIGREW had proved that in his district it was possible to produce a home-made wine superior to and more wholesome than much of that imported from the Continent; and with more favourable sites in the south of England, he believed equal results could be obtained. Such an opinion, we can endorse, but the experiment, if made, must be made by someone thoroughly able to do it practically, and in the same careful manner that has been followed at Cardiff. The most important questions of all are those of site, soil, and climate. Mr. ROUPELL, in discussing the best varieties for wine-producing, urged that a proportion should be grown in unheated structures to mix with those from the open field, and in order to supply the necessary saccharine matter; but in the case of Lord BUTE's vineyard, a good quantity of fruit from the Castle wall, where Black Hamburgh and other varieties ripen well, serves this purpose admirably. This wall was figured in our issue above referred to.

Mr. OWEN THOMAS read extracts concerning vineyards that used to exist at Windsor, in connection with the Castle, as far back as 1155, and even as late as 1820, though whether continuously or not, is not known. Wine was made for the household from this vineyard, and some was sold for the king's profit.

SENECIO LATIFOLIUS (*Banks and Solander*).—For the opportunity of figuring this New Zealand species (fig. 43) we are indebted to W. E. GUMBLETON, Esq.; and add what follows from Sir JOSEPH HOOKER's *Handbook of the New Zealand Flora*, p. 159 (1867). "A tall, branching, glabrous herb, 2 to 3 feet high. Stems flexuose, furrowed. Leaves membranous, 4 to 8 inches long, very variable, lower on long-winged petioles with toothed auricles, oblong, lobulate, and toothed; upper more fiddle-shaped or ovate oblong acute, contracted below the middle and again expanding into toothed auricles, 1 inch broad; in young specimens the leaves are scaberulous, lanceolate, and toothed. Heads, ½ inch diameter, in large corymbs with spreading branches; involucral scales short in one series, linear acuminate; rays slender, ¼ inch long; pappus very soft, white, slender. Achene strongly ribbed, hispidulous."

LINDLEY LIBRARY.—Among the donors to the Library Fund are Lord Justice LINDLEY, who contributes £5 5*s.*, and the Horticultural College, Swanley, and now that the circular has been issued we hope an adequate response will be given.



Fig 43.—Senecio latifolius: hardy shrub. (see p. 314)

M. Auguste Linden.—We are enabled to supplement the list of Orchids introduced by this gentleman, and which we published when announcing his death a short time since:—Dendrobium stratiotes, Strebloceras inauditum, Spathoglottis Augustorum, Vanda Lindeni, V. Massaiana, Aërides Augustianum, Lissochilus giganteus, Ansellia congoensis. Among plants belonging to other orders we may name Colocasia Villeneuvii, Alocasia Augusti, A. Lindeni, Phrynium variegatum, Hæmanthus Lindeni. We take these details from the *Illustration Horticole*.

Royal Horticultural Society's Fruit Show at the Crystal Palace.—Difficulty having arisen in respect to Note 4, p. 3, of the Schedule of the Crystal Palace Fruit Show, September 29, October 1 and 2, may I ask you to state that the exact dimensions of the Grape-stands fixed therein will not be rigidly enforced. Stands of any reasonable size may be used. *W. Wilks, Secretary, R.H.S.*

The Botanical Magazine.—The September number contains coloured figures and descriptions of the following plants:—

Salvia macrostachya, Kunth.—An Andean species, growing at a height of about 10,000 feet in Ecuador and New Granada. The plant is an undershrub, with long-stalked, hairy, cordate, ovate leaves, and terminal clusters of lilac flowers, the limb of each flower measuring about 1½ inch in diameter. Flowered in cool greenhouse at Kew; t. 7372.

Rhododendron Schlippenbachii, Maximowicz.—Manchuria Korea. See *Gard. Chron.*, 1894, i., p. 462, fig. 58; t. 7373.

Fritillaria aurea Schott, Baker, in *Gard. Chron*, 1876, p. 720; *Garden*, July 23, 1892.—A species with drooping flowers, yellow, and slightly tessellated. Asia Minor; t. 7374.

Trochodendron aralioides, Siebold and Zuccarini.—See *Gard. Chron*, 1894, vol. i., p. 716, fig. 91; t. 7375.

Sobralia sessilis, Lindley (not of *Bot. Mag.*, t. 4570, which is S. decurva, Bateman).—A Guianan species, with relatively small, rose-coloured flowers, and an oblong projecting lip of a deeper colour; t. 7376.

A National Potato Show.—Mr. Alex. Dean, 62, Richmond Road, Kingston-on-Thames, has issued the following circular concerning the above object. "Having heard many wishes expressed by persons interested in Potatos for a revival in some shape of the old Potato exhibitions, I have to ask your consent to allow me to make widely known that desire through your columns, and to invite the opinions of others equally interested in Potatos with respect to the suggestion. Should the coming Great Fruit Show at the Crystal Palace become a permanent institution, no better opportunity or more convenient place would offer for the revival. That would at least show that in no sense was the proposal put forth in antagonism to the Royal Horticultural Society; indeed, the promoters would look for and no doubt secure the kind co-operation of the Royal Horticultural Society, as afforded to the old show committee, through the use of Chiswick Gardens for trials of new Potatos. I venture to support the suggestion of a revival of these shows, because now I am absolutely independent of all Potato interests other than such as attaches to a love for the tuber that knows no abating. What I would ask, therefore, is of all persons desirous of seeing National Potato Shows revived, that they will kindly communicate to me early their opinions. If the verdict is for, then I think it would be most fitting to invite all favourable to a meeting, which I am sure the Crystal Palace authorities would readily find room for, on the first day of the Great Fruit Show—viz., the 29th of the present month; and a duly representative committee could then be formed to promote the first exhibition next year."

Dundee Horticultural.—We have received a report of the annual show of this Society, held in the Drill Hall, Dundee, on the 6th inst., and opened by the Right Hon. Lord Kinnaird. The various classes for fruit, plants, cut flowers, and vegetables were well contested, a capital show being the result. Mr. Robert Grossart, gr. to Mr. J. M. Keiller, Binrock; Mr. Adam Young, gr. to Mrs. Gilroy, Dunalestair; Mr. Geo. Masson, gr. to Mr. J. B. Whitelaw, St. Fort; Mr. Peter Marshall, Balmore; Mr. Thos. Butchart, gr. to Mr. John Robertson, Emslea; Mr. John Dobbin, gr. to Mrs. Littlejohn; and Mr. John Collie, Invertay, were among the principal prize-winners for plants. Mr. Richard Cairns, gr. to Mr. J. M. White, Balruddery; Mr. Jas. Beisant, Castle Huntly; and Mr. A. Cameron, Toggyley, were conspicuous in the fruit classes. Miscellaneous exhibits were numerous, and of such a character that they helped largely toward making a fine display.

Rose Budding.—A new material for binding Rose buds is a flat band of caoutchouc. In Austria it is employed for Vine-budding. The band is 4 mm. wide and 126 mm. long. The use of this material is very simple, and proves a hermetical as well as an elastic binding. When the graft has taken, the bandage falls off. It is necessary, however, to buy a good quality of caoutchouc, as all sorts have not the same durability.

Ayrshire Gardeners' Mutual Improvement Association.—The monthly meeting of this Association was held in the Carrick Street Hall, Ayr, on Thursday evening. There was a large attendance of members, presided over by Mr. Halliday, Curtican. The item on the syllabus for the evening was a paper by Thomas Gordon, Ewenfield

Gardens, Ayr, entitled "The Orchard House." Although the last paper of the session, it by no means proved to be the least interesting, Mr. GORDON doing full justice to his subject. He also exhibited a collection of Pears of large size and fine quality grown in the orchard house at Ewenfield. At the conclusion, Mr. GORDON was accorded a hearty vote of thanks. A quantity of cut blooms of Carnations, Mexican Primrose (?), &c., sent from Riverston Gardens, Ayr, attracted much attention, especially the Carnations, some of which were very fine. The Chairman intimated that the Annual General Meeting would be held on Thursday evening, October 4, when office-bearers for the ensuing session would be elected. A vote of thanks to the Chairman brought the meeting to a close.

LETTUCES UNDER GLASS.—Professor L. R. TAFT contributes to a recent number of the *Florists' Exchange* a paper on "Lettuce-raising under Glass." This industry is certainly one to which English growers might profitably attend. In winter and early spring, high prices are paid for French Lettuces, which might, with but a little shelter, be quite easily raised in our own country to a very much larger extent than at present. American growers have led the way; though with them the industry is still comparatively new, it has already proved a very profitable one, and in the year 1892 alone several hundred thousand square feet of glass were used in erecting Lettuce-forcing houses. Mr. W. W. RAWSON, of Arlington, Mass., is one of the principal growers; one of his houses, measuring about 400 by 50 feet, is found by him to yield better results than those of smaller dimensions. An important matter is the selection of good seed, which, of course, varies according to locality and demand. The other requirements are a good, moderately rich soil, ventilation, constant watchfulness against the attacks of disease and insects, and a temperature ranging from 50° to 75°. With moderate attention, Lettuce-raising under glass could be made to yield excellent and speedy results.

"TELLUSTRIA."—This pamphlet is devoted to "A Method for Determining Astronomically the Variations in the Temperature and Pressure of the Atmosphere." The author, Mr. B. G. JENKINS, F.R.A.S, expresses the hope that the system to which he devotes his pages may be the basis on which, in the future, weather may be confidently forecasted. His conclusions for the future are all grounded upon observations made in the past; on the study of the "Telluric curve" in conjunction with simultaneous thermometric and barometric readings; and though admittedly but elementary at present, are believed by him to promise more definite and perfected results when more time has been devoted to them.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE ET DE JARDINAGE."—This useful publication has reached the 29th Part, extending from Hab. to Hel. The whole volume will be completed in eighty parts, each composed of forty-eight pages, and including a coloured plate. The chromo given with the last issue represents Inula glandulosa.

JAMAICA BULLETIN.—The June part of the Bulletin of the Botanical Department, Jamaica, contains the following papers:—Report on Ginger Crops, Influence of Eucalyptus Plantations on Malarial Districts, Synoptical List of Ferns (continued), and a List of Contributions to the Department.

STOCK-TAKING: AUGUST.—As will be seen, the differences in both imports and exports are against us: the decrease in imports during August is represented by the large total of £3,364,251, as compared with August, 1893; the fall in exports for the past month is represented by less than a million, £948,933 (August, 1893, reading £19,530,178, as against £18,581,240 in the past month). The eight months just ended, however, show an increase in the imports over those for the same period last year amounting to £8,542,388; the exports a falling away of £3,096,241. By the way, it is encouraging to note that the working-man's pipe is doing more active service, there being an increase in the imports of the "weed" for the past month. The following figures are those usually given as of interest to the reader, and are from the monthly returns of the Board of Trade:—

IMPORTS—AUGUST.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	35,002,772	31,638,521	—3,364,251
(A.) Articles of food and drink—duty free	13,795,999	11,908,426	—1,887,573
(B.) Articles of food and drink, dutiable	2,126,268	1,800,560	—325,708
Raw materials for textile manufactures	3,111,224	2,448,420	—662,804
Raw materials for sundry industries and manufactures	4,781,648	4,512,360	—269,288
(A.) Miscellaneous articles	1,307,673	1,133,045	—174,628
(B.)—Parcel Post ...	43,102	71,779	+28,677

The accompanying extracts from the general mass of figures, and with which the reader is more particularly concerned, may be read together with our remarks on the crops of our own country; even by themselves they are interesting as emphasising the "outside" weather chronicle for the past two years:—

IMPORTS—AUGUST.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	223,923	338,310	+114,387
Cherries ... ... ,,	4,613	522	—4,091
Plums ... ... ,,	263,972	422,836	+158,894
Pears ... ... ,,	302,137	467,100	+164,963
Grapes ... ... ,,	148,844	117,213	—31,631
Unenumerated ... ,,	182,069	244,676	+62,607
Onions ... ... ,,	510,864	389,408	—121,456
Potatos ... ... cwt.	60,765	51,463	—9,302
Vegetables, raw, unenumerated ... ... value	£ 148,994	£ 146,806	£ —2,188

It was predicted by many that our

EXPORTS

to America would go up with a bound as soon as the new tariff had become law; considering the large amount of British and Irish manufactures in bond with our cousins, the anticipation was a "vain and foolish thing," but these whilom bonded goods are now distributed throughout the length and breadth of the United States, and we are entitled to look forward to a rise in many kinds of goods during the passing months. At home there is an improvement visible over a wide field of manufactures, but our own harvest prospects may have much to do with this. What Protection has done for the consumer in the States is illustrated by sundry facts now being published. Sugar has been protected to suit the interests of what may be termed a sugar-ring, which, during three years, drew from the pockets of purchasers some 25,000,000 dols.—or, say, £5,000,000—not for a more liberal supply or better product, only by reason of enhanced prices! As a flood of light is now being let in upon the doings of "trusts, or syndicates, or rings," all over the Great Western Republic, we can believe that the prospects of Free Trade will soon become fairer. Looking at the imports of timber, we are for the moment reminded of the terrible destruction of forests in the Far West—not to mention that of houses and the dwellers therein; of the latter, this is no place on which to speak; but it is recorded that one company of match manufacturers—the Diamond—have lost 150,000,000 fine trees by the conflagration; that whilst 700 million feet of Pine timber has been "scorched" in one State, 300 million pieces of Cedar have been lost in another. Full particulars will doubtless be to hand at an early date. It may also become a question of some moment to timber proprietors in the West whether the practice of forestry cannot be improved so as to minimise the sources of possible danger in such abnormally hot seasons as that experienced in the present year. In closing the record for the past month, it is but right that attention should be drawn to this, in many cases, low prices of goods exported. It is safe to say that never before have such low figures been reached—the volume being greater than at the same period in 1893. Nor should we fail to remember that imports have to be reckoned with in the same way, in some instances a profitable return to the speculator being somewhat problematical.

MUSA BASJO.—Canon ELLACOMBE, writing of this hardy Musa, says it dies down in the winter, but the summer growth is 8 feet in height, whilst each leaf is more than 4 feet long and nearly 2 feet broad. It is a grand thing for a sheltered corner. Our first acquaintance with this species was in the nursery of Messrs. VEITCH at Combe Wood, near Kingston.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—The success attending this exhibition was remarkable, and probably has not been exceeded. The entries numbered some 2050, which is a higher number than upon any previous occasion. The Waverley Market was filled with tables and groups of plants, and indeed some had taken their stand beneath the gallery. The exhibits upon the whole were above the average, and a large number of the classes were very keenly contested. The beautiful weather of Wednesday last brought together a large number of visitors, the popularity of this show being proverbial. A full report of this show will appear in our next issue.

PUBLICATIONS RECEIVED.—We have received the April to June *Proceedings of the Agri-Horticultural Society of Madras.*—*Transactions of the Massachusetts Horticultural Society for* 1893; Part II.—*Journal of the Japanese Horticultural Society*, June, 1894.—*The Tropical Agriculturist*, August.—*The American Florist*, August 25.—*The Florists' Exchange*, August 25.—The July number of the *Bulletin of Miscellaneous Information*, from the Royal Botanic Gardens, Trinidad. The contents include papers on "Liberian Coffee;" "Cacao Drying;" "Peas for Tropical Culture;" "Glass Houses for the Tropics;" "West Indian Fruits;" "Central American Rubber," &c.

PLANT PORTRAITS.

ACTINOMERIS HELIANTHOIDES, *Meehan's Monthly*, September.

ANEMONE APENNINA, *Garden*, August 18.

APPLE CALVILLE DUQUESNE, *Bulletin d'Arboriculture, &c.*, September.

AZALEODENRON JULES CLOSON, *Revue de l'Horticulture Belge*, September.

HOME CORRESPONDENCE.

FRUIT AND THE MAY FROSTS.—I have read the reports of the fruit crops published in the pages of the *Gardeners' Chronicle*, but nowhere have I noticed in the remarks made, that the frost was so severe as here. I may say that our kitchen garden has a stream of water running through the middle of it, which, I think, was one of the causes of the frost being so intense. The thermometer, hanging at 3 feet above the ground, indicated on May 21, 14°; on the 22nd, 10°; 23rd, 5°; and 25th, 11° of frost. The result of this low temperature was the complete destruction of blossom, and of young shoots on trees and shrubs; and in my twenty-five years' experience I have not witnessed fruit trees of all sorts look so beautiful with bloom, or more promising for a crop of fruit, than was the case up to May 21. *James Elworthy, Place Newton, Hillington, York.*

APPLES AT MAIDEN ERLEGH.—Although far from having the very fine crop of last year, yet Mr. Turton has, on his bush trees in the kitchen garden, much heavier produce than is generally found, whilst there is hardly a fruit to be seen on the standard trees in the orchard. Those varieties which bloomed early, and were set before the heaviest of the rains in May, have fruited very well, whilst those that bloomed late have scarcely any fruit. If this surmise be the correct one, and especially, seeing that Pear bloom, which was fully expanded some two or three weeks

earlier, proved to be so remarkably fertile, it is obvious the advocacy of late-blooming sorts of Apples as most likely to escape frost is absurd; indeed, we see once more that seasons, in their effects, give to us no guide whatever in relation to sorts to be planted. Very good fruiters this year at Maiden Erlegh are Peasgood's Nonsuch, Stirling Castle, Warner's King, Frogmore Prolific, Potts' Seedling, Bismarck, Mère de Ménage, Sandringham, Rymer's Pomona, Cellini, Ecklinville Seedling, Schoolmaster, Manks Codlin, Emperor Alexander, Blenheim Pippin, Bramley Seedling, and a few others, chiefly of the kitchen section, are very good indeed for the year. Dessert sorts, on the other hand, are very thin, and the famous Cox's Orange Pippin has not a fruit. That Apples will be so fine and bright as last year is not at all probable. In the Reading district some early and very heavy hailstorms did great harm to the fruits, and they carry the indentations then made even now. The Maiden Erlegh trees are chiefly in the bush form, ranging from seven to twelve years planted. Generally they are vigorous, but it looks as if the older planted trees had, in the cold clay soil, nearly done their best. The younger trees are by far the best present croppers. *A. K.*

POTATO TRIALS AT WARMINSTER.—Last year the Wilts County Council, through its Technical Education Committee and experts, conducted on a capital piece of ground which abuts on to the road leading out of Warminster to Salisbury, a series of trials of Potatos in relation to divers manures, to various weights and forms of seed, and also in relation to anti-fungoid dressings. The results were set forth in an elaborate report published last winter. This year certain experiments are again being conducted in the same place, though I am not conversant with their full extent. I was enabled, being recently in company with a well-known west country Potato raiser—Mr. James Lye of Market Lavington—to see these trials, having the company also of Mr. Scott of the Warminster Nursery, who has local control over them. I made no inquiries into any matters other than related to the sulphate of copper and lime-dressings, which had been twice applied to the larger portion of the varieties growing. We were shown by Mr. Scott the large tub on wheels used for the mixing of the compound, its inner surface green with the copper solution; also a big patch in his nursery of the Main Crop Kidney, one of the Magnum Bonum type, which he had twice dressed, and which had the leafage fresh and green. Out in the country trial-ground we found good Potatos, six rows of each, and perhaps some 6 to 8 rods in extent, of many of the best-known varieties in cultivation, and in nearly every case whereon about one-fourth of the area of each sort no dressing had been given, the leafage had been destroyed by the fungus; whilst on the larger portions, dressed twice by the aid of a sprayer, the foliage was very green and vigorous. I should think that in this way the effect was to secure to the tubers fully three weeks to a month longer growth. Some Belgian sorts, very late and strong, there showed the effect of the dressing in a less marked degree. The experiments, however, would be more valuable if conducted on known tender or readily-diseased varieties. *A. D.*

THE WEATHER IN SOUTH WILTS.—On the 6th inst. the weather was bright and warm in the early part of the day, but about 2 o'clock in the afternoon it became cloudy, and an hour later a thunderstorm occurred, accompanied by a violent hailstorm, the hailstones being about half an inch square, and fell so fast and thick as to completely cover the lawn in front of my house in less than five minutes. The leaves of Vegetable Marrows, Spinach, and ranks of "Veitch's Climbing French Bean," 7 feet high, were riddled with the hailstones, and the following morning (7th inst.) the thermometer stood at 33° at 2 feet from the ground. The last few days the weather has been everything that could be desired for the time of year, although dangerously near the freezing-point at night. The thermometer registers 32° this (Tuesday) morning. *H. W. Ward, Longford Castle, Salisbury.*

GARDEN APPRENTICESHIP PREMIUMS.—It is extremely pleasing to me to see such popular gardeners as Messrs. E. Molyneux and M. Temple disapproving of the system of taking premiums from those who perhaps can ill-afford it; but I am sorry to say there are some who still follow it up, and obtain as much money as they possibly can. I, for one paid a premium, and now I wonder how much better I am than any one else who has not paid one, for I simply worked as another man, and never in the whole time of my apprenticeship did I have even a book lent to me, or an evening spent in teaching me anything having to do with gardening; and when my time was up, I left, and just had a character given me, and had to get a place the best way I could, and another was taken in who would pay a premium. I am well aware it used to be done much more commonly than at the present day, but at the time there were so many "secrets," or at least, supposed to be, to be acquired; but now there are so many good books that no one need depend on any individual for teaching any special subject; and in conclusion, I would thank E. Molyneux and M. Temple, for taking such a kindly view in favour of the poor apprentice; and I sincerely hope those who are so fond of exacting premiums will give us their version of it through the columns of the *Gardeners' Chronicle*. *W. Watson, Lincolnshire.*

TCHIHATCHEWIA ISATIDEA.—I am sorry my friend, Mr. Lynch, has flowered this plant. His description, made from a premature flowering example, gives but a very imperfect idea of the beauty of this plant. Next May will show what it is like. In the meantime, allow me to state that snow and frost do no harm to it; but in the present extremely wet season it will be well to guard against water lodging in its heart. *Max Leichtlin, Baden-Baden.*



FIG. 44.—FLOWERS OF CAMPANULA MEDIUM, MALFORMED.

GRAPE RAISIN DE CALABRE.—One of the best examples of this Grape that I have observed was in a vinery at Basing Park, Alton, Hampshire. It was inarched upon a Black Hamburgh Vine six years ago, and is now carrying twenty-one bunches, which average 2½ lb. each. It is a good keeper there; and if not a high-flavoured variety, it is thought highly of for its long keeping. *E. M.*

HEDYCHIUM WILKEANUM × (H. CORONARIUM × H. GARDNERIANUM).—The description given of the above hybrid Hedychium at p. 276 of your last issue, agrees so closely with that of Hedychium Sadlerianum, a hybrid having the same parentage, raised in the Royal Botanic Garden, Edinburgh, in 1881, and first flowered there Sept. 9, 1884, that another name seems to be uncalled for. A notice of this hybrid by the late Professor Alexander Dickson appeared in the *Gardeners' Chronicle*, vol. xxii., p. 375. It was shown by Messrs. J. Veitch & Son, at a meeting of the Royal Horticultural Society in 1889 see *Gardeners' Chronicle*, vol. vi. (3rd series), pp. 197, 219. *Robert Lindsay.*

SEASIDE TREES AND SHRUBS.—Some years ago I contributed to Thompson's *Gardeners' Assistant* a list of trees and shrubs suited for exposed localities at the seaside. This list I sought to arrange in the order of the powers of endurance of storms and sea-spray possessed by the various subjects. The arrangement is mainly based on observations made in this locality, and for the most part in a garden one side of which is about 50 feet from high-water mark, and fully exposed to the north-west and the south-west, in both of which directions there are miles of sea. It is natural to expect that observations made on the east coast or on the south coast may lead to different conclusions in regard to some of the plants. I desire to render the list of seaside trees and shrubs more perfect, by collating my observations with those of observers in other localities. If some of those who have made a study of this subject will be so kind as to communicate with me, I shall be glad to supply a copy of the list in question, and to learn how far it accords, or otherwise, with their observations. *Robert Blackie, Ferndean Cove, Dumbartonshire.*

CAMPANULA MEDIUM.

We meet with Wheat-ear Carnations occasionally, in which the bracts are repeated, to the exclusion of the inner parts of the flower, and now we have before us a somewhat similar state of things in the Canterbury Bell (Fig. 41). The flower-stalks are contracted in length, the bracts or floral leaves multiplied, and spirally arranged. There are no proper sepals, petals, or stamens, but the ovary is free, with numerous ovules on an axile placenta. Our facetious artist says the calyx was potential or semi-definite, the corolla Jabez Balfouristic, the stamens gone after it with a detective, the ovary all ovaryish, &c. We fear the botanical reader will be puzzled.

SOCIETIES.

ROYAL HORTICULTURAL.

September 11.—The usual fortnightly meeting of the Society's Committees was held on Tuesday last in the Drill Hall, James Street, Westminster, when a good number of exhibits was staged. Cut flowers from the borders, including Dahlias and Asters, were largely shown, and these always create a bright display. Orchids are never very numerous at this season, but there was a fairly good show. Before the Fruit Committee there were many Melons and other things for Certificates, but no awards were made.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. J. Fraser, Jno. Laing, Owen Thomas, H. Herbst, R. Dean, C. T. Druery, Geo. Stevens, C. F. Bause, J. Jennings, P. Barr, E. Mawley, C. E. Pearson, J. T. Bennett-Poë, J. D. Pawle, H. H. D'Ombrain, C. Noble, H. Cannell, Geo. Paul, and G. Gordon.

An extensive group of stove decorative plants was exhibited by Mr. Geo. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, including a number of Crotons, Ferns, &c., plants of Strobilanthes Dyerianus, &c., and some Nepenthes, carrying a good number of pitchers. N. Curtisii, N. Mastersiana, N. Rafflesiana, N. Hookeriana, and N. Curtisii superba, were all good (Silver-gilt Floral Medal).

Messrs. Wm. Paul & Son, Waltham Cross, Herts, beside a number of Rose blooms in variety, had a grand lot of plants in bloom of their new China Rose Duke of York, and cut blooms of same, illustrating the freedom of habit of this excellent variety. China Rose Queen Mab, another new one of this class in the way of Madame Laurette Messimy, but with more yellow in the flowers, making it a very desirable tint, was recommended an Award of Merit. Amongst the other cut blooms were several little known but deserving varieties (Bronze Banksian Medal).

Mrs. Crawford, Gatton, Reigate (gr., Mr. Slowgrove), exhibited two large specimen plants of Eucharis grandiflora, bearing nearly one hundred expanded blooms on each (Silver Banksian Medal).

A grand collection of hardy cut flowers was exhibited by Messrs. Veitch & Sons, Exotic Nursery, Chelsea. This included a collection of Kniphofias (Tritoma), K. sanguinea, K. Pfitzerii, K. rubens, K. Uvaria grandiflora, K. Hercules, K. Saundersii, K. grandis, K. nobilis, K. Burchellii, K. corallina, were all good. The last named is a pretty variety, and grows only about 2 feet high. Aster acris, the

best of the early-flowering varieties, was shown in large bunches, and there were Rudbeckias, Gaillardias, Pentstemons, Achilleas, Montbretias, Helianthus, Monarda didyma, Sedums, Pyrethrums, &c. The last named are induced to flower in the autumn by cutting the plants down as soon as they have flowered in spring.

Messrs. Jno. Laing & Sons, Forest Hill, London, S.E., exhibited some plants of a small-leaved self-coloured Caladium called Roma, and a pretty decorative Begonia named Bettina Rothschild. Also some plants of Nicotiana colossea variegata.

An Award of Merit was recommended to Chrysanthemum Lady Fitzwigram, several plants of which in bloom were shown by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. The habit of the plant is same as that of Madame C. Desgranges, and the flowers are white with a pale yellow centre. The petals incurve toward the centre in similar manner, though in less degree, than in Lady Selborne.

Mr. Chas. Turner, Royal Nurseries, Slough, had a very large group of Hydrangea paniculata grandiflora. The plants were well grown, and the large heads of bloom served as a reminder that its value as a greenhouse plant is very great (Silver Flora Medal).

Messrs. Paul & Son, Cheshunt, Herts, staged a collection of cut flowers, including varieties of herbaceous Phloxes, Scabiosa caucasica, Helianthus in variety, Rudbeckias, and Roses in considerable variety (Silver Flora Medal).

Messrs. Jas. Veitch & Sons, Chelsea, obtained a First-class Certificate for Nepenthes mixta sanguinea, a very deeply coloured form of the type, which was figured in our columns, January 14, 1893, p. 47. A Caladium named Lord Rosebery and another called Ladas, exhibited by the same firm, were pretty.

Sir Trevor Lawrence, Burford Lodge, Dorking (gr., Mr. Bain), was awarded a First-class Certificate for Crocosma aurea imperialis, several strongly-flowered bulbs of which were exhibited. The variety has very finely coloured blooms, and is larger than the type.

From Mr. H. Wilks, Sandow Hall Gardens, Stone, was sent a flower of Stapelia gigantea; and from Messrs. H. Cannell & Sons a plant of Saintpaulia ionantha. Mr. D. Davis, The Gardens, Kyre, Tenbury, Worcestershire, sent six varieties of Hops.

Mr. Walter Salmon, Ivy Cottages, Elder Road, West Norwood, obtained a Silver Banksian Medal for a group of cut flowers, including a large number of Dahlia blooms. An excellent exhibit of cut flowers in numerous species was contributed by Messrs. Wm. Cutbush & Son, Highgate Nurseries, London, N., for which a Silver Flora Medal was awarded. Border flowers were well represented, and there were included numerous Dahlias.

Dahlias formed a considerable proportion of the exhibit, and should the fine warm weather, which has come as such a welcome change, continue, this flower in all its types will be in evidence the whole of the month. Mr. E. T. Such, nurseryman, Maidenhead, had 12 one dozen boards of Show, Cactus, and decorative varieties. Of the latter, fine examples of Countess of Pembroke, delicate lilac pink; Kaiserin, Baron Schroder, Miss Mary Morgan, Cannell's Favourite, Black Prince, Claribel, St. Catherine, and Beauty of Arundel and of true Cactus varieties Delicata, Apollo, and Countess of Gosford (Silver Flora Medal).

Messrs. H. Cannell & Sons, Swanley, staged bunches of Cactus and decorative varieties in their usual effective style, including several new varieties, only one of which received an Award of Merit—Cannell's Velvet, bright crimson tipped with magenta, a true Cactus form; they also had Cannell's Gems, Miss Irene Cannell, delicate salmon; Mrs. H. Cannell, golden buff, shaded; and of decorative varieties, Mrs. Glasse, Old Gold, Cannell's Brilliant, Dean Hole, Cannell's Own, &c.

Messrs. T. Cripps & Sons, nurserymen, Tunbridge Wells, had a box of blooms of the very distinct Grand Duke Alexis of Russia, quite a new type, the flowers large and full, the florets tubular and somewhat inflated, the colour white, tipped with delicate lilac; and Messrs. Cannell & Sons had some blooms of the same variety.

Messrs. J. Cheal & Sons, nurserymen, Crawley, set up a large collection of Cactus, decorative, and other types; and to Mrs. Gordon Shaw, a half Cactus variety of a brilliant scarlet crimson colour, the brightest coloured of the section, an Award of Merit was made. They also had of decorative varieties, in fine character, Duke of Clarence, Beauty of Wilts, Sir F. Montefiore, very dark, almost black; Amphion, Lancelot, Marchioness of Bute, Centennial, Mr. Douglas, Beauty of Arundel, Black Prince, Maid of Kent, a fancy flower, dark crimson tipped with white, and Countess of Pembroke. Of Cactus varieties, Sir Roger, Countess of Gosford, Countess of Radnor, May Pictor, Ernest Cannell, Chancellor Swayne, Delicata and Juarezii. Bunches of Cactus varieties, mingled with sprays of ornamental foliage, made a fitting background to this collection (Silver Banksian Medal).

Mr. T. S. Ware, Hale Farm Nursery, Tottenham, had a large collection tastefully arranged, Cactus and decorative varieties prevailing; of the former there were Mrs. Frances Fell, white with primrose centre; May Pictor, St. Catherine, Bertha Mawley, Countess of Radnor, Kynerith, Kaiserin, &c.; of decorative varieties, Princess Christian, Honoria, Oban, Viscountess Folkestone, H. Freeman, Cannell's Favourite, and Countess of Pembroke (Silver Banksian Medal).

Some remarkable collections of Show Dahlias were staged, foremost came Mr. J. T. West, gr. to W. Keith, Esq., Cornwalls, Brentwood, who had finely finished blooms of Mrs. Langtry, J. T. West, Sunbeam, R. T. Rawlings, Shirley Hibberd, Arthur Rawlings, John Rawlings, Mrs. Gladstone, Duke of Fife, Wm. Rawlings, W. Powell, H. Keith, Lustrous, J. S. Ware, A. Ocock, Ethel Britton, Geo. Rawlings, Miss Cannell, John Standish, and Perfection. Of fancy varieties, John Britton (new), Hercules, Professor Fawcett, T. W. Girdlestone, a flower it appears very difficult to keep to the striped character, as it shows such a tendency to run to the self form; Gaiety, Peacock, Frank Pearce, Mrs. N. Halle, Geo. Barnes, Henry Glasscock, M. Campbell, and John Forbes (Silver Flora Medal).

Mr. S. Mortimer, Swiss Nursery, Farnham, also had a similar fine collection, having meritorious blooms of such Show Dahlias as Jno. Hickling, Ethel Britton, Rosetta, Geo. Rawlings, J. Stephen, J. Cocker, Colonist, Mrs. G. Rawlings, Rebecca (self), Mrs. D. Saunders, Duke of Fife, Crimson Globe, Thomas Hobbs, W. Rawlings, Lord Chelmsford, Glow-worm, Alice Emily, Willie Garratt, and James Vick. Of fancy varieties, Lottie Eckford, Mrs. J. Downie, Frank Pearce, Comte de la Saux, Major Barttelot, Dorothy, Mrs. Mortimer, John Forbes, Matthew Campbell, Dandy, and Geo. Barnes; also some very fine blooms of Cactus and decorative varieties remarkable for their size and brilliancy of colour (Silver Flora Medal).

Mr. J. Walker, nurseryman, Thame, had a fine collection of Show Dahlias, having well developed blooms of James Cocker, J. Hickling, Queen of the Belgians, Duke of Fife, Mrs. W. Dodds, John Henshaw, John Walker, R. T. Rawlings, Jos. Green, Colonist, Mrs. Gladstone, J. Henshaw, Maud Fellowes, W. Rawlings, and a few fancies (Silver Banksian Medal).

Mr. C. Turner, Royal Nursery, Slough, had Penelope, a new show variety, fawn with a tip of delicate mauve, but rather coarse as shown; and a new bright crimson Pompon named Matchbox; also bunches of Little Lady, Eric, Cristabelle, Irene, Rowena, and Captain Boyton, new varieties sent out by Mr. Turner in the spring of the present year, and all of excellent quality.

Asters were shown in capital condition by Messrs. H. Cannell & Sons, and Mr. John Walker, Thame. The latter who is well known as a cultivator of quilled Asters, had a very fine collection of nineteen varieties, from ten to six blooms in a bunch, all finely grown and of excellent quality. Messrs. Cannell & Sons had but one quilled Aster, Eynsford Yellow, a distinct yellow variety, and therefore a great novelty (Award of Merit), and a large and striking collection of such types as the Comet, Mignon, Victoria, Chrysanthemum-flowered, Pæony Perfection, Pompon and Crown-flowered, the colours clear and deep; one type of the Mignon, edged with blue on a white ground, was very pretty; and Ball or Jewel, is a bright, pale rose imbricated variety of great merit; all these were set up in bold and effective bunches.

Orchid Committee.

Present: Harry V. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Sec.), Dr. M. T. Masters, De B. Crawshay, H. M. Pollett, T. Bond, W. H. White, H. J. Chapman, E. Hill, J. Douglas, A. H. Smee, W. H. Protheroe, and F. Sander.

The plant of the day was generally delared to be the beautiful Cattleya Warscewiczii "Countess of Derby," exhibited in the collection staged by Thos. Statter, Esq., Stand Hall, Whitefield, for which a Silver Banksian Medal was awarded, a First-class Certificate being given to the Cattleya W. "Countess of Derby." This had the usual beautiful form of the plant ordinarily known as C. gigas, but the sepals and petals were pure white, the broad lip intense violet-tinted ruby-red, clear yellow patches being on each side in front of the tube, which was bright reddish-purple, veined with golden yellow—truly a marvellous plant. Mr. Statter also showed the fine Cattleya Statteriana, which had previously received a First-class Certificate; Cattleya × Parthenia, which now received an Award of Merit; varieties of C. aurea, C. granulosa, C. Leopoldii, C. Victoria Reginæ, Lælio-Cattleya × elegans blenheimensis, Cattleya Minucia (Loddigesii × labiata), Cypripedium × Numa, and C. × excellens (Rothschildianum × Harrisianum ×). R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), also staged a good group, which secured a Silver Banksian Medal. The Cypripediums were well represented in it, but the best was C. × Nandi, (callosum × Tautzianum), which was a model in form, wax-like in substance, and of a pure white, flushed and spotted with warm rose. The upper sepal, which is flat and nearly round, had a few green lines at the base, from which proceeded bright rose feathers, the rest being white, the broad petals were white flushed rose, and spotted with dark rosy purple, lip dark rose (Award of Merit).

Mr. Measures also showed Cypripedium × Chas. Canham, with eight flowers; the fine C. × Hebe (Volonteanum × Lawrenceanum), C. × Eyermanii Diana, C. purpuratum, C. Indra (callosum × villosum), C. Io grande, Masdevallia × Measuresiana (tovarensis × amabilis), varieties of Vanda tricolor, Saccolabium Blumei, Cattleya Acklandiæ, Pleurothallis picta (Botanical Certificate). C. aurea, with dissimilar flowers on the same inflorescence; and the very singular Lælia pumila, Dayana delicata, with lavender-tinted sepals and petals, and slate-blue sides to the lip, the raised lines running from its base being purple (Award of Merit).

Sir Trevor Lawrence, Bt., Burford, Dorking (grower, Mr. W. H. White) showed a very singular and pretty form of Odontoglossum aspersum roseum, with the flowers wholly tinted with purplish rose (Award of Merit), and quite a bouquet of cut flowers of the fine white and fragrant Cattleya Gaskelliana albens odorata (Award of Merit).

Messrs. Jas. Veitch & Sons, King's Road, Chelsea, again showed their fine Lælio-Cattleya × Nysa (C. Warscewiczii ♂, L. crispa ♀), which may be likened to a very broad and dark form of the favourite L.-C. × exoniensis.

Messrs. F. Sander & Co., St. Albans, staged a neat group of rare Orchids, comprising the sky-like Calanthe × Laucheana, C. × Orphanum, the singular Catasetum fimbriatum, Cattleya Gaskelliana virginalis, Odontoglossum bictonense album, the singular Cœlogyne Meyeriana (Botanical Certificate), Pleurothallis Laucheana (Botanical Certificate), Cypripedium × Maynardii, C. × Alice Gayot, Angræcum articulatum, Miltonia spectabilis Moreliana; the pretty yellow Lælia × Sanderæ, the very rare Miltonia (Odontoglossum) Schroderianum, Sobralia xantholeuca, and the fine new Cattleya × Kienastiana, so much admired at the last meeting.

M. Jules Hye-Leysen, Coupure, Gand, showed the beautiful Cypripedium × Chas. Richman, obtained independently by him between C. barbatum ♀ and C. bellatulum Mariæ ♂. It was practically the same as that shown previously by Mr. C. Richman, gardener to G. H. Palmer, Esq., Trowbridge, and the committee altered the proposed name of "Météore," and awarded it a First-class Certificate, the scarcely mature plant previously shown having only had an Award of Merit.

Messrs. Hugh Low & Co., Claptor, again staged a fine group, composed principally of endless forms of the beautiful Cypripedium Charlesworthii, Saccolabium cœleste, &c., one little plant of the singular Spathoglottis pubescens, Lindl., was included, and received a Botanical Certificate (Silver Banksian Medal).

Messrs. W. L. Lewis & Co. were also awarded a Silver Banksian Medal for an equally good group, in which were many Cattleyas, the best being C. Gaskelliana, "J. H. Allen," a charming large, pearl-white form, with distinct crimson blotch in the lip, and chrome-yellow throat; and C. × Johnsonii (Harrisoniæ × gigas). Odontoglossum grande, the various Cypripediums, Habenaria carnea, and its white variety were also good. Mr. J. A. Miller, Bifrons Park, Canterbury, sent two grand spikes of the fine old Renanthera coccinea (First-class Certificate).

C. L. M. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed Lælio-Cattleya ×

elegans Houtteana, an old-time variety of very distinct feature, but now superseded in point of beauty.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr., Mr. J. Davis), showed a fine specimen of Cattleya Loddigesii, with over thirty flowers and buds, a very large-flowered Cypripedium Charlesworthii, and flowers of Cattleya aurea and C. Leopoldi.

Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), sent a flower of a very rich purple tint, Cattleya Trianæi, and a singular form of Odontoglossum Coradinei. Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr., Mr. Geo. Cragg), showed a fine inflorescence of the pretty Cattleya guttata phœnicoptera and two forms of C. Leopoldi.

Messrs. John Laing & Sons, Forest Hill, showed the beautiful Stanhopea Devoniensis, which, although first flowered at Chatsworth in 1837, is still rare, and its equally showy ally S. tigrina.

Mr. Horsman, Colchester, sent a light form of Lælia purpurata, and a very fine dark L. tenebrosa. E. J. Wickenden, Esq., Heathfield, New Southgate, showed Oncidium Forbesii grandiflorum, and Sir Chas. Pigott, Bart., Wexham Park, Slough (gr., Mr. Capp), showed seven forms of Cattleya labiata Gaskelliana.

Fruit Committee.

Present: T. Francis Rivers, Esq., in the chair; and Messrs. A. Pettigrew, W. Wilks, J. Veitch, G. W. Cummins, J. Cheal, T. J. Saltmarsh, J. Wright, A. Dean, J. A. Laing, G. Wythes, J. Hudson, F. Q. Lane, H. Balderson, G. Norman, and G. Reynolds.

A collection of fifty varieties of Apples and Pears came from the nurseries of Messrs. J. Laing & Sons, Forest Hill, S.E., which consisted principally of the best varieties of early Apples in dishes of clear-skinned, well-developed fruits: Gravenstein, Gold Medal, Grenadier, Benoni, Worcester Pearmain, Frogmore Prolific, some very superior Ribston Pippins, Professor, Red Biettingheimer, Kerry, Early Julien, Red Hawthornden, several Codlings, and others were remarked (Silver Knightian Medal).

A brace of handsome Cucumbers came from Sir C. Pigott, Bart., Wexham Park, Slough (Vote of Thanks). Specimens of Automne Rouge Apple came from Messrs. C. Kimberley & Son, Hertford Street, Coventry. Mr. C. Ross, gr., Wilford Park, showed Pear The Popham. E. Hart, Esq., Fairlawn, Totteridge, Herts (gr., Mr. J. Smith), showed a pale fawn-coloured Melon called Fairlawn Empress of India, a good-looking fruit, but it received no award.

A collection of vegetables was tabled by Mr. Jones, Greenfield Place, Sudbury, Harrow. Very good were the Leeks, Savoys, Bedford and Sutton's Exhibition Onions; Mammoth Runner Beans, and Early Gem Carrots (Bronze Banksian Medal). Ten dishes of Apples of very fair quality were likewise shown by this gardener. A Peach, Warlies' Seedling, shown by Sir T. Fowell Buxton, Warlies, Waltham Abbey (gr., Mr. Clarke), received a Vote of Thanks—under glass, the appearance of the variety might be much improved. Veitch's Climbing French Bean was shown by Mr. J. Douglas; it is a promising and excellent novelty.

A number of pot plants and fruit, and gathered fruits, were shown by Messrs. J. Carter & Co. of Tomato Duke of York; it is a regular-shaped fruit, smooth, and very productive. The plants had been grown in a cool house.

Some very fine Cannon Hall Muscats and Gros Maroc Grapes were shown in some quantity by Mr. G. Featherby, The Vineries, Gillingham, Kent. The first named wanted only a little more time to finish them perfectly. They had been severely thinned, and the berries were of unusual size.

A quantity of Tomatos named Palmer's Triumph, came from Mr. Palmer, Junction Road, Andover. It is, judging from the bunches sent, very free fruiting.

A tough-skinned vineyard Grape named Gradiska was sent by Messrs. T. F. Rivers & Sons, Sawbridgeworth; it was of taking appearance, and may be a good keeper. Mr. O. Thomas, Frogmore, and Mr. G. Telford, Trafalgar Park, Salisbury, showed seedling black Grapes, the latter showing immense Brunswick Figs, some Peaches, and Nectarines.

Seven large Melons came from Mr. Mortimer, Routledge, Farnham, but no award was made. Messrs. J. Veitch & Sons, Chelsea, showed the very prolific Blackberry Rubus laciniatus, as fruiting shoots, and as picked fruits, quite ripe and excellent eating. Other exhibits consisted of seedling Melons, Apples, &c.

GLASGOW HORTICULTURAL.

September 4.—The great Exhibition, which was opened on the above date by Colonel H. Stuart, was, as regarded its purely horticultural features, one of the best yet held in Glasgow, and it may also, in some respects, be remarked that, for the display of cut flowers and tables of plants, there never was a finer one held in Scotland. The Nepenthes set up by Mr. Russell were marvellous specimens of good cultivation; the table, chiefly filled with Crotons, has not been equalled in the North, and it drew quite a large crowd. The exhibitors were Messrs. Tnyne, nurserymen, Glasgow, who likewise set up a large circular-formed centre-piece in the show-hall, consisting of Lilies, also of great merit in point of tasteful arrangement. Along the whole length of the platform there was an immense show of plants, both flowering and foliage, from Messrs. Austin & McAslan.

Messrs. Cross & Sons had a table of the finest productions, which afforded a proof of the goodness of their manures. Messrs Smith & Simons had a large display of stove and greenhouse plants. Messrs. Cocker of Aberdeen had a long table nicely filled with cut flowers, those of the herbaceous plants being extremely fine, as were also the Roses. A 1st prize was awarded them for the collection; Messrs. Croll, Dundee, who were 2nd, showed very well. Messrs. Edward & Co. had a large table decorated with flowers, fruits, &c., as for a dinner, which was much admired. Mr. Rushton, of Duntocher, had a fine display of Chrysanthemum blooms. Messrs. Dobbie & Co., Rothesay, were strong in out-of-doors cut flowers. Mr. Campbell, Blantyre, Mr. Forbes, Hawick, were strong in cut flowers, especially Carnations and Hollyhocks, which were of remarkably good quality. Mr. Cuthbertson, Rothesay, had a fine exhibit of florists' flowers. Messrs. Paul & Son, Bridge of Weir, were strong in fancy Pansies. Mr. Sutherland, Lenzie, and Mr. Craig, Stirling, had fine table plants. The Gladiolus from Mr. Mair, Prestonwick, were remarkably fine. Notwithstanding the damp, sunless season, cut flowers generally were exceedingly fine.

The two plants of Gleichenia from Mr. Mitchell, gr., Thornwood, which were 1st in their class, received the *Gardeners' Magazine* Medal as being the most meritorious exhibit in the show.

Fruit.—This, as usual, was a source of great attraction, and the competition in the classes for Grapes was keen. Muscat Grapes were, as a rule, fine in size of bunch and berry, but few exhibits had very fine colour. The best pair of bunches came from Mr. Leslie, Perth; the heaviest bunch was exhibited by Mr. Leslie—a Gros Guillaume, of over 12½ lbs. Black Hamburghs were generally small in berry, and only moderately well-coloured.

Mr. Menzies, gr., Dinnepace, was placed 1st for four bunches. It is to be deplored that this excellent Grape is rarely seen of more than secondary merit at northern shows. For four bunches, Mr. Leslie was again to the front, his large bunches of Duke of Buccleuch being the best that have been seen at a Glasgow show. Mr. Day, gr., Galloway House, and Mr. Murray, Culzean, with excellent exhibits, were placed 2nd and 3rd respectively. Mr. Buchannan, Barganny, Ayrshire, was 1st for two bunches of any other kind of black Grapes—his Mrs. Pince being perfection in the form of the bunch, as in the colour and size of the berries. The large number of Black Alicantes in this class were of more than ordinary merit, especially those from Mr. Day and Mr. Halliday. The variety Gros Maroc was fairly well represented, but not so Gros Colmar or Lady Downes Seedling, and well it should be so, as the latter variety often receives awards at northern shows when the fruit is quite unripe.

In the class of twelve dishes of fruits, Mr. Murray, of Culzean Castle Gardens, was an easy 1st, his Peaches, Figs, and Melons, were very good. In the collection for six dishes of hardy fruit, Mr. Hailey, Ayr, was 1st; Mr. Day, Galloway House, 2nd; and Mr. Wilson, Auchencruive, 3rd.

In the class for six dishes of any kind of fruit, Mr. Halliday was 1st, his Grapes and Peaches being very superior. Mr. Leslie, Perth, was 2nd; and Mr. McConachie, gr., Cameron House, was a close 3rd.

In the classes for Apples, Pears, and Plums, there were no exhibits which call for special remark; but amongst a large number of Peaches from Mr. Leslie, Perth, Mr. Brown, Johnstone, and Mr. Low, Stirling, there were some capital fruit.

Good Nectarines came from Mr. Day and Mr. Murray. Melons, though not very numerous, were of much better quality than they have been for the past two years.

Vegetables.

In a large room in which the vegetables were exhibited, some Leeks and Celery of remarkable size were noted. Roots generally were excellent, but not as plentiful as they sometimes are at Glasgow shows. The winning collections were excellent. Mr. Brown (gr., Johnstone), and Mr. Low, Stirling, had nearly faultless exhibits, these being placed 1st and 2nd respectively. Mr. Gemmell had capital collections of Potatos. Although the quality was very good in the vegetable classes, the competition was not so keen as usual.

THE NATIONAL DAHLIA.

September 7, 8.—The annual exhibition at the Crystal Palace on the above date was more extensive than the promise of the season at one time led us to anticipate; but with few exceptions finish was wanting in the show varieties, and a certain amount of roughness was seen, owing to the cold and changeable weather, though the Slough flowers were seen at their best, for they were characterised generally by an amount of quality that surprised some whose flowers lacked this property. The Cactus, decorative, pompon, and single varieties were seen in their best character, though the latter were in some cases over sized. That the single types are declining in the popular estimation was seen in the limited competition in the leading classes for them; the Cactus and pompon types are decidedly more popular. Mr. W. G. Head wisely broke up his straight line of tables, and arranged them in the form of central diamonds, with short lengths flanking them on each side. The want of care in attaching the names to the flowers in the stands was even more marked than previously, and exhibitors, especially the amateurs, deserve censure for the slovenly manner in which, in many cases, the names were written. If the names are required at all, it is essential that they be legible, and written on cards or such material that can be firmly attached to the stands. A small piece of note-paper, unevenly torn, and the names carelessly written with pencil and left on the stand to be blown this way or any way, is of no possible use, but a disgrace to the person to whom the flowers belong. The Society is doing such good work in keeping the Dahlia before the public, and encouraging the production of new varieties, that it deserves to be supported by all who take an interest in the flower.

Nurserymen.

Show Dahlias.—There were five stands of sixty show and fancy Dahlias shown by nurserymen, the 1st prize going to Mr. Charles Turner, Royal Nursery, Slough, who had even, fresh blooms, of excellent quality, his back row flowers were Rebecca, James Vaughan, Henry Walton Seedling, Colonist, Alice Emily, Arthur Ocock, T. W. Girdlestone (self), Duchess of York, Diadem, T. W. Girdlestone, Jos. Bennett Seedling, William Keith, Clara, Wm. Rawlings, Mrs. C. Noyes, George Rawlings, J. Hickling, and Statesman; Middle row: Mrs. Gladstone, J. Standish, Miss Cannell, W. Powell, J. T. West, Burgundy, R. T. Rawlings, W. Garratt, James Vick, Agnes, Queen of the Belgians, Prince Bismarck, John Forbes Seedling, Plutarch, and James Cocker; in the front row were Florence, Comedian, J. N. Keynes, Hugh Austin, Mrs. Hodgson, John Walker, Octavia, H. Austin (self), Herbert Turner, Matt. Campbell, Shirley Hibberd, Julia Wyatt, Hope, Imperial, Flag of Truce, Glowworm, Ethel Britton, Arthur Rawlings, Mrs. S. Hibberd, and Warrior. 2nd, Messrs. Keynes & Co., nurserymen, Salisbury, their leading back row flowers being Mrs. W. Slack, H. Walton, W. Keith, Mrs. Mortimer, Duke of Fife, T. W. Girdlestone, Majestic, Colonist, Mr. Spofforth, Arthur Ocock, J. Hickling, Harry Keith, and Dorothy; 2nd row: Chieftain, W. Rawlings, Maud Fellowes, E. Britton, Henry Bond, Kathleen, Agnes, Mrs. Saunders, and R. T. Rawlings; 3rd row: Alice Emily, Nubian, Miss Barter, Mrs. Langtry, Jas. Cocker, Herbert Turner, Mrs. Foreman, Mrs. J. Downie, J. Walker, and Arthur Rawlings. Mr. S. Mortimer, Swiss Nursery, Farnham, was 3rd.

There were five stands of forty-eight varieties, Mr. C. Turner being again 1st, having fine clean blooms of Maud Fellowes, W. Rawlings, Jno. Bennett, Eldorado, Mrs. W. Slack, George Rawlings, Colonist, W. Keith, J. T. West, A. Ocock, Miss Cannell, Prince Bismarck, Duchess of York, James Cocker, W. Powell, and Clara; 2nd row: W. Garratt, Mrs. Langtry, Fred. Smith, Burgundy, Constancy, Glowworm, Queen of the Belgians, Statesman, J. Hickling,

T. W. Girdlestone, Matt. Campbell, Rebecca, H. Watson, John Standish, R. T. Rawlings, and James Vick; 3rd row: Octavius, Diadem, Mrs. Gladstone, S. Hibberd Seedling, J. N. Keynes, A. Rawlings, J. Walker, Comedian, Florence, Flag of Truce, Hope, Mrs. S. Hibberd, Purple Prince, Ethel Britton, and Alice Emily. 2nd, Mr. J. Walker, nurseryman, Tname, who has been showing very well this season; his leading back row blooms were Maud Fellowes, J. Cocker, Messrs. Cannell, John Standish, J. Walker, Duke of Fife, Mr. Jackson, Mrs. Humphries, Colonist, Queen of the Belgians, H. Keith, Mrs. J. Grean, T. W. Girdlestone, A. Ocock, Mrs. W. Slack, and T. W. Girdlestone (self); 2nd row: Mrs. Langtry, W. Rawlings, Burgundy, Matthew Campbell, Duchess of Albany, Ethel Britton, Dorothy (self), J. Hickling, Jos. Green, Mrs. D. Saunders, Rev. J. B. M. Camm, S. Hibberd, Mrs. Harris, Coronet, H. Weir, and W. Keith; front row: Mrs. Gladstone, Flora Wyatt, Comedian, W. Garratt, J. T. West, Prince of Denmark, Glowworm, Jas. Huntley, A. Rawlings, Mrs. W. Dodds, Jas. Stephens, R. T. Rawlings, Gwendoline, Hartie King, Mrs. Geo. Rawlings, and H. W. Ward. 3rd. Mr. S. Mortimer.

In the class for twenty-four varieties, those showing in the two previous classes being excluded, Messrs. J. Saltmarsh & Sons, nurserymen, Chelmsford, were 1st, having capital blooms of J. T. West, Mrs. W. Slack, Mrs. Langtry, R. T. Rawlings, A. Rawlings, Perfection, W. Rawlings, and Ethel Britton, back row; T. J. Saltmarsh, Hero, J. Walker, Colonist, Mrs. D. Saunders, Countess of Ravensworth, Mrs. Gladstone, and Prince of Denmark, second row; Mrs. J. Downie, Lord Chelmsford, Alice Emily, H. Keith, Pandora, Coronet, H. Weir, and J. Cocker, front row. 2nd, Mr. C. Kimberley, Stoke Nursery, Coventry, having as back row flowers: Duchess of Albany, Maud Fellowes, Diadem, R. T. Rawlings, Dandy, Mrs. W. S. Slack, J. T. West, and G. Rawlings; second row: Chorister, H. Weir, Coronet, Hon. Mrs. P. Wyndham, W. Rawlings, Mrs. Kendal, Jos. Green, and Miss Cannell; third row: Mrs. Gladstone, Mrs. Fristleton, Jas. Cocker, Duchess of York, Mrs. J. Downie, Modesty, W. Keith, and Henrietta. 3rd, Mr. Geo. Humphries, Chippenham.

With twelve blooms, Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, were 1st, having Hercules, Dandy (self), J. Walker, Duke of Fife, H. Keith, H. Weir, W. Rawlings, Jno. Hickling, Ethel Britton, Willie Garratt, Herbert Turner, and Prince of Denmark; 2nd, Mr. J. Tranter, Henley-on-Thames, with Colonist, Mrs. Langtry, T. W. Girdlestone, Mabel Stanton, Mrs. Gladstone, Shirley Hibberd, Earl of Ravensworth, Arthur Ocock, J. Cocker, Mrs. G. R. Giffard, Duke of Fife, and J. C. Reed; 3rd, Mr. Henry Harris, Writtle Road, Cambridge.

Cactus and Decorative Dahlias —The collections of eighteen bunches of these, six blooms to a bunch, were simply superb. Messrs. J. Cheal & Sons, were 1st with a very fine collection, set up in excellent style, the varieties being Countess of Radnor, Apollo, Matchless, Kaiserin, Baron Schroder, Beauty of Wilts, Lady Penzance, Duke of Clarence, Countess of Gosford, Delicata, Josephine, Ernest Cannell, May Picter, Kynerith, Beauty of Evnesford, Bertha Mawley, Miss Violet Morgan, and Duchess of York. Messrs. Keynes & Co. came 2nd, also with very fine and attractive bunches, having Delicata, Kynerith, Brilliant (bright crimson), Lady Penzance, Miss Violet Morgan, Marquis, Countess of Radnor, Chancellor Swayne, bluish plum-colour; Countess of Pembroke, Earl of Pembroke, bright violet-purple; Lady Henry Grosvenor, Vesper, Apollo, Kaiserin, Countess of Gosford, Major Haskins, bright crimson-scarlet; Bertha Mawley, and Salisbury, white, a decorative variety. 3rd. Mr. C. Turner. With twelve bunches, Messrs. J. Burrell & Co, Howe End Nurseries, Cambridge, were 1st, having bold and showy examples of Countess of Radnor, Matchless, Kaiserin, Apollo, Mary Hillier, Juarezii, Robert Cannell, Lady Penzance, Purple Prince, Professor Baldwin, Countess of Gosford, and Delicata; 2nd, Mr. F. W. Seale, Sevenoaks, whose best bunches were those of Countess of Radnor, R. Cannell, Delicata, Bertha Mawley, Apollo, and Baron Schroder; 3rd, Messrs. Paul & Son, Cheshunt.

Cactus Dahlias only.—In the class for another twelve bunches, only true Cactus varieties could be shown, the 1st prize being again taken by Messrs. Cheal & Sons, who had very fine bunches of Kaiserin, Countess of Radnor, May Victor, Apollo, Miss R. Morgan, Lady Penzance, Matchless, Mary Hillier, Delicata, Countess of Gosford, Bertha Mawley, and R. Cannell; 2nd, Messrs. Keynes & Co., having Delicata, Major Haskins, Lady Penzance, Gloriosa, Mrs. Barnes (new), Earl of Pembroke, Countess of Radnor, Henry Depresle, crimson; Harmony, Bertha Mawley, Countess of Gosford, and Crawley Gem; 3rd, Mr. F. W. Seale.

Single Dahlias.—These were superbly shown in bunches of ten blooms each, both in collections of twenty-four and twelve, but the limited competition in each class points to the fact that the single Dahlias have declined in the popular estimation, as they are not sufficiently lasting in a cut state. Messrs. J. Cheal & Sons were, as has been usual in years past, 1st in the twenty-four class, having admirable bunches of James Scobie, Annie Hughes, Lowfield Beauty, Mrs. J. Connick, Jack, Golden Locks, a charming yellow; Mr. G. Wythes, Evelyn, Duke of York, Amos Perry, W. C. Harvey, Rosebank, Cardinal, Miss Henshaw, Demon, Mrs. Parrott, pure white and pale rose—very distinct; Northern Star, Duchess of Hainault, Little Snowwhite, Victoria, Phyllis, Formosa, Marion Hood, and Duchess of Fife. Mr. F. W. Seale, Sevenoaks, came 2nd, having Huntsman, Yellow Satin, Eclipse, Mrs. Barber, Florrie Fisher, Mrs. Seale, Miss Ramsbottom, Sevenoaks Gem, reddish-amber; Cetewayo, Demon, Cleopatra, Duchess of Albany, Lady Whitehead, and Alice Beale, distinct from the foregoing.

Messrs. Paul & Son were the only exhibitors of twelve bunches, ten blooms in each, having The Bruce, Duchess of Westminster, Scarlet Perfection, Aurora, Amos Perry, Gulielma, Victoria, Miss Linnaker, Daisy, Miss Roberts, Kitty, and Ruby.

Open Classes.

One very interesting open class was for twelve varieties of fancy single Dahlias, ten blooms of each, i.e., varieties either tipped, striped, or edged. This brought a very keen competition between Messrs. Cheal & Sons and Mr. T. W. Girdlestone, the former being placed 1st, with James Scobie, M. C. C., representing the colours of the Marylebone Cricket Club, red and orange; Phyllis, Mrs. Wythes, Victoria, Northern Star, orange-red, with side edgings of yellow; Mrs. Harris, with side edgings of pale yellow—very good; Fred. Leslie, crimson, tipped with white; May Sharp, Miss Glasscock, Dearest, yellow, deeply tipped with white; and Jack Sheppard. Mr. T. W. Girdlestone came 2nd, with M. C. C., Yankee, flake, and spotted with purple on a light ground; Gamen, orange, flaked with pale rose; Splash, Phyllis, Darling, bright crimson, slightly tipped with white—very distinct; Jack Sheppard, Frank Leslie, Tommy, yellow, flaked with crimson; Dearest, Cinderella, white, with broad side edgings of amber-red; and Playmate, white, with slight stripes of purplish-pink. 3rd. Mr. T. W. Seale.

Pompon Dahlias.—These were finely shown, and perhaps never better by the trade, fine quality being general, the flowers fresh, clean, and very bright. The best twenty-four bunches, ten blooms in a bunch, came from Mr. C. Turner, who had Sunset, George Brinckman, White, Red Indian, Hector, Eric, Boule d'Or, Captain Boyton, Mars, Little Duchess, Tommy Keith, Cristabelle, Lilian, Darkness, Lady Blanche, Phœbe, Arthur West, E. F. Jungker, Little Lady, Mabel, Rowena, Bacchus, Whisper, and Isabel. 2nd, Messrs. Keynes & Co., also with a very fine collection, the bunches set up with sprays of foliage, but the flowers scarcely so even as those of Mr. Turner's. They had Janet, Little Frank, Cranston Beauty, George Brinckman, Arthur West, Model (new), a combination of blush, pink, and amber; Little Jack, White Aster, Phœbe, Madge, Bacchus, Tommy Keith, Admiration, E. F. Jungker, Captain Boyton, Lady Blanche, Isabel, Eric, Grace, Lilian, Midnight, Whisper, Favourite, and Ceres. 3rd, Messrs. J. Cheal & Sons.

With twelve bunches, ten blooms in each, Mr. F. W. Seale was 1st, having nice even bunches of Arthur West, Phœbe, Lilian, Crimson Beauty, Whisper, Favourite, Tommy Keith, Mary Keith, Bacchus, Eva, Eurydice, and Phœbe; 2nd, Messrs. J. Burrell & Co., who had Phœbe, Isabel, E. F. Jungker, Whisper, Irene, Eurydice, Favourite, Red Indian, Eva, and Arthur West, set up in very neat bunches; 3rd, Messrs. Paul & Son.

The best six blooms of any dark Dahlia were those of Arthur Ocock, from Messrs. J. Saltmarsh & Sons; Mr. J. Walker coming 2nd with the same; and Mr. J. T. West 3rd with A. Rawlings. The best six blooms of a light Dahlia were those of Mrs. Gladstone, from Mr. F. W. Seale; Mr. C. Turner being 2nd, with Queen of the Belgians; and Mr. J. Walker 3rd, with Mrs. Gladstone. The best six yellow Dahlias were those of John Hickling, from Mr. S. Mortimer; Mr. J. Walker coming 2nd, with the same; and Mr. C. Turner 3rd, with R. T. Rawlings. The best six blooms of a tipped Dahlia were those of Mrs. Saunders, from Mr. F. W. Seale; Mr. Heasman, Ightham, came 2nd, with Peacock; and Mr. C. Kimberley 3rd, with Mr. Saunders. The best six of a striped Dahlia were those of the Rev. J. B. M. Camm, from Mr. J. Tranter; Mr. J. Walker was 2nd, with the same; and Mr. S. Mortimer 3rd, with Dandy. Mr. J. Walker came 1st with an edged variety, having six finely-finished blooms of H. W. Ward; Mr. F. W. Seale being 2nd, and Messrs. Saltmarsh & Sons 3rd, with Mrs. Langtry.

Seedling Dahlias.—A large number of seedling Dahlias were staged for Certificates, though very few show varieties. Certificates of Merit were awarded to show Dahlia Mabel Stanton, bright yellow, shaded with apricot at the base of the petals, from Mr. J. R. Tranter; to fancy Dahlia Novelty, blush, flaked and striped with rose, from Mr. S. Mortimer; to white Cactus Mrs. F. Fell, from Mr. T. S. Ware; to Mayor Hoskins, Mrs. Barnes, Harmony, and Henry Depresle, all fine true Cactus varieties, from Messrs. Keynes, Williams & Co.; to Messrs. H. Cannell & Sons, also for true Cactus forms of Miss Irene Cannell, Mr. H. Cannell, Cannell's Gem, and Cannell's Velvet; to decorative Dahlia Mrs. Herneman, from Messrs. J. Cheal & Sons; to Pompon Dahlia Ions, clear yellow, from Mr. G. Humphries; and to single Dahlias Darling, Psyche, Gaiety Girl, Puck, and Goldenlocks, from Mr. T. W. Girdlestone.

Amateurs.

Show and Fancy Varieties intermixed —The first of the classes confined to amateurs was for twenty-four distinct blooms of show and fancy varieties, and there were as many as ten exhibitors.

Mr. J. T. West, gr. to W. Keith, Esq., Cornwalls, Brentwood, was a good 1st, and staged twenty-four very bright clean blooms of large sizes. The best of these were William Rawlings, John Walker, Walter H. Williams, Frank Pearce, Harry Keith, Duke of Fife, Miss Fox, Arthur Ocock, and John Hickling. Mr. Thobbs, St. Mark's Road, Easton, Bristol, was 2nd, and had good blooms of Arthur Rawlings, Henry Glasscock, a very pretty flower of crimson-and-gold; W. Rawlings, Polly Sheffield, and Duchess of Albany. The 3rd position was taken by J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, who had several blooms of fine quality; and the 4th by Mr. Benj. Brian, Blantyre Street, Florence, Longton, Staffs.

Show Varieties.—For twelve blooms, distinct, Mr. Thomas Vagg, gr. to Mrs. Theobald, The Bedfords, Havering, was the leader among six competitors. Arthur Ocock, W. Rawlings, Prince Bismarck, Harry Keith, and T. W. Girdlestone were very good blooms in this exhibit, which was of nice even quality generally. Mr. Sydney Cooper, Hamlet, Chippenham, was 2nd, and had very bright, clean blooms, rather smaller than Mr. Vagg's, but well in advance of those from Mr. W. Mist, Collingwood, Ightham, Kent, who secured 3rd place; Mr. Lewis Fewkes, Castle Bromwich, Birmingham, was a close 4th, but the blooms were of very uneven size and quality.

The best six blooms were those from Mr. Tom Mott, Market Place, Henley-on-Thames, Mr. D. Saunders, a charming rose and white variety, was a fine bloom, but unfortunately several of the petals were slightly damaged; Harry Keith and Mrs. W. Slack also deserve notice. Mr. E. Jefferies, Langley Burrell, Chippenham, who was 2nd, had a capital bloom of Colonist, and a fairly good Mrs. Gladstone. Mr. W. Wheeler, 53, Bell Street, Henley-on-Thames, was 3rd; and Mr. Jos. Barker, 101, Belgrave Road, Florence, Longton, 4th.

Fancy Varieties.—The 1st prize for twelve blooms of fancy Dahlias was well won by Mr. J. T. West, who staged a charming collection; John Cooper, Dazzler, Professor Fawcett, Mrs. N. Halls, Frank Pearce, and John Britton, were his best blooms. The 2nd place was taken by Mr. Thos. Hobbs with an exhibit containing several good blooms, but of very unequal quality; Mr. A. Ocock, Arm Bank, Rudgwick, Sussex, was 3rd; and Mr. William Mist, 4th. Mr. Thos. Mott had 1st place for six blooms, all the flowers being of good quality; they were the Rev. J. B. M. Camm, Dorothy, Professor Fawcett, Prince Henry, Peacock, and Mrs. J. Downie; Mr. W. Wheeler, who was but little behind, was 2nd, and Mr. Sydney Cooper 3rd; Mr. E. Jefferies was an uncommonly good 4th.

Cactus and Decorative Varieties —These were very well shown by the trade, but in the classes for amateurs the quality was also notic able.

The best collection of twelve varieties, in bunches of six blooms each, was from Mr. E. Brown, gr. to

M. W. Morris, Esq., Oak Lodge, Horley, Surrey; the colours might have been arranged a little better, but the exhibit was undoubtedly a good one, and well ahead of the 2nd, which was put up by Mr. J. T. West. This latter was little if any better than that from Mr. Jas. Stredwick, 3, Silver Hill, St. Leonards-on-Sea, who was 3rd, and whose staging was very good. The 1st prize in the above class and the following one was presented by Messrs. Keynes, Williams & Co., Salisbury.

The best exhibit of six varieties, in bunches of three blooms each, was put up by Mr. Edward Mawley, Rosebank, Berkhamsted, who had a capital exhibit, and his blooms of Matchless were specially noticeable. Mr. Sydney Cooper was 2nd, Mr. James Hudson, Gunnersbury House Gardens, Acton, 3rd; and Mr. W. E. Pagram, The Whin Gardens, Weybridge, 4th.

The following class for which the prizes were offered by Messrs. H. Cannell & Sons, Swanley, was for the best six varieties in bunches of six blooms each of Cactus and decorative Dahlias originally sent out by Messrs. Cannell, and the 1st prize was taken by Mr. E. Brown, gr. to M. W. Morris, Esq., who included Cannells' Favourite and the very old favourite Juarezii. Mr. J. T. West was 2nd, and Mr. Jas. Hudson 3rd; both of the latter exhibitors being also unable to exclude Juarezii.

Pompons.—Six varieties in bunches of ten blooms each were best from Mr. J. T. West among seven exhibitors, but Mr. Wm. Mist was an exceedingly close 2nd. The varieties were almost the same in either case, Sunshine, Eurydice, Hedwig, and Admiration, being specially noticeable; Mr. Jas. Stredwick was 3rd. For six varieties in bunches of six blooms each, Mr. Sidney Cooper was 1st; Mr. W. C. Pagram 2nd; and Mr. A. Taylor 3rd.

Single Varieties.—Mr. T. W. Girdlestone had a fine lot in the class for six varieties in bunches of ten blooms in each, Annie Hughes, Little Frank, Demon, Yellow Satin, Psyche, and Evelyn, were those staged. 2nd, Mr. Geo. Wyatt, gr. to Geo. Hilditch, Esq., Twickenham; and 3rd, Mr. C. Osman, South Metropolitan District Schools, Sutton. For six varieties in bunches of six blooms, Mr. Edward Mawley was 1st with very fresh nice blooms. Mr. T. W. Girdlestone, with very excellent blooms, secured 1st for twelve varieties in bunches of six blooms each, the prizes for which were offered by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, Orange Girl, Aladdin, Gaiety Girl, Splash, and Scarlet Runner, were the most striking.

Miscellaneous Exhibits.

Non-competitive exhibits from the trade included a collection of show and fancy blooms from Mr. J. Walker, Thame, Oxon; and some blooms of Matchless, Mrs. Saunders, and John Walker, from Messrs. Perkins & Sons, Coventry. Messrs. H. Cannell & Sons, showed a large display, consisting of about eighty bunches, representing the single, Pompon, and Cactus sections chiefly.

Another very extensive collection of blooms was from Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, in which the whole of the sections were represented in very great variety.

Messrs. Paul & Sons, Cheshunt, exhibited sprays of herbaceous Phloxes. Messrs. John Laing & Sons, Forest Hill, London, S.E., had a pretty group of miscellaneous stove and greenhouse plants, including Begonias, Pancratiums, Crotons, Nepenthes, Palms, &c., and a plant in flower of the pretty Cypripedium Charlesworthii.

Messrs. Wm. Paul & Son, Waltham Cross, Herts, had a stand containing a large collection of Roses in variety, including some nice plants of the pretty new China Rose, Duke of York; and some blooms of a new Tea variety named Sylph, in the way of Souvenir d'Elise Vardon. Also a group of orchard-house trees in fruit, including Pears, Apples, Peaches, Vines, and others. Most of the trees were well covered with fruits.

ROYAL HORTICULTURAL OF ABERDEEN.

September 6, 7, 8.—The autumn exhibition of this Society was held in the Duthie Park, Aberdeen, on the above dates, and compared favourably with any of its predecessors in the beauty and richness of the display. The total number of entries was 1375. This is an apparent falling off from the autumn exhibition of 1893, but then it has to be borne in mind that this year there have been two separate exhibitions, the summer show held at the time of the Highland Society's visit to Aberdeen, and the present autumn exhibition. Putting the two together, the entries would show an increase of between 700 and 800.

Undoubtedly one of the main attractions of the exhibition was the fine display of Messrs. William Smith & Son, nurserymen and seedsmen, Aberdeen, who, on a previous occasion were awarded a Gold Medal by the Society for their table decorations. Their exhibits fell into three sections, viz., table decorations proper, cut flowers, and pot plants. The first-named was the prominent feature.

The first division, open to professional gardeners, contained a fine collection of plants in pots suitable for dinner-table decoration. Among stove and greenhouse plants the chief features were Yucca filamentosa variegata, a fine specimen of Anthurium belonging to Mr. A. O. Gill, of Fairfield, who was 1st, as he also was for Dracænas with some very highly-coloured plants, D. superbiens and D. Lindeni. A Dracæna Gladstonei, exhibited by Mr. Robb, Glenburnie Park, also attracted great attention. Tuberous Begonias, large and finely-flowered, came from Mr. Robb, gr. to J. Murray, Esq., Glenburnie Park, which gained for him a Silver Medal. Orchids were well displayed by Mr. Gill, Fairfield, who was awarded the Society's Silver Medal and 1st prize for Cattleya Gaskelliana and some Odontoglossums. Chrysanthemums were fairly well shown, but there was nothing of conspicuous merit.

Cut flowers had suffered from the wet weather, but the display was a very good one. Dr. Keith Jopp led with twelve Roses, distinct, of medium size, but lacking a little in the light colours. Among Dahlias were some fine blooms, especially these from Cluny Castle. The Gladiolus from same place were very fine and large. Pansies and Asters were both good, so were the 1st prize French Marygolds shown by Mr. James Booth, Aberdeen. Dahlias in this section were very good, and the Roses were superb, Messrs. Croll of Dundee beating Messrs. Cocker & Sons.

Fruit made a good display. The 1st prize for the best collection of nine varieties was gained by Mr. Reid, gr., Durris; Mr. Gregor, Tiverton, Devonshire, was 2nd, with a grand display. Bunches of Grapes were well shown. Melons were few in number, but good; Peaches very good, and of high colour. For Apples the season has not been propitious, and the show of these fruits was all the more creditable.

Vegetables were highly creditable, the 1st prize for a collection going to Sir A. Grant, Bart., of Monymusk. The 1st place for the collection of nine kinds was won by Mr. Paterson, gr., Ruthrieston. Potatos were shown by themselves, and the display of them was extensive.

MARKETS.

COVENT GARDEN, September 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	7 6	21 0
Asters, per dozen	3 0	6 0
Campanulas, p. doz.	6 0	12 0
Chrysanthemums, p. dozen	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
— small, per 100	4 0	6 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	9 0	24 0
Fuchsias, per dozen	4 0	6 0
Heliotropes, per doz.	3 0	6 0
Hydrangeas, per doz.	9 0	18 0
Lilium Harrisii, per dozen	12 0	24 0
— lancifolium, pr. dozen	9 0	18 0
Marguerites, p. doz.	6 0	12 0
Mignonette, per doz.	3 0	6 0
Palms, various, each	2 0	10 0
— specimens, each	10 6	84 0
Pelargoniums, p. doz.	6 0	10 0
— scarlets, p. doz.	3 0	6 0

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, Cooking, per sieve	4 0	6 0
,, Dessert, half-sieve	3 0	5 0
Cobs, per 100 lb.	25 0	
Damsons, half-sieve	1 6	2 0
Figs, per dozen	1 6	3 0
Grapes, 1st quality, black English, per lb.	1 0	2 0
,, English, 2nd quality, p. lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	2 0
Grapes, Muscat, 2nd quality, per lb.	0 9	1 0
,, Guernsey, per lb.	0 5	0 9
Melons, each	1 0	2 0
Peaches, large, per doz.	4 0	8 0
,, small, per doz.	1 0	2 0
Pears, p. sieve, small	2 0	2 6
,, (Dessert), half-sieve	3 0	4 0
Pine-apples, St. Michael, each	2 0	5 0
Plums, half-sieve	2 0	3 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	2 0	4 0
Asters, doz. bun.	2 0	6 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blms.	0 6	1 0
— doz. bun.	2 0	6 0
Chrysanthemums, p. 12 blooms	0 6	1 6
— p. 12 bunches	3 0	8 0
Cornflowers, 12 bun.	1 0	2 0
Eucharis, per dozen	1 0	4 0
Gaillardias, dz. bun.	1 6	3 0
Gardenias, per dozen	1 0	3 0
Gladiolus, doz. bun.	4 0	12 0
Lapageria, 12 blooms	0 6	1 0
Lavender, 12 bunches	4 0	6 0
Lilium Harrisii, doz.	2 0	4 0
— lancifolium, p. bunch	1 0	2 0
— — p. 12 blooms	0 9	1 6
Maidenhair Fern, per 12 bunches	3 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	1 0	3 0
Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Pansies, 12 bun.	1 0	2 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blms.	2 0	4 0
Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
— 12 sprays	0 4	0 6
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per dozen	0 6	2 0
— coloured, p. doz.	2 0	4 0
— yellow (Maréchals), per doz.	1 6	4 0
— red, per dozen	0 6	1 0
— outdoor, per doz. bunches	2 0	6 0
Stephanotis, dozen sprays	2 0	4 0
Tuberoses, 12 blms.	0 3	0 6

Orchid-bloom in variety; rather scarce.

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, French, half-sieve	2 0	2 6
,, Runners, sieve	1 0	1 6
Cauliflowers, p. doz.	1 0	1 6
Cucumbers, per doz.	1 6	2 6
Marrows, per doz.	1 3	2 0
Mushrooms, per lb.	0 9	1 3
Tomatos, per lb.	0 3	0 4

Potatos.

Better demand for best samples. Prices:—Snowdrops, 80*s.* to 100*s.*; Hebrons, 60*s.* to 80*s.*; Giants, 50*s.* to 70*s.* per ton.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Above (+) or below (—) the Mean for the week ending September 8.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 —	52	0	+ 297	— 51	8 —	161	37·7	28	34
1	4 —	57	0	— 44	+ 7	3 —	146	26·5	31	35
2	5 —	60	0	+ 39	— 52	3 +	147	18·5	32	33
3	6 —	67	0	+ 57	— 100	3 +	139	18·0	31	36
4	5 —	67	0	+ 70	— 79	0 aver	138	17·4	35	33
5	5 —	85	0	+ 100	— 119	6 +	136	20·2	36	37
6	4 —	60	0	+ 46	— 69	10 —	152	34·4	56	33
7	4 —	75	0	+ 169	— 120	5 —	152	24·5	37	33
8	4 —	81	0	+ 98	— 81	0 aver	153	27·2	48	38
9	4 —	67	0	+ 33	— 33	7 —	170	27·3	55	30
10	6 —	66	0	+ 76	— 67	3 —	156	29·2	49	32
*	3 —	106	0	+ 217	— 18	4 +	156	25·3	42	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

TRADE NOTICES.

Messrs. Jones & Attwood, Hotwater Engineers, of Stourbridge, have opened offices at 110, Cannon Street, London, E.C.

Caution to Advertisers.—We have received complaints of a man who answers advertisements for Geranium cuttings, &c., and being supposed to be a respectable nurseryman, has obtained cash from various firms, and then disappeared. He was heard of lately at Norwood, Tottenham and Shirley.

Notices to Correspondents.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, &c, to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

American Blight: *Cherry Ripe.* Scrub the trees with strong brine in the winter, or with whale-oil. Petroleum emulsion is effective; or petroleum, a wine-glass of the oil to 1 gall. of strong soap-suds. The roots of the trees should be laid bare in the winter to such an extent as will not injure them, and the land about them well saturated with soap-suds. Such root-waterings may be afforded the trees several times during the growing season, the insect harbouring underground on and about the roots, as well as on the branches, &c.

Apples: *Cherry Ripe.* Can you send specimens of the maggots found beneath the bark? Before seeing these we cannot advise you.

Arsenical Solutions for Fruit Trees: *H. Weiler, Meran, South Tyrol.* Paris Green 1 lb., water 250 gallons. If this mixture be used on Peach trees, 1 lb. of quicklime is added. Repeated applications will injure the foliage unless lime be used. For insects that bite, it may be used with Bordeaux Mixture with perfect safety. London Purple: the same proportions as Paris Green, but as it is more caustic it should be applied with lime or with the Bordeaux Mixture, not to be used on Peach or Plum trees. For insects which chew, both may be used when the trees are in leaf. Remember, you are dealing with virulent poisons.

Beech Trees: *J. B. C.* The trees are affected with the Chermes fagi, an insect like that which causes American blight in Apples. It is very injurious to the trees. Nothing can be done when it has got ahead so much. Burn the trees, if possible. Young trees just affected might be washed with petroleum emulsion.

Bowling Green: *W. Clarke.* The Clover was sown rather thickly, and has to some extent smothered the Grasses; but the lawn, if it be mown at short intervals, will improve in texture of the herbage, and in a year or two the Grasses, being as we suppose the more numerous plants, will get the upper hand and the Clover diminish. You could help the Grasses by late winter dressings of finely-sifted loam and wood-ashes, the latter being used in the proportion of one-fourth. If there are parts of the lawn with very little Grass, seeds of Lolium perenne, Poa trivialis, and Festuca ovina, three good Grasses for lawns, might be sown, slightly covering them with loam, and rolling the patches when the soil is of that degree of dryness that it will not adhere to the roller. This sowing may be done this month or in March and April.

Bulbs: *C. W. D.* The bulbs are attacked by a fungus, but at present there is only mycelium present, and hence the name cannot be given with certainty. If the fungus develops, the name will be forwarded. *G. Massee.*

Contributions: *T. Beeson.* We charge nothing for contributions to our pages.

Crown Imperials: *T. B.* Plant at this season in well-enriched trenched soil, made very firm; plant not less than 6 inches deep, or 1 foot apart. Groups of a few bulbs have a good effect. They must be taken up and planted in another place every second or third year. Seeds would germinate in a cold frame if sown about this date; but it is scarcely worth the doing, the bulbs are so cheap. We do not understand your question about Tomatos.

Cucumbers for Winter Fruiting: *T. Beeson.* It is now rather late for sowing seeds. You had better get some layers or well-rooted cuttings. You can do nothing with winter Cucumbers in a dung-frame; or, at any rate, it would be a very tiresome laborious job. It is too late to set aside Cucumbers for ripening seed. These should be perfectly ripe by the end of this month.

Espalier Plums and Cherries: *Cherry Ripe.* The best soil consists of a rich loamy soil, full of the roots of grasses, &c., used in a comparatively fresh state. This should be mixed with old mortar broken small, or chalk. Manure had better not be used at first, although in a few years from time of planting it may be very lightly forked into the surface, or used in the form of a top-dressing. This applies to young nursery trees, whereas old trees, when replanted, may have some manure in a partially-rotten state mixed with the new loam and lime-rubbish in which they are planted. The border should not be less than 2½ feet deep, and provision should be made for draining it if not naturally well drained. Sands, gravels, greensand, and rocky subsoils seldom need artificial drainage.

Freesias: *T. Beeson.* Put six to twelve bulbs in a 4-inch or 8-inch pot of rich sandy soil; place in a cold frame, keeping the soil moist, and, if possible, without watering it before the bulbs push through, which is best done by burying the pots in damp coal-ashes, and covering them with the same. When growth has begun, and the roots fill the pots, remove the coal-ashes above them, but keep them in the frame, ventilating it when the weather is mild, and affording water carefully when the soil becomes dryish. Keep out the frost by means of linings of stable-litter, and covering the glass with mats, &c.

Fuchsias: *P. F. A.* The seedlings, if they do show great similarity in form and tints, have great freedom of flowering, and a desirable degree of vigour, the foliage being large, and of good substance. They should make as good subjects for beds as for pot-culture.

Fungus Growing in an Empty Cistern: *G. A. W.* Stemonitis fusca, one of the Myxogastres, and not a true fungus. *G. Massee.*

Growth on Lawn: *C. M. W.* The plant you send is a gelatinous Alga called Nostoc. Rake it off; apply a light dressing of gas-lime, and see that the lawn is properly drained.

Heliotrope: *M.* We suspect the one you mean is Heroine, sent out by Lemoine, and of which you may see a fine bed in the garden of the Royal Horticultural Society at Chiswick.

Insects: *H. A.* The common or steel-blue Sirex juvencus, one of the wood-wasps. How cruel of you not to kill the insect before you thrust a pin through it! It was still alive when it reached us. You will do well to burn the affected tree, to prevent the insects spreading.

Mushroom Bed at 91°: *Cherry Ripe.* It is not too high; 98°, blood-heat, is about the highest allowable degree of warmth for a Mushroom-bed at spawning time. The "spawn" will run at 91°, but it will take a rather longer time than if the bed had been a few degrees warmer. The warmth should be maintained by a covering of clean straw (not hay), with perhaps a bast mat over all; the house warmth may reach 60°, but a few degrees less is better, if the beds are a good thickness, and therefore likely to hold their warmth for a considerable time.

Names of Fruit: *W. Field.* Yes, it is the Salway Peach, and although this is a large fruiting variety, your specimens are of unusual size, weighing 14¾ oz. each.—*W. S.* We do not recognise your Pear, and it was badly bruised when we received it.—*F. G. G.* Your Peach was almost rotten when it got here. It may be Noblesse, but we cannot be sure.—*C. Dowling.* 1, Lord Suffield; 2, Dutch Codlin; 3, Dumelow's Seedling; 4, Lord Suffield?; 5, Tower of Glamis; 6, Probably Dumelow's Seedling.—*W. T. Holmes, Bradford.* Apple, large red, not recognised—a local variety. *Middlesex.* We cannot name your Peaches.—*B. W. W.* 1, Hessle; 2, Beurré d'Aremberg; 3, Winter Crassane; 4, Summer Franc Real; 5, Beurré d'Ezlée; 6, Beurré Hardy; 7, Zephirin Grégoire; 8, Belle de Bruxelles; 9, Marie Louise; 10, Général Todtleben.—*Laws & Son.* 1, Mank's Codlin, 2, Worcester Pearmain; 3, Devonshire Quarrenden.

Names of Plants: *T. T.* Catasetum purum.—*No Name in the Box.* 15, Selaginella lepidophylla; 16, S. stolonifera; 17, Pteris longifolia.—*Headland & Co.* An unhealthy piece of Dendrobium primulinum.—*C. S.* Clitoria Ternatea.—*J. G.* 1, Cassia corymbosa; 2, Peperomia arifolia; 3, Asclepias curassavica.—*H. C. J.* 1, Lysimachia; 2, Solidago canadensis; 3, Helenium autumnale; 4, Achillea Ptarmica, double; 5, Stenactis speciosa.—*M. & Co.* Silene noctiflora.—*Littletyne.* Apparently, a Cherry or Prunus, not a Birch.—*C. B.* The Caper-Spurge (Euphorbia Lathyris), not the true Caper. We advise you not to try it, as the Euphorbias are all more or less poisonous. The name was given from its resemblance to the true Caper.—*H. Y.* 1, Ligustrum lucidum; 2, Olearia Haastii; 3, Cupressus sempervirens, probably; 4, Sedum spectabile.—*A Young Beginner* should send better specimens. 1, Sempervivum arachnoideum; 2, S. montanum; 3, Veronica Traversii, perhaps; 6, Centaurea maritima, perhaps. The other scraps we cannot name.—*C. B.* 1, Berberis nepalensis; 2, Cupressus Lawsoniana; 3, Leycesteria formosa; 4, Spiræa Douglasi; 5, Ceanothus sp.—*C. T.* Trachelium cœruleum.—*Hoddesdon Jack.*—Send your variety Rose to someone who grows them largely.—*C. K.* Melilotus cœrulea, used to flavour Schapzigar cheese. We were not aware that it was used for burns.—*A Subscriber, Worksop.* Rosa Bengalensis, Cramoisie supérieure.—*C. T.* The Cœlogyne cristata looks as though it would have been better for a little more heat and water during the making of its last bulbs. Keep moist, and in a shady but well-ventilated place.

Passion-flower not Flowering: *Passion.* These plants seldom do much good when confined in pots or very small borders, for they require plenty of root space and direct sunlight. Shade is fatal to good flowering. How far these conditions agree with those under which your plant exists, we do not know.

Peach Leaves: *T. B.* The leaves are weak, thin, and small, just those which might be produced by a plant injuriously affected by something in the soil, or which had been applied to it. The browning of the tips certainly points in this direction. Artificial manures are especially risky in inexperienced hands. Good loam, that is, loam with the fibrous roots of grasses, &c., still undecayed, remaining in it, and used within one year after digging, makes the best kind of potting soil for the Peach, manure being afforded in the form of top-dressings, laid on 2 inches thick, of partially-decayed stable dung, which can be kept in place by a strip of zinc 4 inches deep, or strips of roofing slate stuck round the edge of the pot. Two or three dressings may be given during the season, first raking off that which is not overrun with roots.

Pears: *G. W. F.* You are probably not aware of the amount of time, trouble, and money which you impose upon us, for a return of three pence, or perhaps of nothing! We will endeavour to name six in our next issue, and if more are named we shall hope you will send us a contribution to the Gardeners' Orphan Fund.

Tomato: *J. J. S.* We cannot name the variety. There are dozens like it.

Vine Leaves: *Epton.* We do not see any disease in the leaves. The red colouring is only a sign of natural decay. It is impossible for us to hunt up the letters you require.

Wasps and Grapes: *S. P. D.* Make frames for the ventilating openings or the doors, and to these nail hexagon or other netting of so fine a mesh that flies, wasps, &c., cannot enter. The next best method is to put each bunch into a bag made of net or muslin. There are various ways of trapping wasps, but to be effective these must be baited with sweetened beer, damaged fruit, sugar syrup, which only serve to bring more wasps into a vinery.

Communicatigns Received.—A. Black, Carton.—L. & B.—J. G.—D. S.—C. F.—M. B.—R. B.—N. L.—R. P.—H. Strauss.—J. H. V.—R. C. S.—E. C.—H. E.—W. K.—D. T. F.—Captain Oliver.—B. W.—E. J.—E. M.—J. D.—J. B.—R. L. H.

Photographs, Specimens, &c., Received (with thanks).—D. S.—Dr. King.—H. Strauss.—R. H. J.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

Advertisers are reminded that the "Chronicle" circulates among country gentlemen, and all classes of gardeners and garden-lovers *at home, that it has a specially large* foreign and colonial circulation, *and that it is preserved for reference in all the principal Libraries.*

Colchester Cemetery.—To Landscape Gardeners.

THE COLCHESTER JOINT BURIAL BOARD are prepared to RECEIVE DESIGNS and PLANS for LAYING OUT and PLANTING the NEW GROUND now being added to the above Cemetery. Such Designs and Plans to include Road Making, Draining, and all necessary work for completely Laying Out the Ground and supplying Planting such Trees and Shrubs as may be required. An Estimate of Cost with Tender for the work must accompany each Design.

Plans of the Ground may be obtained free of cost of Mr. C. E. Butcher, Architect, Queen Street, Colchester.

Designs and Tenders are to be sent in to the Clerk to the Board, endorsed "Tenders for Laying Out NewGround," on or before Wednesday, the 26th day of September, 1894. The Board does not bind itself to accept the lowest or any Tender or Design.

All further information required may be obtained of the Clerk to the Board. By Order.

ARTHUR S. B. SPADING, Clerk to the Board.

Burial Board Office, 30, Queen Street, Colchester, Sept. 6, 1894.

BERNARD HINTON COOPER, Deceased. Pursuant to the Statute 22 & 23 Victoria, chapter 35, Intituled "An Act to further amend the Law of Property and to relieve Trustees," NOTICE IS HEREBY GIVEN, that all Creditors and other persons having any debts, claims, or demands against the Estate of BERNARD HINTON COOPER late of 43 Jermyn Street St. James in the County of Middlesex Florist trading under the name or style of WARREN AND CRAIK who died on the 19th day of June 1894 and whose Will was proved by ROSA COOPER, Widow the relict and sole Executrix therein named in the Principal Registry of the Probate Division of Her Majesty's High Court of Justice on the 11th day of August 1894, are Hereby Required to send Particulars in writing of their debts claims or demands to us the undersigned as Solicitors to the said Executrix on or before the 20th day of October 1894. AND NOTICE IS HEREBY GIVEN that at the expiration of that time the said Executrix will proceed to distribute the Assets of the said Testator among the parties entitled thereto, having regard only to the debts, claims and demands of which she shall then have had notice: and that she will not be liable for the assets, or any part thereof so distributed, to any person or persons of whose debt, claim, or demand she shall not then have had notice.

DATED this 8th day of September, 1894.

COOPER AND SONS.

13, Sherwood Street, Piccadilly Circus, London, W.,
Solicitors for the said Executrix.

FOR SALE.—100,000 NARCISSUS POETICUS, good Flowering Bulbs, 3*s*. 6*d*. per 1000. Cheaper rate to large buyers.

W. BROWN, Ashford Nurseries, Ashford, Middlesex.

LOVELS' YORKSHIRE STRAWBERRIES.
Rooted Runners of
Thury, Noble, Paxton, President, and others.
500, 20*s*.; 100, 4*s*. 6*d*.; 20, 1*s*., carriage paid for cash. List free.
W. LOVEL AND SON, Driffield.

CUTHBERT'S BULBS for EARLY FORCING.
ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.
R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.
Bulb Importers, Seed Merchants, &c., Southgate, N.
Established 1797.

B. MALLER AND SONS beg to offer to the Trade a very extensive and unusually well-grown stock of Ericas (hyemalis and other varieties), Epacris, Solanums, Genistas, Cyclamen, Double White Primulas, Bouvardias of sorts, Adiantum cuneatum and other Ferns; Palms in variety, Gardenias, Stephanotis, Dipladenias, Ficus elastica, Crotons, Genistas, Tea Roses (in pots), Vines in pots, &c.
An inspection is invited.
TRADE CATALOGUE forwarded on application.
Burnt Ash Road Nurseries, Lee, S.E.

JULES DE COCK'S NURSERIES,
Ledeberg, Ghent (Belgium).
30,000 Azalea Indica, 12,000 A. mollis, 50,000 Begonia Bulbs, 3,000 Dracæna Bruanti, 2,000 D. discolor, 4,000 D. indivisa, 2,000 D. lineata, 2,000 rubra, 10,000 Gloxinias, 30,000 Spiræa japonica, 4,000 S. j. aurea reticulata, 10,000 Palms in variety, with characterised leaves; 2,000 Ficus elastica.

FERNS. — GREAT ANNUAL SALE. — SURPLUS STOCK (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 10*s*. per 100; 200 out of pots, 16*s*.; large ditto, in 48's, 40 best selling sorts, 6*s*. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6*s*. and 8*s*. per dozen; ditto, for making large plants quickly (bushy), 16*s*. and 20*s*. per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6*s*. per dozen. Ficus, Palms, Dracænas, 1*s*. each. Pelargoniums and Hydrangeas, 9*d*. each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

GRAND NEW ZONALS, 1894.
Selected from Pearson's, Cannell's, Miller's, and my own sets. Cuttings, 6*s*. per dozen.

NEW ZONALS, 1893.—Cuttings, 3*s*. per dozen. Very fine, previous introduction, 2*s*. per dozen. Free, cash with order.

H. J. JONES,
RYECROFT NURSERY, HITHER GREEN, LEWISHAM, S.E.

STRAWBERRY PLANTS. Hand-laid Runners, and Plants in Pots of the best varieties, including President, Sir Joseph Paxton, British Queen, Keen's Seedling, Vicomtesse H. de Thury, Dr. Hogg, Noble, and others.

DESCRIPTIVE CATALOGUE on application

DICKSONS NURSERIES CHESTER.

BUNYARD'S KENT STRAWBERRIES.
Best plants of finest sorts. New LIST free.
GEORGE BUNYARD AND CO., Old Nurseries, Maidstone.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

BOUVARDIAS.—Good strong Plants, from cold frames, in 5-inch pots, vars. President Garfield and Cleveland, A. Weimer, and Vreelandii, showing buds, 6*s*., 6*d*. per dozen, £2 10*s*. per 100; also Double White PRIMULAS, 4½-inch pots, strong plants, from cold frame, same price. Packing free. Cash.
GREAVES AND HAYNES, Florists, Beeston, Notts.

A REMARKABLY fine COLLECTION of BROMELIA PLANTS for SALE, or EX HANGE for Greenhouse Plants.
Address, GARDENER, Pendell Court, Bletchingley, Surrey.

FERNS—FERNS.—Pteris cristata and tremula, 48's, 4*s*. 6*d*. per dozen. Small cristata, 9*s*. 6*d*. per 100, packed free on rail. Cash with order.
L. M., Rose Crescent Nursery, New Barnet, Herts.

30,000 LILIUM HARRISII, good sound Flowering Bulbs. Sure to please. 90*s* per 1,000, 10*s*. per 100, 1*s*. 9*d*. per dozen. Larger Bulbs, 180*s*. per 1,000, 20*s*. per 100, 3*s*. per dozen. All other Bulbs at Low Prices. Cash with order.
BIRCHALL BROS. & CO., 20, Polygon Rd., Southampton.

To the Trade.

CYCLAMEN.—CYCLAMEN.—Grand stuff, in 48's, well set with bloom, 8*s*. per dozen, free on rail, cash with order; £3 per 100.
W. E. TIDY, Brockhampton Nurseries, Havant, Hants.

NOTE!—Real Cheapness & Quality First-class. —All 1*s*. per 100:—Pheasant-eye Narciss, Aconites, Single Daffodils, large Yellow Crocus, and Star of Bethlehem. All 1*s*. 6*d*. per 100:—Biflorus, Double White, Ornatus, Orange Phœnix Narciss, Double Daffodils, and Blue Scillas. All 2*s*. per 100:—Scilla, White and Sibirica, and large Double Snowdrops. 4*s*. per 100:—Double Incomparabilis (Butter and Eggs) Narciss. 4*s*. per dozen:—Horsfieldii. 5*s*.:—Rugilobus, and Sir Watkin. 2*s*. per dozen:—White Lily, and Yellow Turk's Cap. Cash with Order. Satisfaction guaranteed.
G. YORKE, Bulbist, Retford, Notts.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s*. per 100; 15 in. to 18 in., at 40*s*. per 100; 38 in. to 21 in., at 55*s*. per 100; 21 in. to 24 in., at 75*s*. per 100; 10 in. to 40 in. at special prices.

GOLDEN: 5 in. to 12 in., at 3*s*. to 8*s*. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

GERANIUM CUTTINGS.—Well-rooted F.V. Raspail, out of 60's-pots, 3*s*. per 100, 25*s*. per 1,000. CARNATIONS in 48's-pots, flower early, the New Park Souv. de la Malmaison, Mrs. F. Watts, Germania, R. Hole, 6*s*. per dozen. Cash with order.—JAMES GREEN, Reliance Nurseries, March.

MILLER'S HYACINTHS, Best and Cheapest. —Grand Exhibition Hyacinths, the pick of Holland, 5*s*. 6*d*. per dozen; choice Hyacinths, named sorts, for pots or glasses, 3*s*. 6*d*. per dozen; splendid Bedding Hyacinths, in distinct colours, each colour, 12*s*. 6*d*. per 100, 1*s*. 9*d*. per dozen; mixed Hyacinths, all beautiful colours, 9*s*. 6*d*. per 100, 1*s*. 4*d*. per dozen; mixed red Hyacinths, mixed white Hyacinths, mixed blue Hyacinths, each 10*s*. 6*d*. per 100, 1*s*. 6*d*. per dozen. Orders above 10*s*. carriage paid. Illustrated Bulb Catalogue post free.
F. MILLER & Co., 267, Fulham Road, London, S.W.

BARR'S WINTER & SPRING FLOWERS. CATALOGUES sent free.—See Illustrations, back page. *Gard. Chron.*, Sept. 1, 1894.
CATALOGUE of BULBS, Winter, Spring, and Summer-flowering.
CATALOGUE of DAFFODILS, for Pots, Beds, Borders and Naturalisation in Meadows, Woods, &c.
CATALOGUE of ENGLISH AMATEUR TULIPS, of absorbing interest to English Amateurs.
CATALOGUE of HARDY HERBACEOUS PERENNIALS, for Beds, Borders, and Naturalisation.
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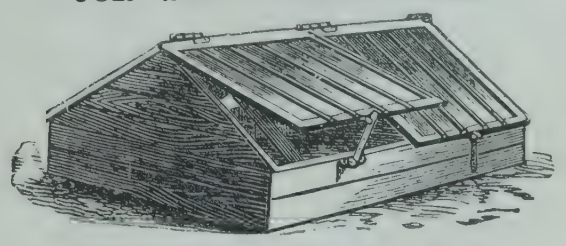
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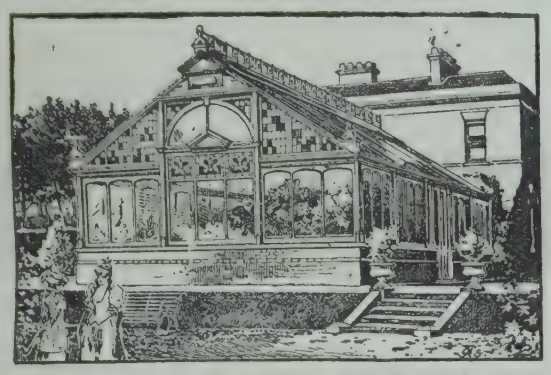
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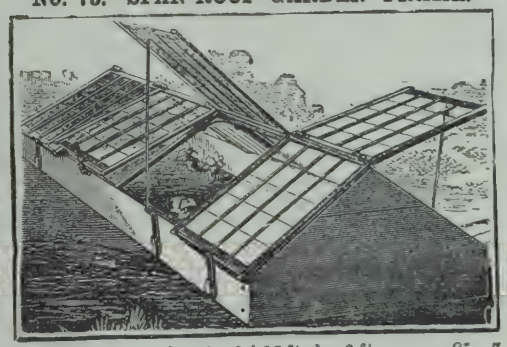
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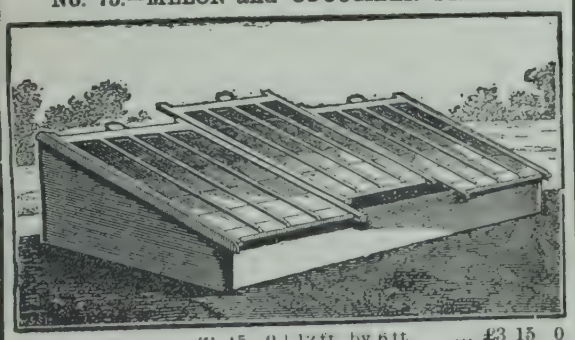


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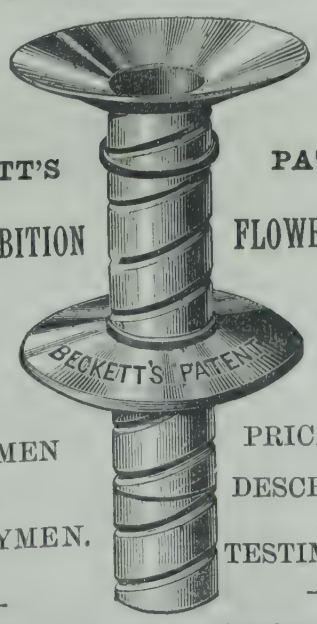
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BULLETIN d'ARBORICULTURE, de FLORICULTURE, et de CULTURE MARAICHÈRE. A monthly horticultural work, with superb Coloured Plates and Illustrations. Published since 1865, by F. BURVENICH, F. PAYNAERT, E. RODIGAS, and H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-paid, 10s. per annum.

H. J. VANHULLE, Botanical Gardens, Ghent, Belgium.

CATALOGUES RECEIVED.

CARTER, PAGE, & Co, 52—53. London Wall, London, E.C. —Dutch Bulbs and other Flower Roots, Roses, Fruit and Ornamental Trees.

GILBERT DAVIDSON, Ammanford, R.S.O., South Wales—Dutch Bulbs, and a few rare or little-known Plants.

THOS. S. WARE, Hale Farm Nurseries, near Tottenham—General Bulbs, Iris, Lilies, and Narcissus, Carnations, Picotees, Pæonies, Pansies, Phlox, Pyrethrums, &c.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex—Ornamental Trees and Shrubs, Roses, Fruit Trees, Hardy Climbers, &c., Bulbs, &c.

RUSSELL BROS., Altifirma Nursery, Highland, North Carolina, U.S.A.—Wholesale Catalogue of Rare Trees, Shrubs, and Hardy Herbaceous Perennial Plants of the Southern Alleghany Mountains.

P. BARR & SONS, King Street, Covent Garden, London—Daffodils and other Bulbs, Tubers, &c.

CLARK, BROTHERS, & Co., 65, Scotch Street, Carlisle—Bulbs, &c.

DOBBIE & Co., Rothesay, N.B.—Bulbs, Carnations, Chrysanthemums, Herbaceous Plants, Pansies, Phloxes, Pyrethrums, Roses, Violas, &c.

PARKER & SONS, St. Michael's Hill Nursery, Bristol—Bulbs.

JAMES YATES, Underbank and Royal Oak Mills, Stockport—Bulbs and Flowering Roots.

JOHN PERKINS & SONS, 52, Market Square, Northampton—Bulbs.

KENT & BRYDON, Darlington—Bulbs, &c.

CUNNINGHAM & WYLLIE, 8, West Nile Street, Glasgow—Bulbs and Garden Requisites.

D. S. THOMPSON & SONS, Wimbledon, Surrey—Bulbs, &c.

E. H. KRELAGE & SONS, Haarlem, Holland—Bulbs and other Bulbous and Tuberous-rooted Plants.

THOMAS KENNEDY & Co., High Street, Dumfries—Bulbs, &c.

WM. SAMPSON & Co., Portland Street, Kilmarnock—Bulbs, Forest Trees, Fruit Trees, Shrubs, Roses, &c.

EDMONDSON, BROS., 10, Dame Street, Dublin—Bulbs, &c.

GARDENING APPOINTMENTS.

MR. JAMES PACKHAM, Ayton Castle Gardens, Berwickshire, N.B., has been appointed Gardener to HENRY WEBBER, Esq., of Duxhurst, Horley, Surrey.

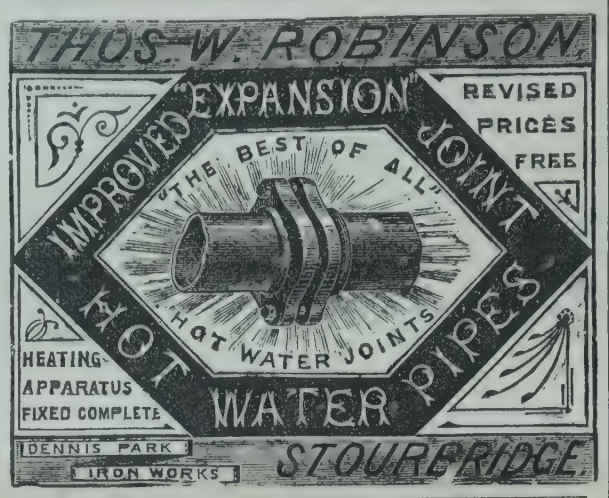
Mr. THOMAS ODD, until lately Head Gardener, Evington House, Leicester, as Head Gardener and Bailiff to the Hon. and Rev. J. PRATT, Tendring Rectory, Colchester.

Mr. W. SILK, recently Foreman at Cassiobury Gardens, Watford, as Gardener to PANMURE GORDON, Esq., Loudwater House, Rickmansworth.

Mr. HUGH ARMSTRONG, for the past five years Foreman at Carton, co. Kildare, as Head Gardener to General LLOYD, Rathkeale, co. Limerick.

Mr. J. WINDER, for four years at Elvaston Hall Gardens, Ryton-on-Tyne, as Gardener to J. S. BARWICK, Esq., Ashbrooke Grange, Sunderland.

Mr. W. HAWKINS, for many years Foreman at Wycombe Abbey, as Gardener to A. GILBEY, Esq., Woburn House, near Maidenhead.



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WANTED, an UNDER GARDENER, strong and active, about 17 or 18 years old.—State wages required to F. DAVIS, The Gardens, Coptfold Hall, Ingatestone, Essex.

WANTED, a NURSERY PROPAGATOR, Outside.—State experience, wages required, and reference to SYDNEY MARSHALL, Bernham Nursery, Burnham Junction, Sussex.

WANTED, a FOREMAN (Outside).—Small Nursery; strong, active and willing. Used to General Work. Wages 21*s.*—R. OWEN, Floral Nursery, Maidenhead.

WANTED, at end of September, a good FOREMAN, well up in Plants and Fruits, also House and Table Decoration, and be able to Manage Men in absence of Gardener, who acts as Bailiff, &c. None but reliable men need apply. State previous experience and wages required, to B., 41, Wellington Street, Strand, W.C.

WANTED, a thoroughly competent all-round MAN, as NURSERY FOREMAN.—Apply, stating wages, experience, and references, G. JONES, Mount Nursery, Storeton Road, Birkenhead.

WANTED, an industrious young MAN, for Growing Herbaceous and Hardy Plants.—Must have a good knowledge of same. Wages, 18*s.* a week, with bothy-accommodation.—Apply, CURATOR, Botanical and Horticultural Society, Sheffield.

WANTED, a Single MAN for Flower Gardens and Pleasure Grounds. Must be able to use scythe. State wages required, to W. FOOTE, The Gardens, Bedgebury Park, Goudhurst, Kent.

WANTED, a respectable young MAN, used to Kitchen Garden and Lawn work, and well used to the Scythe. Full particulars to HEAD GARDENER, Broome Park, near Canterbury, Kent.

WANTED, a thoroughly smart, intelligent and industrious young MAN, for the Houses. Only those who have had experience in good Nurseries or Market Growing, and whose character for ability, &c., will bear investigation need apply. Compact modern Houses and every facility, with progressive wages, offered to a good man.—W. C. HOLLANDS, Horticultural Establishment, Tunbridge Wells.

WANTED, a young MAN, with a Knowledge of Glass and Nursery Work.—Apply to J. LANE, 227, Brixton Road, S.W.

WANTED, strong, willing, young MAN for Garden. Must understand Mowing. Wages 15*s.* per week.—Particulars to F. SMITH, The Gardens, Carshalton Park, Surrey.

SEED TRADE.—WANTED, an ASSISTANT, with a good knowledge of the Nursery and Seed Business; must be a good Salesman; preference given to one with a connection in Ireland amongst Farmers and Gardeners; will have to take occasional journeys. Also a SECOND COUNTER-HAND, of good experience.—Apply, with full particulars, to W. TAIT AND CO., Seedsmen, 120, Capel Street, Dublin.

WANTED, an intelligent LAD, to Assist in SEED SHOP; one accustomed to Trade preferred.—Send reference and wages expected, in own hand-writing, to W. FROMOW AND SONS, Sutton Court Nursery, Chiswick.

WANTED, AT ONCE, an active, energetic young MAN, for the Florist Trade. Age about 18.—Apply by letter, stating references and wages required—An IMPROVER WANTED also.—GEO. BLUNDELL, Oak Villa Nursery, Friern Barnet.

WANTED, a married man, as COWMAN, without children preferred, on a Gentleman's place; one thoroughly accustomed to Horse-machine, and to fill his time up in Gardens. Wages, 18*s.* per week, milk, and live in lodge.—HEAD GARDENER, Wexham Park, Slough.

WAREHOUSEMAN.—WANTED AT ONCE, an experienced Man, with a knowledge of the Seed Trade. Good references indispensable.—Apply, W. W. JOHNSON & SON, Seed Growers and Merchants, Boston.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

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JOHN DOWNIE, 144, Princes Street, EDINBURGH, can confidently recommend first-class Men as above, of excellent character and ability. Highest recommendations. Telegraphic address, "DOWNIE, EDINBURGH."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

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GARDENER (HEAD); age 31.—C. FIELDER, Gardener to the Dowager Lady Howard de Walden, Mote Park, Maidstone, begs to recommend Wm. Bacon, who has been Foreman in these Gardens during the past four years, to any Lady or Gentleman requiring a thoroughly trustworthy man, where several men are employed. Sixteen years' experience in good situations.—The Mote Park Gardens, Maidstone.

GARDENER (HEAD).—Lord RODNEY, Berrington Hall, Leominster, wishes to highly recommend his Head Gardener to anyone requiring the services of a thoroughly trustworthy and practical man; married, aged 31. Please address, first instance, JAS. GRIMES, as above.

GARDENER (HEAD, where three or four are kept).—Age 29; married. Large experience, and highly recommended. Excellent character in every detail.—H. TREEN, Dawlish Road, Selly Oak.

GARDENER (HEAD), where two or three are kept.—Middle-aged man; practical, energetic, well-up in Vines, Plants, and Fruit Culture Inside and Out, with a thorough knowledge of Cucumbers and Tomatos, and management of men; exceptional character.—G. W. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 34, married, two children, ages 5 and 6; thoroughly experienced in the culture of Fruits and Plants under Glass, Vines, Peaches, Melons, Flower and Kitchen Gardening. Good references; five years' good character from present employer.—R. PERRIN, Verdley Place, Haslemere.

£5 BONUS given to anyone securing for me a situation as HEAD GARDENER, where three or four are kept. Thoroughly experienced. Well recommended. Age 34, married, one child.—GARDENER, 300, Shobnall Road, Burton-on-Trent.

GARDENER (HEAD WORKING).—Age 40, married; thoroughly practical in every branch, including Orchids, and well understands the requirements of a large establishment. Eleven years' good character.—F. SOMERFORD, 7, Augustine Cottages, Brook Lane, Cheshunt, Herts.

GARDENER (HEAD WORKING), where one or two are kept.—Age 33, married, two children. Well up in all branches of Gardening, Early and Late Forcing, Flower and Kitchen Garden. Good character. Four years in present situation, eight previous.—A. SMITH, Church Hill, Pulborough, Sussex.

GARDENER (HEAD WORKING).—Age 33, married, no family. Experienced in all branches; good references.—DRAPER, The Cottage, 1, Eliot Place, Blackheath, S.E.

GARDENER (HEAD WORKING, or SINGLE-HANDED).—Age 34, married; eight years' good character. Leaving through death.—T. S., 19, Stanhope Gardens, South Kensington, S.W.

GARDENER (HEAD WORKING).—Age 32, married, when suited. Mr. WARD, Gardener to T. H. Oakes, Esq., Riddings House, Alfreton, Derbyshire, can with confidence recommend his Foreman, H. Hoellischer, to any Lady or Gentleman requiring an efficient and competent Gardener, seventeen years' practical experience, ten years in present situation.

GARDENER (HEAD WORKING).—Age 37, married; thoroughly experienced with Grapes, Peaches, Cucumbers, Tomatos, Flowers, Vegetables Stove and Greenhouse Plants. Excellent character.—SHEPHERD, Dragon Street, Petersfield, Hants.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 29, married, no family; thoroughly experienced in all branches. Highly recommended.—GLADDEN, 1, Douglas Road, Tolworth, Surrey.

GARDENER (HEAD WORKING).—Age 29; married, no family; good all-round experience, including Orchids; can be well recommended; disengaged.—CHEAL, Chintnurst, Bramley, Guilford.

GARDENER (HEAD WORKING).—Age 36, married, two children. Twenty years' good all-round experience. Good Landscape Gardener. Good character.—B., 10, Beaconsfield Terrace, Milton Street, Southend-on-Sea.

GARDENER (HEAD WORKING), where help is given.—Age 45, single; experienced in Stove and Greenhouse Plants, Flower and Kitchen Gardens, Vines, Peaches, and Melons. Seven and a half years' excellent character, twelve years previously.—R. W., Mr. H. Haines, Newtown Common, Newbury, Berks.

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GARDENER (HEAD, or WORKING).—Age 30, married, no children. Ten years' character.—O. H. P., Willing's Advertisement Office, 162, Piccadilly, W.

GARDENER (HEAD WORKING, or SINGLE-HANDED).—Age 45, married; thoroughly experienced in all branches, both Inside and Out. Excellent character.—GARDENER, The Glen, Tonbridge.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 28; single; thorough practical experience in the general routine of gardening in good places; total abstainer.—HEAD GARDENER, Dorincourt, Warlingham.

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GARDENER (good SINGLE-HANDED, or with help).—Good all-round man; life experience. Married, two children; wife understands Laundry, Dairy, or Poultry, if required.—MUSK, Lifford's Place, High Street, Barnes.

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GARDENER (SINGLE-HANDED, or UNDER).—Age 34, married, one child. Fourteen years' experience; well recommended as to character and ability.—JOHN S. MACNAUGHTON, Gardener, Auchterarder, Perthshire.

GARDENER (SINGLE-HANDED), or with help.—Age 25; nine years' experience in General Routine; can be highly recommended.—F. K., Tower Gardens, Belvedere Park, Belvedere, Kent.

GARDENER (SINGLE-HANDED), or where help is given.—Age 27; good all-round experience. Good character.—H., 3, Excelsior Road, Norbiton, Surrey.

GARDENER.—A Gentleman going abroad wishes to recommend his Gardener as an industrious, steady, and good all-round man.—D., Mr. Nicholson, 3, Wolsey Road, Teddington.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 24, single; thoroughly experienced, Inside and Out. Can be well recommended.—J. RING, 10, Strafford Road, High Barnet.

GARDENER (UNDER, or SINGLE-HANDED).—Age 23; nine years' experience Inside and Out. Can use scythe.—W. S., 41, Wellington Street, Strand, W.C.

GARDENER (UNDER), Indoors and Out.—Young Man (age 20), recommended by present employer, seeks situation as above.—A. H., Ferncroft, Faygate, Sussex.

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ROSE GROWER, Inside or Out, or PROPAGATOR and GROWER of General Nursery Stuff.—Age 30, married; fourteen years' experience.—F. NASH, 16, Stanley Terrace, Lower Weston, Bath.

HINDMAN.—Any Gentleman desiring a willing and experienced Hindman, A. WHITEWAY, Gloddaeth, Llandudno, is open for such, well experienced in Sheep, Cattle, and Land.

KNIFEMAN; age 20; successful Budder and Grafter; Outside.—Messrs. BIRD & VALLANCE can recommend a young man, as above. Six years' experience. Reply, stating wages, &c.—F. GROOM, Priory Road, Downham, Norfolk.

J. STANDISH AND CO. can recommend a young Man (age 24) as FOREMAN in the Houses, to a Gardener requiring a thoroughly reliable man.—MANAGER, Royal Nurseries, Ascot.

FOREMAN, or FRUIT GROWER.—Age 26; Grapes, Tomatos, Cucumbers, &c. Well recommended.—FOREMAN, Mr. Stephen Castle, F.R.H.S., Ashford Vineries, Fordenbridge.

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FOREMAN, or JOURNEYMAN (FIRST), Inside.—G. PARKS, Berry Hill Gardens, Mansfield, would be pleased to recommend a young man as above. Twelve years' experience.

FOREMAN, in a private establishment.—Age 26; twelve years' practical experience; excellent character from last and previous places.—J. FRANCIS, Church Street, Madeley, Salop.

FOREMAN, Inside or General; age 25.—W. YATES can be well recommended by Mr. Geo. Humphrey, Head Gardener, Nash Court, Faversham, Kent; ten years' experience in first-class situations.

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JOURNEYMAN (FIRST) in the Houses.—JAMES HOAD, Gardener, Wray Park, Reigate, can thoroughly recommend George Nye to any Gardener requiring a trustworthy young man. Age 22. Leaving through death of employer. Seven years' good character.

JOURNEYMAN, in the Houses.—JAMES HOAD, Gardener, Wray Park, Reigate, can thoroughly recommend Arthur Brown (age 19) to any Gardener requiring a good persevering young man. Five years' good character.

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To Nurserymen and Gardeners.

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JOURNEYMAN (FIRST), or Inside and Out.—A year's experience Inside, with two years' character from last situation.—B., Colney Park, St. Albans, Herts.

£3 BONUS.—JOURNEYMAN (Inside) in good Establishment, aged 24 years; good character, references, &c.—E. CROOK, 9, Paul St., Kingsdown, Bristol.

JOURNEYMAN.—Age 18; in good Market Nursery or Private Place. Good reference and experience.—W. MORLAND, Sydney Lodge, Hamble, Southampton.

JOURNEYMAN, in the Houses.—F. CAPP, Gardener to Sir Charles Pigott, Bart., wishes to highly recommend a young Man as above, who has been with me for eighteen months Inside.—F. CAPP, The Gardens, Wexham Park, Slough.

JOURNEYMAN.—Mr. A. W. COVE, Head Gardener, Pentillie Castle, St. Mellion, Cornwall, wishes to very highly recommend a young man (age 22), as Journeyman, who has been under him seven years. Steady, sober, industrious, and well up to his work.

JOURNEYMAN, Inside or Out.—Mr. RICHARD NICHOLAS, F.R.H.S., Gardener to the Earl Fortescue, Castle Hill, Devon, will be glad to recommend a young Man as above. Six years' experience. Leaving through a reduction.

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JOURNEYMAN, or SECOND in a good establishment.—Mr. BASKETT, The Gardens, Eashing Park, Godalming, would be pleased to recommend A. Elcock, as above. Four and a-half years in present situation.

JOURNEYMAN (FIRST), in the Houses, under a good Foreman.—Age 20; good practical experience.—A. J. SANDERS, Gardener to Viscountess Chewton, Bookham Lodge, Cobham, Surrey.

JOURNEYMAN, Inside.—Age 24. Good experience in Plant-houses, and Forcing Vines and Peaches. Good character; well recommended.—W. H. STACEY, The Gardens, Highcliffe Castle, Christchurch, Hants.

JOURNEYMAN (UNDER), in a good place, Inside, or Inside and Out.—Age 21; good references; bothy preferred.—A. YOUNG, West End Cottage, Ebbesbourne, Salisbury.

IMPROVER.—Situation wanted by a Youth (age 17). No objection to pony and trap. Highly recommended by a Clergyman.—P. C., Coles Park, Buntingford, Herts.

IMPROVER (Inside or Out).—Age 20; three years last place; disengaged. Abstainer; bothy preferred.—G. H., 81, Homesdale Road, Bromley, Kent.

IMPROVER.—Young man (age 28), single, wants situation in good Garden, Inside and Out; good character; abstainer.—C. LUCAS, Long Street, Atherstone.

IMPROVER, Inside and Out.—Age 18; strong and willing. Five years' experience. Bothy preferred. No objection to Nursery.—Apply, Mr. G. HEDGES, Crookham, near Newbury, Berks.

IMPROVER.—Age 19; strong and active. Three years' experience Inside and Out.—A. HERBERT, Warfield Hall, Bracknell.

IMPROVER.—Situation wanted for a Youth, about 19, in a Gentleman's Garden. About four years' experience Inside and Out. Total abstainer. Premium offered.—F. BEAUMONT, Central School, Bournemouth.

APPRENTICE.—Wanted to Apprentice a steady, respectable youth of 19, abstainer, to the Seed Business.—W. A., 246, Regent Street, W.

ASSISTANT in the Garden.—Age 22; eight years' experience. Highly recommended by Sir E. S. Hardinge, Bt., or Head Gardener, Claremont, Cheshunt, Herts.

TO HORTICULTURISTS.—A Gentleman wishes to place his son (aged 19), with a good Working Horticulturist.—F., 5, St. Matthew's Road, St. Leonards-on-Sea.

TO NURSERYMEN.—Wanted, by a youth, age 17, a situation as General Helper in a Market Nursery, Inside and Out.—S. A., Bradley's Nurseries, Bardney, Lincoln.

TO NURSERYMEN.—Situation wanted in a Market Nursery. Well up in Ferns and Soft-wooded Stuff. Six years' experience. Good references. Age 22.—S. F. Z., 41, Wellington Street, Strand, W.C.

PAINTER and GLAZIER.—A practical workman would be glad to hear of a job. Nursery or Estate; moderate terms.—G., 62, Gloucester Road, Croydon.

HEAD SHOPMAN (age 24) requires engagement.—Eight years' experience in Seeds, Bulbs, Plants, &c.; good references.—SHOPMAN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SEED TRADE.—Situation wanted as SHOPMAN. Would travel if required. Ten years' experience, Wholesale and Retail. Age 26 years.—SEEDSMAN, Mr. Berry, The Cloisters, St. Albans, Herts.

CLERK, MANAGER, or SHOPMAN, twelve years' experience all branches. Has travelled. Good Book-keeper.—W. H., Flintor House, Woodside Park, N.

TOO MUCH STRESS cannot be laid on the fact that in the whirl of unnatural excitement, and in the struggle for existence in this generation, no attention whatever is vouchsafed to the most ordinary rules of health. When the muscles become relaxed, the nerves over-sensitive and delicately strung, and the brain wearies at the slightest task, these symptoms are part of Nature's warning that the delicate organism of the human frame is out of gear. In most cases a gentle stimulant and mild restorative is all that is required to impart fresh vitality to the jaded nerves, and it is a well-known fact that a few doses of HOLLOWAY'S PILLS work wonders and restore the lost tone of the nervous system.

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GEO. BUNYARD & CO.

BEG CORDIALLY TO INVITE INSPECTION OF THEIR

FRUIT TREE and GENERAL NURSERIES

Which are unusually interesting this Season, as Fruit is abundant, and the Trees are finer than ever.

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PEARS, grand Espaliers of all the best-flavoured kinds, and Pyramids on Quince and Pear; and extra-sized Cordons. A few grand Novelties—50,000.

PLUMS, extra-sized Fan-trained Trees in a Fruiting state. Pyramids and all other forms—100,000.

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PEACHES and NECTARINES, Rider-trained, with stems 2 to 6 ft., very fine; Dwarf-trained, extra fine; and Fruiting Trees in Pots, extra sizes. Fine examples of all the best-flavoured kinds, and Rivers' New Nectarines—5000.

APRICOTS, clean-trained Trees, and grand Maidens of Peaches, Nectarines, and Apricots—true to name.

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MISCELLANEOUS FRUITS—

CRABS, all leading kinds. WALNUTS.
MULBERRIES, Standard and ½-Standard.
QUINCES, Standard and ½-Standard.
MEDLARS, Standard and ½-Standard, three best sorts. RHUBARB.
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Established, 1796. 300 Acres.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view morning of Sales, and Catalogues had.

Monday Next.—Plants from Belgium, &c.

Two hundred lots of hardy BORDER BULBS, CLEMATIS, and other Climbing Plants in pots; 200 AZALEA INDICA, well set with buds, from Belgium; 50 lots of STOVE and GREENHOUSE FERNS and PLANTS; ROSES, in pots; together with about 600 CAPE BULBS, including Arums, Hæmanthus, Crinums, and Gladioli; and 2000 Seeds of MUSA ENSETE.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, September 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

CONSIGNMENT of PALM SEEDS, received direct, comprising:—

20,000 KENTIA BELMOREANA
20,000 ,, FOSTERIANA

in fine condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on THURSDAY NEXT, September 27, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, September 28.

CYMBIDIUM TRACYANUM, HOOKERIANUM, and GRANDIFLORUM.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, September 28, at half-past 12 o'Clock, by order of Messrs. F. Sander & Co., St. Albans,

A Splendid Importation of

CYMBIDIUMS GRANDIFLORUM, HOOKERIANUM, and TRACYANUM.

From the same district from whence we imported the Cymbidium Tracyanum now in Baron Schroder's famous Collection.

A fine Importation of the lovely and scarce

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A fine lot of our famous type of DENDROBIUM NOBILE, Ballianum section.

Many strange species of ORCHIDS, probably new.

AËRIDES, SACCOLABIUMS, LISSOCHILUS, &c.

On view morning of Sale, and Catalogues had.

Tuesday, October 2.

By order of the Executor of the late Mr. J. D. Richard, Nurseryman and Florist, of Mildmay Park, N.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY, October 2, at half-past 12 o'Clock, about 600 beautifully-grown ORCHIDS, which have been cultivated for several years for Cut Flowers, including choice varieties of:—

200 Odontoglossum Alexandræ
2 ,, Wilkeanum (true)
12 Cœlogyne cristata, Chatsworth and other varieties
60 Oncidium tigrinum
150 Lælia autumnalis, Dendrobium nobile, Cattleya Percivaliana, and others.

On view morning of Sale, and Catalogues had.

Windlesham, near Bagshot.

Re Richard Mason, deceased.

IMPORTANT to NURSERYMEN and OTHERS desirous of securing some of the most valuable and productive Nurseries in this country.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, immediately preceding the Sale of the Nursery Stock, on TUESDAY, October 2, at Half-past Eleven o'Clock, the well-known FREEHOLD PROPERTIES, known as MASON'S NURSERIES, Windlesham, Surrey, covering an area of nearly 23 Acres, and the LEASEHOLD PROPERTIES of 16 Acres, together with the GOODWILL of the BUSINESS, carried on so successfully for many years by the late Mr. Richard Mason. The purchaser will have the opportunity of buying at the Sale the first portion of the thriving NURSERY STOCK, which is to be offered in suitable lots, and also of taking at a valuation the remaining Stock.

Particulars may be had on the Premises; of Messrs. REEP, LANE, AND CO., Solicitors, 4, Great St. Thomas' Apostle, E.C., and Bagshot; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

HIGHLY IMPORTANT SALE

Of the Remaining Portion of the Famous

PICKERING LODGE COLLECTION

OF

ESTABLISHED ORCHIDS,

Together with the Garden Tools, Greenhouse Plants, Carriages, and a portion of the well-known cellar of choice wines formed by the late George Hardy, Esq. The Orchids are reputed to be the Grandest Lot of Plants in the North of England, having won the Highest Honours at Manchester and other leading Shows.

By Order of the Executors, without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS, are favoured with instructions to SELL by AUCTION on the Premises, Pickering Lodge, Timperley, near Manchester, on TUESDAY, October 16 and following days, at 12.30 precisely each day, the Remaining Portion of this far-famed collection of Orchids. The whole of the plants are in the best possible health, and are remarkable alike for their size and the grandeur of the varieties. For upwards of twenty years the late Mr. Hardy was an enthusiastic buyer and a keen judge, and made a practice of discarding from his collection all varieties that did not reach the highest standard of excellence. In order that intending buyers may judge for themselves of the beauty of the varieties, an effort will be made as far as practicable to offer everything in flower.

Amongst the numerous items to be offered will be found the following:

Cypripedum cœnanthum superbum
,, Statterianum
,, Swinburnii
,, Leeanum gigantum
,, Lathonianum giganteum
,, Io Grande
,, Arthurianum
,, insigne Studleyana
,, ,, giganteum
,, Godseffiana superbum
,, insigne aureum
,, Amesiana
,, insigne Sanderæ
,, javanico superbiens
,, Leeanum giganteum
,, Morganiæ
,, insigne Ernestii
,, Bartetii
,, insigne Wiottii
,, ,, albens
,, Patersonii
,, Sallierii
Lælio-Cattleya calystoglossa bella
Lælia anceps Schroderii
,, Schroderiana
,, Tressideriana superba
,, anceps Dawsoni
,, ,, Schroderæ
,, ,, Schroderiana
,, Gouldeana
,, anceps Prothercœana
,, elegans Turnerii
Cœlogyne cristata alba
,, Lemoniana
Eulophiella Elisabethæ
Dendrobium Dominianum Stand Hall var., two plants
Dendrobium splendidissimum Leeanum, three plants
,, Schroderianum, three plants
,, nobile nobilius, several
,, ,, giganteum, Stand Hall var., three plants
,, nobile Cooksonii, several
,, Wardianum album
,, Dominianum
,, nobile Backhouseana
,, ,, Wallichianum
,, crassinode alba
,, nobile nivalis
,, splendida grandis
,, nobile, Hardy's var.
Odontoglossum Edwardi
,, Wilckeanum
,, Halli
,, Ruckeriana
,, Hebraicum
,, Andersonianum, Stand Hall var.
Cattleya Hardyana
,, Massiana
,, Bluntii
,, Claesianum
,, Reicheiniana
,, Trianæ alba
,, Schroderæ alba
,, exoniensis
,, aurea
,, Dowiana
Cymbidium eburneum
Lycaste Skinneri alba
Sobralia, pure white
Vanda Sanderiana
Dendrochilum glumaceum

150 PHALÆNOPSIS SCHILLERIANA, AMABILIS, SANDERIANA, P. GLORIOSA, amongst which are extra fine plants, numerous Cattleyas, Odontoglossums, Oncidiums, Dendrobiums, Vandas, Aërides, Masdevallias, Lælias, Sophronites, &c.

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PALMS, FERNS, CROTONS, AMARYLLIS.

Garden Implements, Tools, Frames, Hand-barrows, Mowing Machines, Grindstone, capital Barouche, and a Mail Phaeton.

Together with a portion of the late Mr. Hardy's well-known cellar of choice WINES, comprising 22 doz. Claret Château Kerwen, vintage 1884; 11 doz. Claret Château Leoville; 7 doz. Port, Sandeman's; 24 doz. Port, 1 doz. Bots.; 20 doz. Champagne, Deutz and Gueloerman Gowlac; 34 doz. Do., Veuve Clicquot; 3 doz Magnums; 11 doz. Bots. Hennessey's old Brown Brandy, 1875; 17 doz. Bots. Geo. Roe's old Irish Whisky.

May be viewed. Catalogues may be obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside London, E.C.

Thursday Next.

20,000 LILIUM HARRISII in 63 cases, direct from Bermuda, mostly 7 to 9 inches, hardy BORDER PLANTS, ROSES in pots, 200 AZALEA INDICA, from Belgium, 50 Lots of STOVE and GREENHOUSE PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, September 27, at Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.—By order of Messrs. F. Horsman & Co.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 28, an Importation of the grand CATTLEYA SCHILLERIANA, LÆLIA HARPOPHYLLA, SOPHRONITIS GRANDIFLORA, &c., in fine condition. Also sixty lots of ESTABLISHED ORCHIDS (another property).

On view morning of Sale, and Catalogues had.

Bagshot, Surrey.

(Within a few minutes' walk of the Railway Station.)

Re Richard Mason, deceased, By order of the Executors.

IMPORTANT SALE of thriving young NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Windlesham Nurseries, Bagshot, Surrey, on TUESDAY, October 2, and two following days, at 12 o'Clock precisely each day, an extensive assortment of

WELL-GROWN NURSERY STOCK,

including thousands of choice named Hybrid Rhododendrons, 1½ to 2 feet; 5000 Ponticum Rhododendrons, 1½ to 2½ feet; 1000 Azalea Pontica, 1 to 1½ feet. 2000 GREEN HOLLIES, 6 in. to 2 feet; 1500 English Yews, 2 to 3 feet; 1000 Thuiopsis dolabrata, 1 to 2 feet; 1000 Striped Tree Box, 3 to 5 feet; 2000 Thuiopsis borealis, 2 to 5 feet; 5000 Cupressus Lawsoniana, 3 to 7 feet; 1000 Abies Douglasii, 7 to 9 feet. 10,000 LAURELS, of sorts, 2 to 4 feet; 15,000 SMALL CONIFERÆ, for Potting and Boxes, including Retinospora plumosa, R. plumosa aurea, R. leptoclada, R. pisifera aurea, and others; 500 Spruce Firs, 5000 Mahonia aquifolia, for potting; thousands of STANDARD ORNAMENTAL and FOREST TREES, comprising Copper Beech, Sycamores, Poplars, Limes, Laburnums, and 20,000 Common Beech, 2 to 5 feet; 1000 Mountain Ash, 7 to 9 feet; 1000 Horse Chestnuts, 6 to 9 feet; 10,000 QUICK, 2 to 3 feet. A few hundred of Standard and Pyramid Fruit Trees, consist- of Apples, Pears, Plums, Gooseberries, Currants, and other Stock.

May be viewed any day prior to the Sale Catalogues may be had on the Premises; of Messrs. REEP, LANE AND CO., Solicitors, 4, Great St. Thomas' Apostle, E.C., and Bagshot; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Tunbridge Wells.

About ten minutes' walk from either of the Tunbridge Wells Railway Stations.

THREE DAYS' UNRESERVED SALE of well-rooted NURSERY STOCK, by order of Messrs. Thomas Cripps & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Tunbridge Wells Nurseries, Tunbridge Wells, on TUESDAY, October 9, and two following days, at 12 o'Clock precisely each day, a portion of the exceedingly

WELL-GROWN NURSERY STOCK,

which is in capital condition for removal, and consisting of 2300 Specimen BORDER SHRUBS, adapted for effective planting, and arranged in suitable lots; 500 Araucaria imbricata, 5 to 7 feet; 400 Cedrus Deodara, 3 to 4 feet; 400 Abies Douglasii, Parryana, and others, 8 to 14 feet; 450 Thuiopsis dolabrata, 3 to 4 ft.; 1700 Retinospora plumosa, R. p. aurea, and R. p. pisifera, 3 to 5 ft.; 1000 Cupressus Lawsoniana lutea and erecta viridis; specimen Portugal Laurels; 1000 English Ywse, 1½ to 2 feet; 400 Picea nobilis, 2 to 4 feet; 1000 named RHODODENDRONS, including about 600 Standards and Half-standards of the best sorts, 600 Hybrid Seedling Rhododendrons; 300 Azalea mollis and pontica; Kalmias, Laurels; 1000 named Dwarf ROSES of the leading varieties; 450 Scotch Firs; Pinus austriaca; specimen Variegated Hollies, 8 to 10 feet; 400 Standard and Pyramid Pears, 1300 Currants and Gooseberries, a quantity of Standard ORNAMENTAL TREES, 300 Greenhouse Rhododendrons, Solanums, Jasminums, 50 specimen Lapagerias, 2000 hardy Ornamental Trees and Shrubs, comprising 900 Escallonias of sorts, Benthamias, Ceanothus, and others.

May now be viewed. Catalogues may be had on the Premises; at the Seed Shop, 49, High Street, Tunbridge Wells; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Isleworth.—Special Trade Sale.

ANNUAL SALE of thousands of beautifully-grown YOUNG CONIFERS and GOLDEN EUONYMUS for immediate Potting, Window-boxes, or for Growing-on. By order of Messrs. Chas. Lee & Son.

IMPORTANT to NURSERYMEN, FLORISTS, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Wood Lane Nurseries, Isleworth, five minutes' walk from the Isleworth Station, L. & S.W. Railway, and twenty minutes' walk from Osterley Park Station, District Railway, on TUESDAY, October 9, at 12 o'Clock to the minute, in consequence of the large number of lots—

5000 BEST GOLDEN EUONYMUS,

in splendid condition and colour, from 9 to 15 inches.

THOUSANDS of SMALL SHRUBS for BOXES,

Including Golden Privet, Aucubas, Tree Ivies, Osmanthus, Golden Box, Euonymus radicans variegata, and small standard Golden Euonymus, and standard Tree Ivies in pots.

5000 CONIFERS, from 9 to 18 inches, including 1000 Cupressus erecta viridis, 12 to 18 inches.

250 EURYA LATIFOLIA VARIEGATA, from 1 to 7 feet,

Hundreds of specimens from their famous

COLLECTION of ORNAMENTAL TREES,

including the beautiful Tricolor, Cornus elegantissima, Planes, large-leaf Purple Beech, Poplars, Chestnuts, and standard Weeping Ash and Kilmarnock Willows, Birch, Spanish Chestnuts, Maples of sorts, Rhus coccinea, &c.

500 PALMS, KENTIAS, various sizes; COCOS PLUMOSA, 4½ to 6 feet; LATANIAS, 1½ to 5 feet, and many others. 300 YUCCA RECURVA, 1½ to 2 feet, perfect plants.

A quantity of CLIMBING ROSES in pots, Maréchal Niel, Wm. Allen Richardson, Devoniensis, Gloire de Dijon, &c., 6 to 8 feet; CLEMATIS JACKMANI SUPERBA, in pots; AMPELOPSIS VEITCHI, in 32's, 4 to 5 feet; ARAUCARIA EXCELSA, from cuttings, 9 to 12 inches, in 48-pots; 100 CLIVEIAS, very strong, including some good dark varieties.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises; at the Royal Vineyard, 36, Hammersmith Road, W.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

High Beech Nurseries, near Loughton, Essex.

ATTRACTIVE SALE of SPECIMEN HOLLIES and CONIFERS, by order of Messrs. Paul & Son, affording an opportunity seldom met with of acquiring some of the finest specimens of these plants to be obtained in Europe.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, High Beech, Epping Forest, 2 miles from Loughton Station, 2½ from Chingford, and 4 from Waltham, on WEDNESDAY, October 10, at 12 o'Clock, 400 of the finest SPECIMEN GOLDEN and SILVER HOLLIES, 6 to 10 feet, of perfect shape; 250 Golden Queen Hollies, 4 to 6 feet, exceptional specimens; 1'0 large Bushy Green Hollies, 400 Araucaria imbricata, 2 to 7 feet, probably the finest Stock in the kingdom; 200 Specimen Cedrus deodara, 12 to 14 feet; 400 Half-specimen Rhododendrons of the choicest named kinds, well set with bloom, bushy plants 3 to 4 feet; 50 splendid Specimen Standard Rhododendrons of the best named kinds, &c.

May be viewed. Catalogues may be had on the Premises, at the "Old" Nurseries, Cheshunt, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Auctioneers desire to call special attention to this most important Sale. It has never been their privilege to offer to the Public by Auction a grander lot of Specimen Plants of this character, and they particularly invite the attention of intending purchasers to make an inspection previous to the Sale.

Walton Grange Gardens, Stone, Staffs.

IMPORTANT SALE of SURPLUS ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from William Thompson, Esq., to SELL by AUCTION, on the Premises, the Walton Grange Gardens, Stone, Staffs., about 15 minutes' walk from Stone Railway Station, on THURSDAY, October 11, at 11 for 12 o'Clock precisely, a fine stock of particularly well-grown

ESTABLISHED ORCHIDS,

Comprising a fine healthy lot of ODONTOGLOSSUMS, for the successful cultivation of which this collection has been noted. Amongst these will be found Odontoglosum elegans (Pollett's variety) Allumianum, part of the only known plant; also the rare O. elegantinus, and other grand varieties of crispum; Lælia tenebrosa, Walton Grange variety; Cypripedium Leeanum giganteum, Dendrobium splendidissimum grandiflorum, D. Venus, fine piece; D. Cooksonii, and D. Casiope; Lælia Perrinii alba, L. Guildiana, grand variety; Cattleya intermedia alba, C. aurea, Maxillaria Sanderiana, a large number of unflowered Odontoglossum crispum, in 5 and 6-inch pots; Cattleya labiata in sheath, &c.

May be viewed one week prior to the Sale. Catalogues may be had of Mr. STEVENS, Head Gardener, on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock. First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Thorpe End, Thorpe, near Chertsey.

2 miles from Egham and Chertsey Stations, on the London and South-Western Railway.

MESSRS. WATERER AND SONS will SELL by AUCTION, upon the Premises, as above, on MONDAY, September 24, and four following days, the whole of the Costly and Artistic CONTENTS of the MANSION, including the appointments of thirteen bedrooms, three reception-rooms, billiard-room, &c.; Library of 2,500 volumes, Carriages and Horses, and Out-door Effects, including a Choice Collection of GREENHOUSE PLANTS, comprising rare Orchids, fine Ferns and Palms, Azaleas, Camellias, Orange trees, a very fine Imantophyllum minatum, a quantity of Stove Plants, Chrysanthemums, Rose trees, &c.

May be viewed Saturday prior and morning of Sale, and Catalogues obtained of the Auctioneers, Chertsey, Weybridge, and Walton-on-Thames.

Greenhouse Plants, including 300 Chrysanthemums

(many of which are Specimen Plants, precisely similar to those with which Mr. Freir took many prizes at the National Shows at the Royal Aquarium last and the preceding year), CAMELLIAS, BOUVARDIAS, CINERARIAS, PALMS, FERNS, PRIMULAS, STRAWBERRY PLANTS in pots, &c.

MR. WILLIAM HOUGHTON will SELL by AUCTION (by direction of W. E. Freir, Esq., who is leaving the neighbourhood), on THURSDAY NEXT, September 27, at 1 o'Clock precisely, on the Premises, "Elm House," Forest Road, Walthamstow, fifteen minutes' walk from Hoe Street, twenty minutes from Tottenham, and six minutes' walk from Blackhorse Road Railway Stations.

May be viewed morning of Sale, and Catalogues obtained of the Auctioneers, 58, Old Broad Street, London, E.C.

Sale of Nursery Business at Wokingham.

MR. FRANK COOKSEY has been instructed to SELL by AUCTION, at the Queen's Hotel, Reading, on TUESDAY, October 2, 1894, the FREEHOLD NURSERY, with 3 Glasshouses, and 2 Rows of Cool-pits, in one lot; and 4 Glasshouses in other lot, as a going concern, with possession.

Particulars and conditions of Sale may be obtained of Messrs. COOKE, COOPER AND BARRY, Solicitors, Wokingham; or of the Auctioneer, High Street, Southampton, and 17, Market Place, Reading.

WANTED, to RENT, GLASS suitable for Fruit Growing, &c. No Stock. Any district.—Write, MARKET, Messrs. Gibbs, Smith & Co., 10, High Holborn, W.C.

To Nurserymen, Horticulturists, &c.

WANTED, to PURCHASE, a SHARE in an Old-established NURSERY, &c., or a Position with a view to a PARTNERSHIP, by a young man of several years' experience in a Country Nursery and in a leading London Orchid Establishment; also at the Royal Botanic Gardens, Kew. Applications, with particulars, to be addressed to—

W. Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C. Principals only dealt with.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation-house, heated by Hot-water. Near the main-road.—Apply to W. H., The Nursery, Park Row, Greenwich.

TO BE SOLD, with Immediate Possession, small NURSERY GROUND, with 360 feet run of GREENHOUSES. Capable of great extension. Houses have been erected about one year, of modern construction. The whole is held on lease for 21 years, at the low rent of £4 per annum. Probably freehold might be acquired. Price £250. Stock at valuation. Apply,

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LONDON, S.E.—A NURSERY for SALE. About 3 Acres: 16 Houses, 2 Lean-to Pits, 2 Span Pits, each about 100 feet long, 2 smaller houses, all well heated, &c.; also Cold Frames, &c., Dwelling-house, Stables, Sheds, &c. About 5 miles from Covent Garden. Open to consider a reasonable offer.

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TWO FREEHOLD VILLAS (Terrace), situate in best part, West Plumstead, with ¼ Acre of Land in the rear, upon which twelve Greenhouses are erected, with nine complete; side entrance. Very compact Nursery, and an excellent living. TO BE SOLD, at a great sacrifice.—Particulars of Mr. HUXFORD, 34, Paget Terrace, Plumstead.

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TO LET, at Michaelmas next, within two miles of Norwich Market-place, a Farm of 150 Acres, 51 of which are meadow land. There is an excellent house, superior farm-buildings, cow-house for 40 cows, and covered yards.—Apply, THOMAS ROSE, 21, Prince of Wales Road, Norwich.

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Miss C. H. P., Compton Park, Salisbury.

To Gentlemen, Market-growers, Planters, &c.

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TO BE SOLD as it stands, or in collections to suit buyers, the entire STOCK of a GROWER, comprising between 30,000 and 40,000 of the leading varieties of HARDY PERENNIALS, ROSES, DAHLIAS, CHRYSANTHEMUMS, &c. This is an exceptional opportunity to those desirous of securing quantities at low figures.

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GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

EXHIBITIONS.

National Chrysanthemum Society.

ROYAL AQUARIUM, WESTMINSTER, October 10, 11, and 12, 1894, EARLY AUTUMN EXHIBITION of CHRYSANTHEMUMS. Valuable Prizes for Table Decorations, &c.

Schedule of Prizes on application to RICHARD DEAN, Hon. Secretary, Ranelagh Road, Ealing.

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For circulars, apply to G. SPRINGTHORPE, Coombe Court Gardens, Kingston-on-Thames.

CHINESE SACRED NARCISS, or "Joss Flower," can be supplied by the dozen, hundred, or thousand.—Price on application to

WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

PTERIS TREMULA.—Fine stuff, in 2½-inch pots, fit for potting on into 48's, 10*s.* per 100, £4 10*s.* per 1000; fine stuff, in 48's, £1 per 100.

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FOR SALE, a COLLECTION of CONSERVATORY and OTHER PLANTS, Garden Roller, Lawn Mower, &c.—Apply, on the Premises, 31, Grove Gardens, Regent's Park, any time on Monday, September 24, or Tuesday, September 25.

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DOBBIE'S AUTUMN CATALOGUE of Bulbs, Carnations, Chrysanthemums, Herbaceous Plants, Pansies, Roses, Violas, and Fruit Trees, is now ready, and will be forwarded free on application.

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FOR SALE, 10 cwt. SHALLOTS, 10 cwt. PICKLING ONIONS. Apply,

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1*s.* 9*d.*, 10 HYACINTHS with names; 12 red, 12 white, or 12 blue; 15 Roman, 20 mix., or 50 grape; 20 w. Lilies, 50 d. named, 50 s., or 75 mixed Tulips; 50 w. named, 50 y., or 75 mixed Narcissus; 20 Ornithogalum, 25 Freesias, or 25 Jonquils. The 535 roots, 15*s.*; half, 8*s.* 6*d.*

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in 2½-inch pots, fit for potting on, at 9*s.* per 100. A large quantity of 48's. Pteris Cristata, Major Cretica, Nobilis and Tremula, Adiantum Fulvum and Pubescens, at 4*s.* 6*d.* per dozen. Polypodium and Adiantum Cuneatum, at 5*s.* 6*d.* per dozen. Packed free for cash with order.—B. PRIMROSE, Blackheath Nurseries, St. John's Park, Blackheath, S.E.

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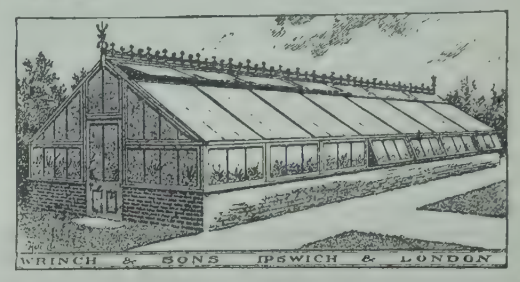
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FOR EVERY READER OF THIS PAPER.

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PASSIFLORA GRANDIFLORA.—Larger flower than the above, out of small pots, 2 ft. to 3 ft. high, 3*s.* per doz., 29*s.* per 100, free.

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Holding the finest stock in the kingdom of this lovely climbing Rose (especially for roof and walls of Greenhouses and Conservatories), we would strongly advise our numerous amateur customers to place their orders and plant soon to ensure a heavy crop of flowers next spring.

Fine strong plants in large pots, 4 ft. to 5 ft. high, 2*s.* 3*d.* each, 24*s.* per doz., F.O.R.; extra grand, large plants, in large pots, 8 ft. to 9 ft., 3*s.* 6*d.* each, 36*s.* per doz., F.O.R.

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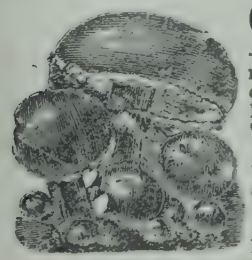
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CARNATIONS.

JAMES DOUGLAS, F.R.H.S., begs to announce that his Catalogue for Autumn, 1894, and Spring, 1895, is Now Ready, and will be sent post-free to all intending purchasers. It contains full Descriptive Lists of the New Malmaison Carnations, and the New Border Carnations produced by Martin R. Smith, Esq., in his garden at Hayes. There is also a full Descriptive List of the New Yellow-ground Picotees, which obtained First-class Certificates and Awards of Merit at Newcastle-on-Tyne, London, Southampton, Oxford, and elsewhere during the past season. James Douglas obtained the unprecedented number of thirty-one First-class Certificates and Awards of Merit in 1894.
Early Orders are solicited, as the stock of plants is limited. Orders will be executed in rotation as received. The New Malmaisons are now ready.
EDENSIDE, GREAT BOOKHAM, SURREY.



THE
Gardeners' Chronicle.
SATURDAY, SEPTEMBER 22, 1894.

THE SEED TRADE.

SEEDS IN OLDEN TIME.

ALTHOUGH, from the very earliest times, the commodities that form the basis of a seedsman's business have been collected or cultivated, it is only within the last generation that the trade has taken the position of an important industry.

In ancient times, the Egyptians were seed-growers, and conversant with the cultivation of vegetables, for there is inscribed upon one of the pyramids the sum of money spent during the progress of the work of erection for Radishes and Onions consumed by the workmen. Vines were raised from seed in these days, and it is probable something was known of the effects of one flower being impregnated by the pollen of another; they knew, too, a deal of the value of selection of seed, for Virgil, a Roman gardening writer of a later period, describes how he had practised it, and as a proof that he had thoroughly grasped the great power placed in the hands of man for the purpose of plant improvement, he declares in his Georgics that—

> "Some, ere committed to the faithful earth,
> Soak the ripe seed and aid the ling'ring birth
> With lees of oil or pungent brine, and sweat
> The moistened sample with a gentle heat;
> The moistened sample with a gentle heat;
> Yet shall not theirs like his nice care succeed,
> Whose patient hand selects the largest seed."

The Greeks and Romans were great cultivators of plants, and must necessarily have grown seeds to a large extent, for another of their writers has left it on record that the following culinary vegetables were reared in their kitchen gardens. Of Cabbages, several varieties were esteemed by both slaves and kings; of leguminous plants, the Pea, Bean, and Kidney Bean; of esculent roots, the Turnip, Carrot, Parsnip, Beet, Skirret, and Radish—so much value was attached to the roots of Skirret that they were accepted by the emperors for tribute. Of Spiraceous plants, they appear to have had Sorrel; of the Alliaceous tribe, the Onion, Leek, and Garlic; of salads, Endive, Lettuce, Succory, and Mustard; of herbs, Parsley, Orache, Alexanders, Fennel, and Chervil; Asparagus and Mushrooms were also grown.

SEEDS IN THE MIDDLE AGES.

Upon the decline of the Roman Empire, and the gradual occupation of the country by the Gauls, the migration of both vegetables and flowers became general to all parts of Western Europe; to Holland especially was this the case, where the affluent circumstances of the commercial men, at that time the most eminent travellers in the world, enabled them to acquire a taste for the rare and delicate plants of foreign climes, and it is certain that at this period came the introduction from the East of the oriental

Hyacinth, Narcissus, Tulip, Anemone, and Ranunculus, all of which, favoured by a singularly suitable soil and climate, have been so greatly improved as to become most important objects of commerce at the present time. Their vegetables were also grown to the greatest perfection.

Beyond the use of the native fruits and roots, little advance appears to have been made in the cultivation of horticultural productions in the British Isles, and it was not, says Hume, "till the end of the reign of Henry VIII. that any salads, Carrots, Turnips, and other edible roots were grown, the little that were used were imported from Holland." Queen Catherine, when she desired to add this luxury to her feasts, was obliged to despatch a messenger thither on purpose. Peas in these days were dainties for ladies only, "they came so far, and cost so dear." Melons, Cucumbers, and Lettuces of rare worth came from the king's garden at Greenwich. Amongst the poetical effusions of Thomas Tusser, whose peculiar style was unique in itself, we find the following having reference to seeds and plants cultivated in his garden. It would be about 1570 when he says:—"Seedes and herbes for the kychen, herbes and rootes for sallets and sawce, herbes and rootes to boil or to butter, flowes for windows and pots, herbes to still in summer, necessarie herbes for physick." His list, which contains 150 species, clearly shows that the culture of useful seeds was spreading throughout the country.

The examples shown us through the energy of the Dutch travellers, who had penetrated to many parts of the world, gave an impetus to the desire for foreign travel on the part of our own learned men; and it was during the reign of Queen Elizabeth that Admiral Drake was commissioned to conduct a voyage of discovery, and with his return came seeds and plants of various descriptions; Sir Walter Raleigh also found his way to South America, and brought back the Potato. A taste for improved vegetables and flowers now became rife amongst the leading London merchants, and there was a desire to obtain all that was novel from their foreign correspondents. Parkinson, the king's herbalist, and Tradescant, his Majesty's head gardener, both laboured in this direction also.

During the reign of Charles II. the Oxford and Chelsea Botanic Gardens were founded, and many native vegetables were brought to notice by Ray and Evelyn. Then followed William and Mary, and from 1688 to 1702 several botanists were sent out to explore foreign countries, and great additions were made to the indigenous flora by Switzel, Sibbold, Johnson, and others. In George II.'s reign (1727 to 1760) the Chelsea Gardens, under the care of Miller, were at the zenith of their fame, and his *Gardeners' Dictionary*, which first appeared in 1731, contains a great deal of information pertaining to the transformation of many of our own common garden vegetables from weeds of the fields or hedgerows.

The general progress of civilisation, and the great extension of British power and influence, was at this period (1760 to 1800) becoming felt in every quarter of the globe. The increasing liberality of intercourse between the learned of all countries greatly encouraged the science of botany. Discoveries in chemistry and physiology led to most important improvements in the cultivation of plants; Kew Gardens was established, and many traders were busy amongst seeds and plants.

Seeds in the Present Century.

It seems certain that at the beginning of the nineteenth century, the seedsmen of that time were held in but very small respect, for a writer of eminence on horticultural matters leaves it on record that "most vegetables are grown from seeds, and the more select and important kinds the gardener raises in his own garden; the business of procuring garden seeds is one of great difficulty, but as no gardener can grow all he requires he must necessarily deal at the seedshops. It were much to be desired that seedsmen would print their catalogues annually, instead of once in every four or five years. As the seed business is at present carried on, there are perhaps twenty names in a list for which there are not ten, or sometimes even five distinct articles." He then goes on to say, "that flower seeds are generally grown by the nurserymen themselves, many vegetables by market gardeners, and many choice kinds are received from the head-gardeners of private gentlemen." So that it may be taken that even the seedsman of that day had hardly established himself as a recognised or legitimate business man; no doubt the trade was chiefly done by the antiquated apothecaries, herbalists, or itinerant seedsellers, whose samples would hardly be of the first order, in age or cleanliness, and thus the respectability of the whole industry became imperilled. The best stores for supply would be the botanical gardens, which were fast becoming formed in different parts of the country, but these sources would only be able to supply a very small quantity of the requirements.

This was the state of affairs during the early part of the century, and, with one or two exceptions, influenced through the extraordinary stimulus exerted by establishing the Horticultural Society, it was not until the commencement of the Queen's reign, which practically gave birth to the horticultural press; and about the same period the foundations were laid of more than one of the gigantic seed businesses, the trading titles of which have become familiar as household words, and whose operations extend over the four quarters of the globe.

The seed industry of the country underwent such a marvellous development at this time, helped materially by the introduction of the post and steam, which brought increased facilities of communication, which, with the later-day introduction of the telegraph, have knitted the doings of the whole civilised world so closely together, that they are now in hourly connection, and many important seed-houses have during late years been established in all parts. That there was keen competition even in these early days is evidenced by the statement made by the late Mr. James Cuthill, an extensive grower in Camberwell. In writing of the market gardeners round London he says:—

"Growers of seed suffer most, as the continental cultivators sell their rubbish so cheap; this in the course of time will entirely destroy our fine breed of vegetables, which we have taken many years to improve. Just think of foreign Onion-seed at 9*d.* per lb., that for which we used to get 3*s.* and even 4*s.* Foreign growers grow all sorts of Cucumbers together, and all sorts of Cabbages and Onions, so that our vegetables will soon be as mixed as an Irish stew. The worst of it is, the English people do not know what the stuff is, or it would very soon find its level. This fraudulent seed traffic ought to be put a stop to—deal with no house a second time where the stuff turns out all sorts of mixed rubbish, you may be sure that it did not grow in Kent, Essex, or Surrey. The other day I asked a large grower in the Fulham fields if he still saved Cucumber seeds? He said, No; the seed merchants would no longer give a fair price, as they could get foreign so cheap. He used to grow 12 acres. Again, some years ago he used to save 2 tons of Cauliflower seed—this he was also obliged to give up."

During this great revolution in the conduct of extensive businesses, various changes have taken place, and many establishments have risen, blossomed, and faded away, in many cases through death, alterations in partnership, or unforeseen circumstances; and it may be interesting to many who have survived the period, and who have the recollection of these houses imprinted on their memory, to include them in the form of a retrospect, to appear shortly. *Seedsman.*

(To be continued.)

New or Noteworthy Plants.

NERINE APPENDICULATA, *Baker, n. sp.**

This shows a new type of structure in the genus Nerine. The filaments have each arising from their base outside a strap-shaped process, with 2 to 4 long apical teeth. Such processes, if connate, would form a corona like that of a Narcissus. In N. pancratioides there are similar processes, but they are inserted between the stamens. The plant was gathered in Natal by Mr. Medley Wood, and has been flowered in England and brought to my notice by Mr. Jas. O'Brien. In general habit and in the size and colour of the flowers, it agrees with N. pulchella var. angustifolia, figured in the *Refugium Botanicum*, t. 329, which no doubt is a good species.

Bulb ovoid, middle-sized; leaves three, contemporary with the flowers, linear, green, a foot long, deeply channelled down the face; peduncle stout, terete, about 2 feet long; flowers ten to fifteen in a centripetal umbel; spathe-valves two, small, membranous, tinged with red; pedicels very pubescent; perianth red, an inch long; segments linear, distinctly keeled, crisped in the upper half; stamens rather shorter than the perianth; filaments each appendiculate at the base outside, with a lacerated membranous strap-shaped process $\frac{1}{6}$ inch long; anthers small, oblong; ovary $\frac{1}{4}$ inch in diameter, deeply three-lobed; style as long as the stamens, obscurely three-lobed at the stigmatose apex. *J. G. Baker.*

Cypripedium insigne Gortoni, *new var.*

Yet another very distinct variety of this fine old plant, has appeared at McArthur's Nursery, Maida Vale. Its dorsal sepal is apple-green at the base, tinged with purple brown, the upper third being pure white. The petals are greenish-yellow, tinged with purple-brown, and the lip yellow, washed with a purplish hue on the face. Staminode bright yellow. The peculiarity is, that it exhibits none of the brown spotting usually seen in varieties of C. insigne, and in that respect it is nearest to the handsome C. insigne Bohnoffianum. *James O'Brien.*

EPIDENDRUM (DIACRIUM) BICORNUTUM.

Our reproduction of a photograph (fig. 45, p. 337) kindly sent us by Mr. J. H. Hart, Superintendent of the Royal Botanic Gardens, Trinidad, exhibits the above species in very handsome form. The species, with three others, constitutes Mr. Bentham's genus Diacrium, distinguished by the lip being spreading instead of adnate at the base, and by possessing two hollow horns between its lateral lobes.

The plant under notice has fusiform hollow stems of about 20 inches in height, the leaves ligulate oblong, distichous, and dark green. The flower-stalks, terminal on the older stems, produce a dozen or more flowers of above 2 inches in diameter, white, with spots of crimson in the middle of the lip. The plant which we show being a native of Trinidad, would be there cultivated with the greatest ease. Epidendrums succeed in many instances when grown with little or no sphagnum-moss, or other materials about their roots; and E. bicornutum is one that needs no material into which it may root, doing well on wood-blocks alone; whilst there are other species which, to grow them in the best manner must be afforded sphagnum moss and peat in equal proportions, and well-drained pots. The Mexican-house suits them best.

Plant Notes.

KNIPHOFIA COMOSA AND OTHERS.

The above-named most distinct and curious species of Kniphofia has at last bloomed with me, after a more or less patient waiting of between four and five

* *Nerine appendiculata, Baker, n. sp.*—Bulbo ovoideo; foliis tribus synanthiis linearibus viridibus facie canaliculatis subpedalibus; scapo valido tereti bipedali; umbellis centripetalibus 10—15-floris, pedicellis pubescentibus perianthii segmentis linearibus crispis; staminibus perianthio brevioribus, filamentis extus basi processis ligulatis laceratis appendiculatis.

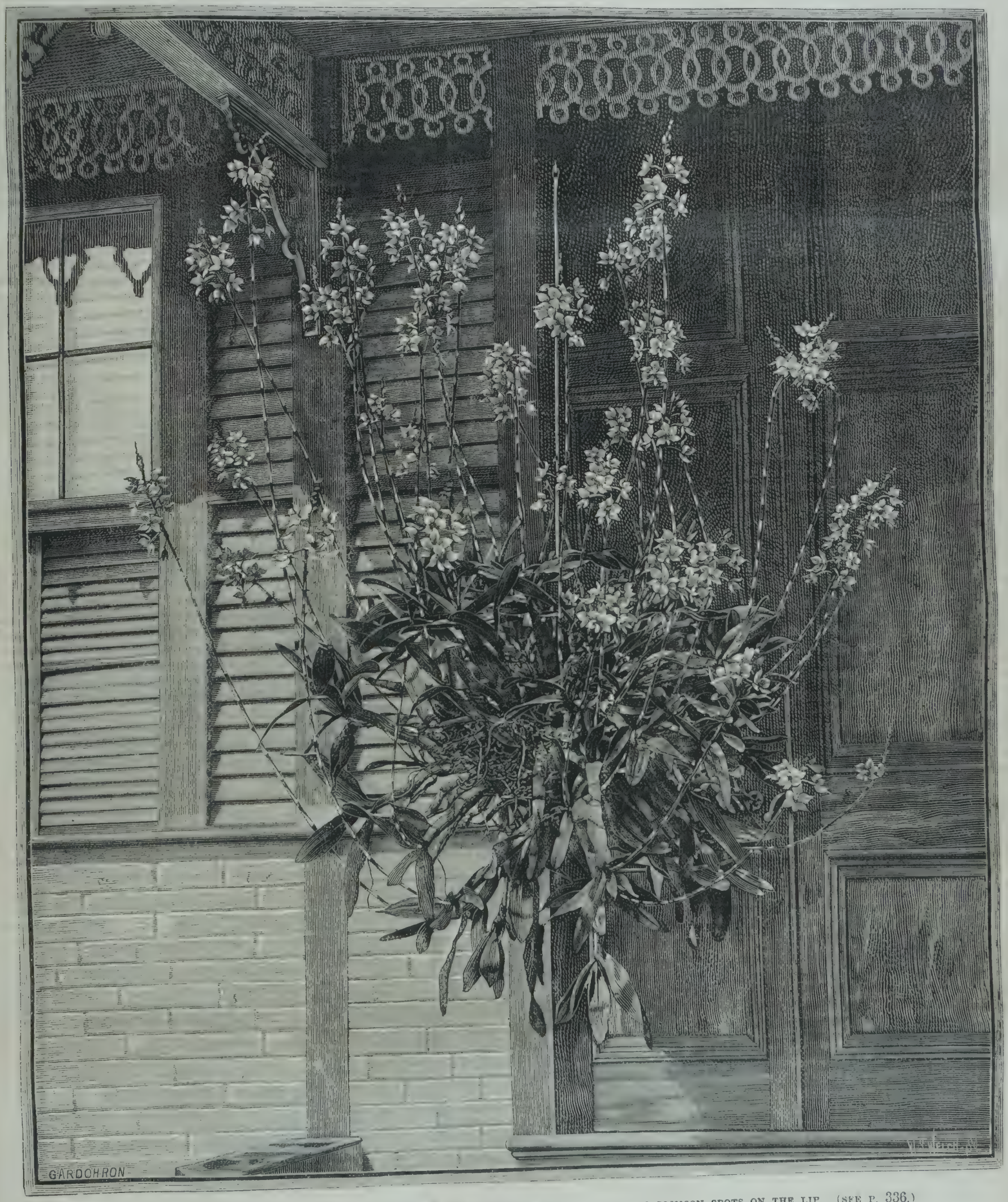


Fig 45.– EPILENDRUM (DIACRIUM) B CORNUTUM: FLOWERS PURE WHITE, WITH A FEW CRIMSON SPOTS ON THE LIP. (SEE P. 336.)

years, to see what it was like. It is figured on plate 6569 of the *Botanical Magazine*, but the figure by no means does justice to the colour of the flower, which is certainly not so ugly as it is there represented. The foliage has a most distinctly glaucous hue, and the leaves were from 3 feet to 3 feet 3 inches in length, by 2 inches in breadth near their base, and gradually tapering down to a fine point. The flower-stem rose to a height of 5 feet 4 inches, but the flower-head only occupied the top 4 inches, being therefore disappointingly small compared with the height of the stem. There were also three or four isolated single flowers at irregular intervals down the stem. The colour of the flower itself is a somewhat dull shade of Apricot-yellow, but its most ornamental parts are the deep red and prominently protruding stamens, which are at least twice the length of the flower, and are in the plate above referred to represented as almost black. Another curious point of distinction is the order of expansion of the flowers in this species. In K. Uvaria and all its varieties, and the hybrids wherein its blood predominates, the flowers commence to open from the bottom of the spike. In K. Leichtlini, and most, if not all of its hybrids, they commence to open from top of spike. In K. comosa they commence to open in the middle, and continue to expand both upwards and downwards till all are open, they do not altogether retain their colour more than about a week, after the expiry of which time they all drop off; it is more a botanical curiosity than a strictly ornamental plant. It is a native of Abyssinia, and has been a good deal used by continental hybridists in the production of their new varieties. It is, I think, one of the most perfectly hardy of the family. I may add to the above remarks, that my experience of the effect of severe frost on all the members of the Kniphofia genus (of which I grow a tolerably complete collection) is, that where it is not severe enough to kill them outright, which requires a thermometer falling to zero, it actually does them good and promotes a stronger and more vigorous growth. I specially noticed this with regard to my strong tuft of K. præcox true, which the unusually severe frost of January 4-5 (when the thermometer fell to 3°, or 29° of frost) seem to burn and melt worse than any of the other varieties, leaving the foliage a mass of pink pulp, just as if it had been boiled. I quite thought the plant must be killed, but am much pleased to find that, far from being so, it has sent up great strong shoots of growth infinitely more vigorous than it was before, and of a fine deep shade of healthy green; these will, I hope and expect, produce an abundant and beautiful bloom in May next. *W. E. Gumbleton, Belgrove, Queenstown, Ireland.*

THE ROSARY.

HYBRID TEA ROSES.

THE following are the best of the newer varieties of this group:—

Augustine Guinoisseau.—This may not be a good exhibition kind, but it is one of the best garden Roses raised of recent years. It is especially beautiful in the autumn, when every plant is a mass of bloom, the growth vigorous, leafy, and dwarf. I remember seeing in Mr. Benjamin Cant's nursery at Colchester, late in September, two rows of this variety, and they stood out above all others. They were a sheet of fragrant flowers, full, and almost white, with a stain of pinky shade in the centre. It is a sport from La France, we believe, but it is not correct to call it a "white La France," as is sometimes done, for the obvious reason that the flowers are not white. One enjoys such a Rose as this, as the flowers are richly scented, which cannot be said of all the new or more recent Roses. Augustine Guinoisseau has been some little time in collections, but it is practically new.

Caroline Testout.—This is sometimes placed with the hybrid perpetuals, and sometimes also with the hybrid Teas. It is more of an H.P. than a Tea, and is a thoroughly good new Rose, which has been shown well on many occasions. It blooms well in the autumn, the flowers being large, full, fragrant, and rose in colour; there is a trace of salmon. It is described occasionally as pink or salmon, but the colour is neither of these. The plant grows strongly, and is dwarf.

Marquise de Salisbury.—This is a Rose that rivals all the newer varieties for effectiveness in the garden. It is a brilliant variety or hybrid, and the description given of it, "a red Camoens," is good, as the plant and form of the flowers are similar to those of the latter kind. The growth is strong, and the leaves are of a dark green, which throws into relief the wealth of crimson flowers. These are borne on slender stems, as in the case of the majority of the Teas. And they are of a vivid crimson, so bright that one can detect a plant at some distance. It is, therefore, a Rose that should be grouped or massed together to get the full rich beauty of the semi-double flowers. From summer until autumn it blooms freely, reminding one of a China Rose in this respect.

Gustave Regis.—This Rose was recently given an Award of Merit, when shown by Messrs. Paul & Son, of Cheshunt. Only cut blooms were exhibited, and of course from these we cannot judge of the character of the plant. It is like a true Tea, and will be sought for cutting, as its long pointed buds, canary-yellow, deeper in the centre, are adapted for this work. There seems nothing hybrid about it, as it has quite the appearance of a true Tea.

NEW ROSES.

A few more hybrid Teas are important. Kaiserin Augusta Victoria is promising, and not unlike Devoniensis; but its flowers are larger, full, and creamy-white, with a very delicate yellow centre—it makes strong growth, and blooms freely. Madame Bernet Ducher is so much like a true Tea, that it would be just as well to place it in that class; it is a Rose of value for its buds, which are small, and delicate yellow, but deepening into the centre to a richer shade. Gustave Regis is of similar character, the buds of a very pretty nankeen shade, but as they expand the colour gets paler. Princess May, raised by Wm. Paul, of Waltham Cross, is of the Gloire de Dijon race, and semi-climbing in habit; the flowers full, globular in shape, and of pinkish colour. Two varieties that have been described before are Clara Watson, sometimes placed amongst the true Teas, and Grand-Duc de Luxembourg, both of which, if they have further trial, may be recommended. But new Roses require well testing before they are either praised or condemned.

The Tea class receives many additions, but not many varieties that surpass those already grown in gardens. Medea and Corinna are two beautiful kinds raised by Mr. Wm. Paul, and are now well-known, as they have been described on several occasions, and shown freely at exhibitions. Christine de Noué is a variety valuable for its colour; the flowers are large, and sweetly-scented, the colour being deep crimson, suffused with a rose shade in the centre. Beauté Inconstante is, as its name suggests, variable, but it is a Rose that produces a rich effect in gardens when planted in a fair-sized group; the flowers are of a coppery-red and yellow colour, one melting into the other—a curious and, in its way, beautiful contrast of distinct shades; its growth is strong and free. Elise Fugier, Bridesmaid, Golden Gate, Maman Cochet, and Mai Fleuri, are all likely to prove useful Roses, but they have scarcely been sufficiently tested yet. I have seen very fine blooms of every one of them, but that is not sufficient.

The hybrid perpetuals of recent date are very fine. W. Paul's Spenser, which may be described as an improved Baroness Rothschild, the Irish Roses of Messrs. Alex. Dickson, Newtownards, co. Down, as Jeannie Dickson, Margaret Dickson, and Marchioness of Londonderry, are all well tried, and will be doubtless grown largely in the future. A promising variety is Captain Hayward, the flowers of a bright crimson-carmine colour, very sweetly scented, and produced freely. Marchioness of Downshire, it will be remembered, was Messrs. Alex. Dickson's Gold Medal Rose at the Crystal Palace exhibition this year. Its rosy flowers are bright, full, of exhibition standard, and the growth of the plant is strong and sturdy; it promises well. Clio is a splendid Rose, raised by Messrs. W. Paul. It is well adapted for gardens, but makes remarkably robust growth, forming in time quite a bush; the foliage is also large, the flowers very handsome, globular, and of a flesh tint, deepening in the centre to quite a rosy shade. Two good kinds raised by the Cheshunt firm of Paul & Son, are likely to take a good place in this section. One is Paul's Early Blush, which is the same as a variety called Mrs. Harkness; it is a sport from Heinrich Schultheiss, a good Rose for forcing, and blooms earlier than any hybrid perpetual, hence its name. The flowers are delicate blush-rose, large, and borne freely both in summer and autumn. Charles Gater is a very fine Rose, quite bushy in growth, the flowers large, globular in shape, and deep crimson—an intense, attractive shade. Mrs. Rumsey, a sport which originated in the nursery of Mr. Rumsey at Waltham Cross, will no doubt get well known. It sported from Mrs. George Dickson, and has remarkably clean, handsome, deep green foliage, the flowers of a pink shade of colour.

To the Polyantha class have been added several new varieties. One of the best known is Crimson Rambler, which need not be described. Alister Stella Gray, a seedling raised by Mr. A. H. Gray of Bath, and being sent out by Messrs. Paul & Son, Cheshunt, is a very beautiful variety, given an Award of Merit, June 28, 1893. It will make growths 18 feet long in one season, and bears a profusion of large clusters of deep yellow flowers, finely shaped, and valuable for cutting for decoration. I think time will prove the great usefulness of this Rose. Filius Straussheim has delightfully-shaped flowers, blush in colour, with an orange centre, and it blooms freely. Madame E. A. Nolte, like the last-mentioned, is a dwarf variety. It blooms freely, and the flowers are not too large. They are yellowish when in the open, but change to a rosy-white on full expansion. Of Chinas, Duke of York is important. It was raised by Messrs. Wm. Paul & Son, and is very free, the flowers of distinct colour, deep brownish-red and yellow, and loosely arranged.

Amongst singles, a class rapidly becoming of more importance than in previous years, Carmine Pillar, in Messrs. Paul & Son's nursery at Cheshunt, is a beautiful variety. The growth of the plant is remarkably robust, strong shoots 10 or more feet in height being produced in one season. Such a Rose as this quickly covers a tall stake or pillar, and when in full beauty is clothed with large carmine-rose flowers that make a brilliant effect. Amongst Bourbons, Mrs. Paul (Paul & Son) is now well known; it is in many gardens, and has been exhibited in splendid character on many occasions. Lorna Doone (Wm. Paul & Son) is very distinct, the flowers of a carmine-scarlet shade, full, and very sweetly scented.

The foregoing are the best Roses of recent years, the plants of strong growth in every case, free, and with flowers of good colour. *Rosa.*

THE HERBACEOUS BORDER.

ERYNGIUM AMETHYSTINUM.

IN a general way, there is not much difficulty in increasing the above plant by division. Though the rootstock should remain as one even after being planted some years, there should, in the ordinary way, be several crowns at its summit, and the major portion of these readily make separate plants if they have the opportunity to do so. Should any of your readers have solitary examples, similar to that described by Mr. Wolley Dod at p. 289, I would suggest lifting the plant early in the year, say in February or thereabouts, and with a small hand-fork piercing the rootstock, and wrenching it asunder. This may be done without fear of loss, and is attended

with little injury, if carefully performed. Such plants as this, and Echinops ruthenicus, I have often been obliged to treat in this manner, dividing them into single crowns, and replanting them at once, doing this very firmly. Some of the divisions may have but little fibrous root left when the operation is complete, but others will be forthcoming when the time of growth comes in the spring. Apart from this, it would be easy, by means of root-cuttings, to raise young plants in quantity. Some members of this genus exhibit a tendency to spring up from the root-cuttings even in the ordinary border, but I do not remember having seen it with the plant in question, to which some slight degree of warmth appears almost essential. This applies to Echinops likewise, which, without heat, breaks away very slowly. *E.*

Senecio pulcher.

Among good perennials introduced in recent years the above is certainly one of the most valuable. Prior to its apperance, we had nothing of its colour among autumn-flowering perennials, so that it came as a welcome addition. It is quite hardy in most soils and situations, and grows readily to a large size. It should be grown in quantity, not only in those gardens where hardy plants form the leading feature, but wherever effective gardening is the aim. The rich purplish-crimson colour of its flowers renders it a striking object, especially if planted in numbers in a mass or bed. When the plant is established, it reaches a height of about 3 feet, the stems terminating in a branched head of large purple-crimson flowers with yellow centre. To grow it well, a sandy loam of good depth, and fairly rich, should be employed; all cold, clayey soils should have sand and leaf-soil freely mixed with the staple. The plant may be increased in winter, or very early in the year, from root-cuttings, employing the stoutest portions of these, and inserting them in sandy soil around the edge of 6-inch pots, and giving them a gentle bottom-heat. When leaves are formed, they may be treated in the ordinary way of seedlings or cuttings. Seeds of the above are rarely produced; much time, therefore, is saved by the adoption of root-cuttings. *J.*

Tussilago fragrans (Winter Heliotrope).

The flowers of this plant are always welcomed, on account of their pleasing fragrance, and my only reason for directing attention to the plant at this season is, that the present is a good time for potting-up the strongest crowns for winter-flowering. In some gardens the plant is abundant, spreading rapidly in all directions. Before many weeks are passed, the strongest crowns will be showing the flower-spike, and these should be lifted and planted two or three together in a 6-inch pot, and placed in a cold close frame for a few days. Tussilago fragrans was an especial favourite with the late Mr. Robert Parker, of the Nurseries, Tooting, and early in the autumn of each year large quantities were potted-up for flowering; and it is not surprising that so beautifully fragrant a flower should command a ready sale. Indeed, I have known visitors to these once-famous nurseries purchase the plants in quantity—so much so, that we were once quite cleared out of it for the time. Years ago the plant was abundant in the Royal Botanic Gardens, Regent's Park, and I doubt not it is still there in plenty, growing without any attention on the bank within the fence. *J.*

Orchid Notes and Gleanings.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.

A box of flowers of this superb Orchid, sent by Mr. J. Cypher, Queen's Road Nurseries, Cheltenham, serves to accentuate the oft-repeated praise of its beauty, usefulness, and variety. The range in colour is from pure white, slightly tinted at the tips of the petals and lip with pale lilac, to rich clear rose, veined with purple. Mr. Cypher says, "This is one of the most useful and one of the easiest to cultivate of any of the Orchids we have received of late years. It did well with us from the first, and for months each year gives the best show of flowers we have. At present we have a grand lot of it in bud, and several hundreds of flowers are open, and spikes in all stages, to keep up the show for a long time."

Lælio-Cattleya × Sayana.

Under this name we have received a flower of a very richly-coloured hybrid, with the features of L.-C. × elegans Turneri. The sepals and petals are dark rose-purple. The front lobe and tips of the side-lobes of the lip, as well as a broad band running from its base, are of an indescribably rich dark hue, in which maroon, purple, and crimson seem to blend. The side lobes of the lip are of a sulphur-yellow tint on the inside, whilst the outside is blush-white. The column is white, with purple bands. It is a very handsome flower, and the darkest-tinted of its class which we have seen. *J. O'B.*

Dendrobium Johnsoniæ, *F. von Muell.*

This handsome species is very rare in cultivation, where it is generally known under its later name of D. Macfarlanei, Rchb. f. It was originally described



Fig. 46.—Dendrobium Johnsoniæ.
(From a photograph taken in New Guinea.)

in May, 1882, by Baron Ferdinand von Mueller, from a dried specimen gathered in the eastern peninsula of New Guinea by the Rev. James Chalmers, and was named after the daughter of the Rev. Mr. Johnson, of Surrey Hills, New South Wales. The author, who had not seen the pollinia, afterwards suggested that it should perhaps be referred to Phalænopsis, though the pouch is quite different from anything known in that genus. Soon afterwards it was described by Reichenbach as D. Macfarlanei, from materials sent by the Rev. S. M. Macfarlane, of the Papuan Institute, in Torres Straits. It flowered in the collection of J. N. Hibbert, Esq., Chalfont Park, near Slough, in December, 1886, probably for the first time in Europe, and subsequently in other collections. In 1891 a plant flowered in the collection of Admiral Fairfax, which had been brought from New Guinea by that gentleman, when the name was changed to D. niveum, on the ground that there was an older D. Macfarlanei, belonging to the section Aporum—a plant not in cultivation—the identity of the garden plant with D. Johnsoniæ being overlooked. It is, however, evident that the name D. Johnsoniæ must be retained for this species, even at the cost of a little inconvenience. It is a very beautiful species, technically belonging to the section Stachyobium speciosæ, and not very nearly allied to any cultivated species. It bears long racemes, with a few large white flowers at the summit. The side-lobes of the lip are broadly striped with deep purple, and the disc is yellow. In the plant brought home by Admiral Fairfax, however, there is no trace of purple on the lip, and this pure white form may retain the name of variety niveum. It should be cultivated under the same conditions as D. Phalænopsis and its allies from the same region. The synonymy is appended, with references to descriptions and published figures:—

Dendrobium Johnsoniæ, F. Muell., in *Wing's Southern Science Record*, II. (1882), p. 95; *id.*, III., p. 247; F. Muell., *Descriptive Notes on Papuan Pl.*, vi., p. 16; Rolfe, in *Gard. Chron.*, 1886, ii., p. 277; *id.*, in *Reichenbachia*, ser. 2, II., p. 27, t. 61.

D. Macfarlanei, Rchb. f., in *Gard. Chron.*, 1882, ii., p. 520 (*non* F. Muell.); 1886, ii., 811; *Veitch. Man. Orch.*, III., p. 59, with fig.; *Wien. Ill. Gart. Zeit.*, 1890, pp., 339, 340, fig. 68; *Journ. Hort. Soc.*, xiii., Proc., p. 192, 193, fig. 74.

D. niveum, Rolfe, in *Gard. Chron*, 1891, i., at p. 104. *R. A. R.*

[Our illustration (fig. 46) is taken from a glass negative prepared in New Guinea by the Rev. Mr. Kennedy, and forwarded by Baron Sir Ferdinand von Mueller. Ed.].

THINNING PLANTATIONS.

(*Continued from p. 783, June 23, 1894.*)

The questions now to be dealt with in growing timber for purely economical purposes are: 1. At what age should thinning be commenced? 2. To what extent should it be engaged in? 3. What time should elapse between each thinning? And 4. Which trees should be removed?

At the outset, it may be well to mention, that in so far as any of the above questions are concerned, no hard-and-fast line can be laid down as to the universal management of plantations, each tract of wood, and even different parts of the same wood, according to the particular species of tree, quality of soil, altitude, and exposure, being dealt with on its own peculiar footing. Many serious mistakes have been committed, and irreparable damage done, by treating every plantation alike and according to the rule-of-thumb method. Upon the manner in which thinning is performed, much of the ultimate success of a plantation will depend, and it is a matter requiring great tact, forethought, and discrimination, and that can only be acquired by long experience, and an intimate knowledge of trees and their surroundings.

The quality as well as quantity of timber produced should be carefully considered in the management of every plantation. In dealing with the following questions regarding thinning, it may be well to state that the average plantation will alone form the basis of remarks.

1. *At what age should thinning be commenced?*—The necessity of thinning, few practical arboriculturists will care to deny, and that whether the plantation be composed of coniferous or hard-wooded trees. It is the abuse of the practice that, in this country at least, is so to be condemned, and I entirely dissent from those who consider that a coniferous plantation should be left to Nature, or, in other words, should thin itself. The argument that the natural forests of America, the source from which we derive the finest and best quality of timber, thinned themselves, is often quoted; but it should also be remembered that the conditions of such forests are widely different from those of our own, and that the waste of timber is immense, great quantities being destroyed in procuring what is required. Although, however, we cannot adopt all the details of Nature's practice, we can and we should admit the correctness of the principle on which she acts, and by studying this we learn much, and it is by acquiring a knowledge of her economy, and where and when to apply assistance, that the point of the whole argument rests. Natural regeneration, unless in a limited number of cases, and particularly with our least valuable classes of timber, is never, in this country, likely to supersede artificial planting, and it has been conclusively

proved in the Forest of Dean, that with our most valuable timber-producing tree the Oak, the latter system is most to be encouraged.

No thinning of young trees should take place until a complete leaf-canopy has been established; and it is most important for the welfare of the plantation, that a complete overhead foliage covering be brought about at as early a date as possible after planting. At what age this may take place will entirely depend on the size of the plants used and distance at which they were inserted in the ground, less so on the quality of soil and other considerations. At a short period after a complete leaf canopy has been established, the individual trees begin to press against each other, and later on a struggle for existence commences, the stronger specimens gaining the supremacy over the weaker. Here it must be borne in mind that hard-wooded trees require proportionately more room for their healthy development than coniferous kinds, while length and clearness of stem, produced by a due proportion of shade, is an object of prime importance. It might, as some suppose, do little harm, to let the struggle for existence go on unchecked, but there can be no question that for several reasons it is wise policy to allow the stronger trees every chance of succeeding, and to cut away the weaker. The object should be to provide for the trees left standing that amount of room or growing space best suited for bringing about the particular conditions aimed at, and in thinning, it must be the aim of the forester to arrive at the happy mean—neither over nor under-doing the work, the former in particular. But while overcrowding is not to be tolerated, the danger of suddenly exposing the trees to currents of air to which they have hitherto been unaccustomed, must be carefully guarded against, and it should be distinctly borne in mind that to thin trees in an abrupt manner is one of the greatest mistakes that it is possible to fall into.

Statistics compiled from a healthy Larch plantation, growing on fair soil, and in a moderately sheltered position in southern England, will now be given, and from which a good idea of the age and size can be formed of the period when thinning should be commenced. The trees when planted were 2 feet high, and pitted at 3 feet apart. In four years the outer branches began to touch each other, and in six years from time of planting the average height of trees was 7 feet 10 inches, and the shade occasioned had killed out most of the grassy undergrowth. At this period of growth, the disproportion in the size of the trees was, as is usually the case, considerable, and left no doubt about which to remove when the first thinning took place. Two years afterwards, or in eight years from time of planting, thinning was first engaged in, the taller trees at that time averaging nearly 11 feet in height, but many of the suppressed and weakly were little more than half that size.

2. *To what extent should thinning be engaged in?*—In following up the latter case, the tallest and healthiest trees were reserved; all distorted, sickly, and stunted specimens were removed; but in the case of two or more proportionately small trees growing in close proximity, the most promising was left, and the others cut away, thus avoiding gaps in the plantation. At the first thinning it will be found quite impossible to leave the trees anything like regular over the ground, although this should be studied as much as possible, and bare spaces are to be carefully guarded against. With the vigorous growth of the trees, and the interlacing of branches previous to the first thinning, no great openings will require to be made, and nothing more than will be canopied over during the next two years.

3. *What time should elapse between each thinning?*—This can only be correctly defined after a careful inspection of the particular wood. Generally speaking, after the first thinning, when the trees were eight years old, the lower branches gradually began to give way, and as the trees increased in height, this became more and more apparent, and formed a good guide as to the time which should elapse before the second thinning might profitably be engaged in. The intervals between the various thinnings should for the first thirty years in the case of Larch—and, indeed, most other trees—be comparatively short, and longer with advance of age; but heavy thinnings must be carefully avoided, and especially if the best class of coniferous timber is to be produced.

A well-managed Larch plantation of twenty years' growth should have the trees branchless for about one-half of their height, which is, of course, brought about by crowding, and at forty years three-fourths of the trunk should be clear of branches.

I have purposely abstained from giving the number of feet apart at which trees ought to stand at various stages of their growth, and the number of thinnings they require, as being calculated to mislead.

4. *Which trees should be removed* need cause little or no anxiety, as the dead, dying, diseased, and badly-formed trees, will naturally receive first attention. *A. D. Webster.*

CULTURAL MEMORANDA.

MIGNONETTE FOR WINTER AND SPRING-FLOWERING.

THE seedlings raised last month in pots, to ensure a stout, robust growth, should have air and sunshine in abundance, and should be afforded water before the soil has become very dry. The happy medium between wet and dry being aimed at, the sickly hue of the leaf is a sure indicator when the soil is too moist. After the plants have well filled the pots with roots, weak manure-water may be afforded. If flowers show, remove them, and slightly disbud the plants, pulling or cutting out a few of the weaker shoots, and those of little or no consequence, which will aid in the development of fine flower-heads. As winter approaches, Mignonette should be brought up near the glass of the pit, and if a cool bed of coal-ashes is beneath them, they may be elevated on inverted pots, brickbats, &c., the moist substratum of air induced by the ash-bed being conducive to healthiness. At this season, and especially as the days shorten, watering the plants should take place in the morning, air being afforded for some hours afterwards, so as to get rid of the moistness of the air. Giant Crimson, Miles' Spiral, and Crimson King, are all excellent for pot-culture. *H. Markham, Mereworth Castle.*

CHINESE VEGETABLES.

VARIOUS garden vegetables have been introduced into this country by the Chinese, some of which are worthy a place in American gardens.

The best known, and perhaps the most valuable of these new vegetables, is the Pe-Tsai, or so-called Chinese Cabbage. This plant bears a loose Lettuce-like head of crisp leaves, which may be used in all the fashions in which Cabbage is served. This plant requires a cool and moist soil in which to make its best growth. It is essentially an autumn vegetable.

The Chinese Mustard is an excellent plant for Greens, and produces an enormous amount of herbage. Its culture demands the same attention as that advised for Pe-Tsai.

Californian Pepper-grass (Brassica japonica) appears to be a finely cut-leaved form of a Mustard long known in old gardens, but not described either in American botanical or gardening books. It is one of the best of all plants for early spring greens. Although the species is cultivated in China and Japan, it does not appear to have been independently introduced from those countries in recent years. It is not known how or when the plant first came into this country.

Other Mustard-like plants recently introduced from China are the Pak-Choi (Brassica chinensis), used as Greens and for the white thick leaf-stalks and the Tuberous-rooted Mustard (Brassica napiformis), grown for its small Turnip-like root. These plants possess less merit for American gardens than the foregoing species.

Of the various Squash-like plants introduced by the Chinese, the best is probably the Wax Gourd, or Zit-kwa (Benincasa cerifera). The fruit of this is excellent for conserves. The plant is of easy culture, but requires a long season.

The La-kwa or Momordica has more merit as a curiosity and an ornamental Vine than as an esculent, for American tastes. It is not new to the American seed trade. (Momordica charantia.)

The Luffas or Dish-cloth Gourds of the gardens are of two species, which differ chiefly in the contour of the fruits. (Luffa cylindrica and L. acutangula.) The commoner species in this country has ribless cylindrical fruits, but the one chiefly grown by the Chinese about New York has club-shaped ribbed fruits. These fruits are interesting to us chiefly as a curiosity, and as yielding a sponge-like fibre, which is useful for household purposes.

The Chinese Pea (Pisum sativum var.) has little to recommend it to American gardeners.

The Chinese Bean or Tou-kok (Dolichos sesquipedalis) is no doubt a valuable vegetable for late home use.

The remaining Chinese vegetables here discussed—Hon-toi-moi (Amaranthus gangeticus), and Yon-soi (Coriandrum sativum)—have very little value for our gardens. *L. H. Bailey, in Bulletin of the Corne University Agricultural Experiment Station, n. 67, June, 1894.*

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By J. MCLEOD, Gardener, Dover House, Roehampton.

INDIAN AZALEAS.—If the flower-buds have set satisfactorily on those which have been standing out-of-doors since June, it is well to bring them indoors, as further exposure is attended with the risk of getting the soil soddened and soured. Before placing these plants under glass, let the pots be washed clean, decayed leaves removed, and the plants themselves well washed with rain-water and soft-soap with the garden engine or a powerful syringe. The proper kind of house for Azaleas is one that is well ventilated, and is artificially heated. The plants, however, may be stood in vineries or Peach-houses if the trees and Vines have lost much of their foliage, placing them on pots and planks, or in some other way raising them above the soil.

BOUVARDIAS.—The pinching of the points of shoots may now be discontinued, except in the case of pithy growths, which, to improve appearances, may be cut off. Keep the plants fully exposed to sunlight, so as to thoroughly mature the wood, and water the plants very carefully, so as to retain them in health, and afford farmyard liquid-manure alternately with Clay's Fertiliser twice a week in bright weather, syringing the plants sharply on the under-sides of the leaves, in the morning and early in the afternoon.

LACHENALIA TRICOLOR.—The bulbs having been long at rest, will show signs of growth, and may now be potted, unless late flowering is required. It is usual to grow these plants in 4½ to 6-inch pots, but some gardeners place the bulbs in suspended baskets, and grow them in the Carnation-house, or one that has similar treatment. The baskets may be constructed of stout galvanised iron wire, and they may vary from 9 inches to 18 inches in diameter, and be about 6 inches deep. Such baskets require a thin lining of moss, to prevent the escape of the soil through the meshes. A good kind of potting soil consists of rough fibry loam two parts, peat one part, mortar rubble, charcoal, and sand, forming one part. Having put a layer of this compost about an inch in thickness on the bottom, place some bulbs crown downwards on this; then more compost, and putting more bulbs, but this time with their crowns pointing outwards round the circumference of the basket, and so on, finally placing a layer of bulbs with the crowns upwards. The bulbs should be put in sufficiently thickly, so that when the plants are of full size, neither wire basket nor moss are observed, but the whole is a mass of leafage and blossoms. Afford the bulbs one good thorough watering before putting them in the houses.

SCENTED-LEAVED PELARGONIUMS.—The soft young growths of these plants being liable to suffer from early frosts, the plants should be housed without delay, and stood near the light in any cool house, affording them plenty of air, imitating so far as practicable external conditions; continuing the use of manures and removing all yellow leaves.

BULBS.—A successional batch of Roman Hyacinths may be put in; also Lilium longiflorum var. Harrisi, Tulips, Freesias, &c.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PLUM TREES ON WALLS, ETC.—Trees on which secondary growths have remained so as to impart activity to the roots, thereby aiding the swelling and ripening of the fruits, may now be cut back. Trees from which the fruits are gathered should have such growths, which are near to the spurs, trimmed off according to their strength—short or long—the idea being, whilst not allowing spurs to become too long and naked, to leave as many buds as will form short well-furnished fruiting spurs. Lay in all shoots left for filling up vacant spaces. Frequently examine late varieties, removing decayed fruits, and especially where these are in clusters, as one decayed fruit soon affects an entire cluster. Coe's Golden Drop, Transparent Gage, Belle de Septembre, Archduke, Grand Duke, and Pond's Seedling are good late varieties. In the manner indicated above, trim off the growths of espalier Apples and Pears, whose growth is now over for this season, and in that way let direct sunlight to the fruits. If birds are troublesome and peck the fruit, Pear trees should be netted over, propping the net out from the wall or fence, at the top by means of forked sticks.

GATHERING APPLES AND PEARS.—If the collection is extensive, daily examination of the fruit is required, the varieties Lord Suffield, Ecklinville Seedling, Frogmore Prolific, Manks' and Dutch Codlings, Stirling Castle, Potts' Seedling, Cellini, Tom Putt, &c., being gathered at once if fruit dropping is common. To keep early fruits they should be stored cool, say in underground Potato stores, or thatched sheds, cellar, &c., the fruit-room proper being mostly too warm for early Apples at this season. With proper attention to gathering only what is really ready, a succession of Pears of the finest quality may be obtained from the present time, till well into the month of December. Jersey Gratioli from walls and Beurré d'Amanlis from pyramids succeeding Williams' Bon Chrétien, Fondante d'Automne from wall coming next, some of which may be gathered forthwith, and placed in warmth. Make a gathering of Louise Bonne of Jersey, regulating the gathering of this, and of Fondante d'Automne, in accordance with the demand. To succeed these varieties, Beurré Hardy may be got in, allowing a fortnight for them to ripen for dessert. Comte de Lamy, another very fine Pear, will be fit for consumption at about the same date. These varieties, if properly stored, will remain good till Marie Louise and Doyenné du Comice become eatable. I omit such handsome Pears as Souvenir du Congrès, Doyenné Boussoch, Brockworth Park, Pitmaston Duchess, &c., which have nothing beyond their colour and size to recommend them.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

THE WATERING OF RESTING PLANTS.—Now that sunlight is decreasing daily, the requirements of the different species and varieties as regards moisture becomes a matter of much importance, and cultivators of Orchids will need to be guided in this matter by the conditions of each individual plant, its period of growth or of rest, and its season of flowering. The unintelligent manner in which water is afforded or withheld during the months of autumn and winter is one of the chief causes of much loss amongst these plants; still, it is not possible, in calendarial articles such as these, to furnish precise instructions to meet every case. East Indian species, which bloom in the spring and early summer, such as Aërides, Saccolabiums, and some of the Angræcums, will in a short time have reached the end of their most active season of growth; although there is never a complete arrest of growth, the plants will have to be treated as being at rest, and be watered at the root accordingly. Any failure in the proper observation of this matter will lead to spotting of the leaves and ill-matured pseudobulbs. Afford just as much as will prevent shrivelling of the foliage. For some months the sphagnum moss may have been growing strongly, and should now be allowed to become of a whitish colour before water is afforded. Aërides maculosum, A. m. Schroderi, A. Warneri, A. crassifolium, Saccolabium cœleste, &c., that succeed better under cooler treatment, are still growing, and therefore in need of being frequently watered until root action ceases, when a diminished supply of water only is needed. The Phalænopsis, especially, should be afforded water with much carefulness, and where active growth has ceased, water in large quantities will not be needed, although it is bad practice to let the plants remain dry for a long time. Our plants are grown in baskets hung up on the shady side of the East Indian-house, and we examine them twice or thrice weekly, and those which are partially resting and on which the sphagnum moss is nearly white and crisp, are sparingly watered with a fine rose watering-can, no water being allowed to remain on the foliage or in the centres of the plants, Phalænopsis being very sensitive in that respect.

THE CATTLEYA-HOUSE.—Cattleya Trianæi, C. Mendelli, C. Skinneri, C. Bowringiana, &c., having finished growing will need but little water. It usually happens at this time of the year in houses insufficiently ventilated that the sheaths encircling the pseudobulbs are almost transparent, and appear to have moisture beneath them, which if it be not let out by slitting the sheath sets up decay in that part. Cattleyas still growing should be placed at the warmest part of the house, raising their pots on inverted ones, &c., so as to bring them up to the light. Plants of Lælia elegans now finished flowering should be cautiously watered, the new pseudobulbs readily rotting away if there is too much moisture at the root, and too little sunlight and ventilation. This species will be now emitting the roots from the flowering growths, and if in need of re-potting, or the compost has become worn out, the present is a good time to attend to these matters. An intermediate-house suits this species during the winter.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

WINTER BEDDING.—Where bedding of this description is employed, it will be necessary to look over the stock of the various plants it is intended to use for the purpose. Cupressus, Retinospora, Osmanthus, Hollies, Pernettyas, and other evergreens, may require to be carefully gone over with a sharp knife, and all shoots of rampant growth cut sufficiently back to make the plants of the desired shape, and all dead wood should be removed at the same time. If this be done now it will prevent a check from this cause when lifting-time arrives. Considering the numerous shrubs, both flowering and otherwise, that are available for such kind of work, I see no reason why winter bedding should not form an equally essential part of the year's display as that of spring and summer, and, if not so showy, it will, if arranged with taste, form a pleasing and instructive addition to the flower-garden. It will be well to look over the stock of the above plants, and note any varieties which have become too large or otherwise unsuitable for the beds.

PROPAGATION. — A compost suitable for the cuttings of most of these plants will consist of about two-thirds potting-bench soil, which has been passed through a sieve, the remaining portion consisting of leaf-soil and coarse sand in about equal parts. When selecting the cuttings, take them from plants which are healthy, and of a good colour, more especially in the case of Aucubas and the variegated Cupressus. Each cutting should have a slight heel of the old wood attached, and only those which are of a firm growth selected. The pots I prefer for these cuttings are those of 7-inch diameter, drained to a depth of 2 inches. The soil should be made fairly firm, and then surfaced with sand. Insert the cuttings rather thickly, and be careful not to bruise them. Also see that the base of each cutting rests on the soil at the bottom of the hole, and that it is made firm; and in the case of Aucubas, never let the cuttings get dry. In the case of Cupressus, Retinosporas, &c., after watering they may be placed in a cold frame, where they can be kept close and shaded, but Aucubas, Skimmias, and Phillyreas will be greatly benefited by a slight bottom-heat.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

FIGS IN POTS.—Continue to afford a liberal supply of liquid-manure to trees which have swelling fruits; also afford plenty of air at all times, with a gentle warmth in the hot-water pipes. The Fig trees in the early house, which have ceased to bear fruit for the season, must have root-waterings till the leaves fall. If the Fig-house is required for other purposes, such plants may be stood out-of-doors till December as soon as the bulk of the leaves has fallen, but it is not good practice to take Figs out of the plunging-bed before that time or injury to roots may result, if these have entered the bed. When out of doors, Figs should have a sheltered place; and when hard frosts threaten, a shed or cool house is best for them, the pots being packed round with litter or bracken. No plant should be allowed to get very dry, even when at rest. When it can be done they should be kept in the house in which they fruited, put in order, and the plants plunged in the bed. Trees in borders should have the shoots thinned out so as to admit the sunlight to every part.

POT VINES for fruiting in April should now have the shoots of a rich brown colour. All young and weak growths should be cut off, so that, when the leaves fall, no further pruning will be required by the canes before they are started. Keep these Vines in a cool, well-aired house, or place them out of doors against a wall or hedge, affording water when the soil approaches dryness.

PERMANENT VINES for fruiting in May should also have well-matured shoots at this date, and should have similar treatment, the house being kept as cool and well ventilated as possible. The pruning should be done when the leaves have entirely fallen, and anything else that may be needed by the vinery or heating apparatus undertaken.

MID SEASON VINES.—Remove from these unnecessary laterals and shoots, ripen the wood by the use of a little fire-heat, and secure perfect ventilation by day and night. If mealy-bug or red-spider be troublesome, syringe the Vines twice a week with petroleum and soap-suds, as previously directed.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

THE POTATO CROPS.—Many varieties will, ere this, be sufficiently matured to dig and store, although Magnum Bonum and other very late varieties are still quite green where not diseased, and these must remain for some longer time. Always when practicable lift Potatos when the weather is dry. Where the tubers will not be wanted for table before the winter, the best method of storing is in clamps. These are made by throwing out the soil 1 foot deep, 4 feet wide, and of any desired length. Place the tubers in a ridge-like heap, which leave uncovered for a few days to allow of the escape of moisture, but protecting the heap from rain and dew. Before putting on the soil, cover the tubers with clean straw or dried Fern, and case this with soil not of less thickness than 1 foot. Pings of straw put in at the top of the ridge every 5 feet will afford the desired ventilation.

PARSLEY may now be planted in cold frames, and the remainder of the summer crop cut over so as to cause the production of fresh leaves.

CAULIFLOWERS.—The varieties Autumn Giant and Self-protecting are now coming in, and are of excellent quality, but as they are maturing in large numbers, it will be advisable to cut off a good many of them at the ground-line, and hang them up in a cool shed; or lift them with a spade with what ball of soil may be obtained, and pack them close together in a cool shed, facing north, where they will keep fresh for nearly one month. The leaves should be dry, and the heads not too far advanced, when lifted or cut in this manner.

SPINACH AND TURNIPS.—As has been previously said, these crops, to stand the winter with but little loss, should be well thinned from the first, and any which may be weakly may still be thinned out, always leaving the sturdier plants. If the Spinach-beds are patchy, plants may be lifted from the rows where they are standing too closely, and planted firmly in the vacancies, taking care to afford water before and after planting.

ASPARAGUS.—Ply the Dutch-hoe amongst the plants, and gather seeds, so as to prevent them from being shed on the beds. Applications of liquid-manure will be beneficial to beds on light soils, helping the buds to develop.

LETTUCES AND ENDIVE.—Frames should now be got in readiness for these salad plants, the blanched heads being very susceptible to frost. Tiffany or other light material laid over them at night, when frost appears imminent, answer well for protecting the plants if the frames are not available.

DWARF BEANS, VEGETABLE MARROWS, AND PEAS, may be protected in the same way during the prevalence of the frosts, usually exeprienced towards the end of the present month.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, SEPT. 25 — Royal Horticultural Society, in the Gardens at Chiswick Conference on Hardy Trees and Shrubs.

SHOW.

SATURDAY, SEPT. 29 to TUESDAY, OCT. 2 — Great Exhibition of British Grown Fruit by the Royal Horticultural Society, at the Crystal Palace. Lecture on each of the three days.

SALES.

MONDAY, SEPT. 24 — Plants and Hardy Bulbs at Protheroe & Morris' Rooms. Dutch Bulbs at Protheroe & Morris' Rooms.

TUESDAY, SEPT. 25 — Dutch Bulbs at Protheroe & Morris' Rooms.

WEDNESDAY, SEPT. 26 — Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, SEPT. 27 — Dutch Bulbs at Protheroe & Morris' Rooms. Plants and Hardy Bulbs at Protheroe & Morris' Rooms.

FRIDAY, SEPT. 28 — Orchids at Protheroe & Morris' Rooms. Dutch Bulbs at Protherce & Morris' Rooms.

SATURDAY, SEPT. 29 — Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—55°.6.

Hardy Trees.

NEXT week, and the following one, will be busy periods for the Royal Horticultural Society, and the first thing that occurs to the minds of those interested in the Society is a feeling of sympathy for the Secretary, the Rev. W. WILKS, who is incapacitated from taking any part in the proceedings. The reverend gentleman has been subjected to a serious operation, which will prevent him from attending to the business of the Society for some weeks to come. We are pleased to be able to state, from enquiries made as these pages are passing through the press, that the patient is progressing very satisfactorily.

The first event of the week will be the meeting at Chiswick on Tuesday next, when the Committees will meet at 11 A.M., instead of at 12 o'clock as usual. The Committees will deal with flowers, fruits, and Orchids in the usual way, the *venue* only being changed. The special feature of the day, however, will be the EXHIBITION OF CUT SPECIMENS OF TREES AND SHRUBS. This is especially intended for the display of specimens of deciduous trees and shrubs. The following extract from the Society's programme will show what is intended:—

"The Council of the Royal Horticultural Society, being anxious to direct greater attention to the ornament and utility of the trees and shrubs which are to be found growing in the British Isles, and of which many were originally introduced by the Society's collectors, have decided to hold a Conference on the subject in the Society's gardens at Chiswick (close to Acton Green, Turnham Green, and Gunnersbury Railway Stations) on Tuesday, September 25, 1894.

"The Council are particularly desirous that specimens in the shape of branches of trees and shrubs not generally known, and remarkable either for their economic value or ornamental aspect (or both), should be sent to Chiswick Gardens, so as to add thereby a greater interest to the Conference.

"Specimens will be received at Chiswick on the Saturday or Monday before the Conference, and it is desirable that the contributors should give as much information as possible as to age, height, economic or ornamental properties, altitude, soil, &c., so that when a report of the Conference appears in the Society's *Journal*, owners of Arboreta may have reliable facts placed before them in a concise and convenient shape."

As many intending exhibitors at the Conference on Trees and Shrubs at Chiswick Gardens on September 25, may possibly wish to know what kinds are most likely to be wanted, the following list may be of some assistance (of course only branches of large trees need be sent to the Gardens):—

Andromeda,	Pernettya,	Pavia,
Cassandra,	Prunus,	Viburnum,
Catalpa,	Amygdalus,	Quercus,
Carpenteria,	Copper Beeches,	Spiræa,
Ceanothus,	Birches,	Berberis,
Cratægus, (and other trees and shrubs in fruit),	Alders,	Magnolias,
	Walnuts,	Robinia
	Hickory (Carya),	Sophora,
Cotoneaster,	Maples (Acer),	Hamamelis,
Euonymus,	Dogwoods,	&c., &c.
Pyrus,		

It is evident that a most interesting exhibit may be got together from such materials, and it may well be supplemented later on by exhibitions of such coloured foliage, berries, &c., as are not available at present. We believe that Lord POWERSCOURT, the Marquis of HUNTLEY, and numerous other gentlemen, are likely to exhibit on this occasion, and to those disposed to follow their example, we may recommend them to send all specimens direct to the Superintendent, Royal Horticultural Society's Gardens, Chiswick, near London, not later than Monday next.

In addition to the exhibition, a Conference on hardy shrubs will be opened at 12.30 by W. T. THISELTON-DYER, Esq., Director, Royal Gardens, Kew. The following is the programme:—

Papers to be read at 12 30 P.M.:—1, Mr. J. B. CARRUTHERS, F.L.S, on "The Larch Disease"; 2, Mr. E. J. BAILLIE, F.L.S., on "Forest Trees for Commercial Purposes," treated with reference to soil and aspect. Interval for luncheon until 3 P.M.

Part II. 3.0 P.M.—W. T. THISELTON-DYER, C.M.G., C.I.E., M.A., B.Sc., F.R.S., &c., in the chair.

Papers to be read:—3, Mr. J. SIMPSON, on "The Utilisation of Waste Ground unsuitable for Agriculture"; Mr. A. C. FORBES, on "The General Management of Woods, Planting, Thinning, Nurse Trees, Coppices, Hedgerows, &c."

DISCUSSION.—It will add very great interest to the proceedings if ladies or gentlemen in the audience, having a special knowledge of the subjects treated on by the readers of papers, would be good enough to relate their experience, to ask questions, or to discuss appropriate matters of interest after each paper.

Hardy Fruits.

OF even greater interest to most gardeners than the exhibition and Conference on hardy trees, will be the great show of fruit which will be inaugurated under the auspices of the Royal Horticultural Society at the Crystal Palace on Saturday next, September 29, and which will remain open till the next ensuing Tuesday. The following letter shows the nature and objects of the exhibition:—

"Sir,—In the early part of this year you were good enough to insert in your columns a letter from me on the subject of fruit growing, stating that the Royal Horticultural Society were willing to promote a national fruit show this autumn if those interested in fruit culture would show their practical interest by bearing the comparatively small share of £100 of the cost.

That £100 was forthcoming; the show has been organised, and is to take place at the Crystal Palace on Saturday, September 29, and Monday and Tuesday, October 1 and 2. There are classes for all kinds and sorts of fruits, and also for packing and packing-cases. The classes also vary, to suit all growers, from large collections down to single dishes of fruit, and liberal prizes are offered for all.

A public luncheon will be held on Saturday 29th, at 1.30, and a lecture will be given each day at 3 30; on Saturday, on "Fruit-growing in Small Gardens," by the Rev. W. WILKS, Vicar of Shirley, and Secretary of the Society, and by Mr. GEORGE BUNYARD, F.R.H.S., of Maidstone; on Monday, on "Fruit-growing on a large Scale," by Mr. C. WISE, F.S.I., F.R.H.S., manager of the great fruit farms established by Lord SUDELEY; and on Tuesday, on "Packing and Marketing Fruit," by Mr. GEORGE MONRO, F.R.H.S., of Covent Garden Market.

Nothing, I think, remains to be done to make this a truly national exhibition of what British-grown fruit can be, except that exhibitors, both great and small, should come forward and enter their fruit. Schedules of the prizes, and all other information, may be obtained at the office of the Society.

W. WILKS, Vicar of Shirley, Surrey,
Secretary, R.H.S.
117, Victoria Street, London, S.W., Sept. 18."

We are also requested to state that:—

"On the occasion of the Great Show of British-grown Fruit to be held at the Crystal Palace, Saturday, Monday, and Tuesday, September 29, October 1 and 2, 1894, the judging will commence punctually at half-past 11 A.M. On the 'Entry Form,' which each exhibitor signs, he 'undertakes to have finished staging by 11 A.M. punctually.' But on page 20 of the Schedule, Regulation vii., has accidentally slipped in as a reprint from the Society's annual Schedule, in which the usual time at the fortnightly meetings of 12 o'clock has remained unaltered. By their written 'undertaking,' the exhibitors are bound to be ready by 11; it will therefore be no hardship on them to insist on the Show being cleared at 11.15, and the judging commenced punctually at 11 30."

ROCKERY SHOW HOUSE.—Visitors to Messrs. J. VEITCH & SON'S nursery, King's Road, Chelsea, will have noted an ordinary looking glass-house, with its entrance abutting on the central walk, which might, all outward appearances to the contrary, be furnished in the usual utilitarian fashion, with painted deal staging at the sides and in the middle. Our Supplementary Illustration this week, however, shows much more tasteful arrangements for exhibiting the various species of flowering and foliage plants therein cultivated. Instead of the central stage, we note an oblong enclosure of artificial rockwork, affording a number of crevices and pockets in which to grow plants without pots, or for dropping plants in pots into whilst at their best. This enclosure has a level surface of spar or gravel some foot or more below the upper edge of rocks, hiding, thereby, from view the pots stood thereon. The side beds for plants are furnished with rockery sides next to the path, and with a bed on the top for receiving plants grown in pots. At the time the photograph was taken, the following foliage plants formed part of the furnishing of the house:—Phyllanthus roseus pictus, Begonias, a variegated Carex, Ophiopogon Jaburan, Philodendron Andreanum, P. Lindeni, Ficus barbatus, a strong-growing, handsome, evergreen, clinging climber, F. repens minima, both which have an excellent appearance, running over the rocks in orderly confusion; Aralia Chabrieri, Dracænas Baptisti and Doucetti Pandanus Veitchi, Caladiums Monstera deliciosa, Tillandsia zebrina and T. z. major, T. tesellata, which may also figure as flowering plants; Cocos Weddeliana Belmoreana, and C. plumosa, Crotons, &c. Ferns, indispensable in houses of this character, consist of Adiantum of various species, but mainly of cuneatum; Davallia Mariesii, D. Veitchi are also common Asplenium præmorsum laceratum grows beautifully in shady nooks, Nephrolepis and Selaginella amœna and S. umbrosum are plentiful. Flowering plants, always being renewed, were Phyllocactus in variety, of which the nursery possesses many of much beauty; Hibiscus Collerii and others, Hymenocallis macrostephana, with fine showy corymbs of white, densely set blooms; Streptocarpus hybrids, warm house Rhododendrons, Ixoras, and many others. At the present time masses of Amasonia punicea make a fine show.



Warm Show-House in the Nursery of Messrs. J. Veitch & Sons, Chelsea.

Royal Horticultural Society's Potato Trials.—A meeting of the fruit committee was held at Chiswick on Tuesday last for the purpose of examining the sixty odd varieties of new Potatos being grown there for trial. The culture had been of the best, and in some cases the crops were immense. With the majority, however, disease had been rampant, the very light porous soil of the gardens enabling the fungus spores to find out the weak points in divers varieties. On the other hand some, besides giving tremendous crops, had remarkably clean tubers. Twelve varieties were eventually selected for cooking, and were served up later with their skins on in the most admirable way. The following five received their three marks: Stoke's Seedling, white, round, strong tops, very heavy crop, slight disease; Daniel's Special, white, pebble-shaped, round, very clean and good; Boston Bountiful (Johnson), long white kidney, good size, great crop, very clean, a strong grower; Poor Man's Friend (Eaton), huge white kidney, immense crop, quite clean; and Field King, (Howard), long flattish-white tubers, tremendous cropper and a strong grower, free from disease. Others which, when cooked, were not quite so satisfactory, were Prosperous (Ross), a very heavy cropping white round, somewhat diseased; Pride of Oxford (Wills), long flattish round, white, and quite clean; Duchess of York (Wills), long flattish round, strong, late, free cropper, no disease; Wood's Favourite, long flattish white kidney, evidently early, good crop; and Rushcliffe Beauty (Richards), huge long flattish tubers, white, a tremendous cropper. All sorts free from disease at Chiswick would probably withstand disease anywhere. The members present were: Messrs. J. Smith, in the chair; W. Bates, J. Hudson, G. Wythes, J. Willard, J. Laing, jun., A. Dean, and Mr. Barron.

"The Journal of the Royal Horticultural Society."—The last issued part of the *Journal of the Society*, contains articles on the Cedar of Goa (Cupressus lusitanica) by Dr. Masters; the deciduous trees and shrubs of Japan by Mr. Jas. H. Veitch, who has profited by the opportunities he has had of seeing them in their native country, as well as under cultivation; M. Maurice de Vilmorin gives a descriptive account of the Arnold Arboretum at Boston; Rev. G. Engleheart has an excellent paper on the "Hybridisation of Narcissus," which should be read and studied by all experimenters; Mr. Burbidge contributes a pleasantly-written article on Botanical Exploration in Borneo; Mr. Nicholson follows with a paper on "Flowering Trees and Shrubs." Thus it will be seen that several of the papers foreshadow the conference on trees and shrubs to be held next week. The list of successful candidates at the recent examination, and the questions put on that occasion are given. To these we may refer more at length on a future occasion. The remainder of the number is occupied with records of the proceedings of the several committees.

Crystal Palace Fruit Show.—The secretary of the Roy. Hort. Society, 117, Victoria St., would be greatly obliged if those who contemplate joining the gardeners' luncheon at half-past 1 on September 29, would be kind enough to apply to him for tickets at once, as there will probably be a very large number, and it may be impossible to increase the accommodation at the last moment.

Lindley Library Fund.—In addition to those already mentioned, we learn that the following subscriptions have been received or promised:—Col. Page, £1 1*s.*; H. J. Veitch, Esq., £1 1*s.*; James H. Veitch, Esq., 10*s.* 6*d*; A. H. Kent, 5*s.* The primary object of the trustees is to secure sufficient funds for the preparation and publication of a complete catalogue of the library, and the payment of a librarian. Donations of horticultural books are also specially solicited by the trustees. Mr. John Weathers, Royal Horticultural Society, 117, Victoria Street, Westminster, is the acting librarian.

"The Journal of the Board of Agriculture."—The Board of Agriculture has issued the first number of a *Quarterly Journal*, which promises to be very useful. It is intended to furnish information on agricultural matters, together with statistical records and other intelligence that cannot conveniently be inserted in the annual publications of the department. The general condition of agriculture in the colonies, as well as in continental countries will be indicated, and much matter included which will be found convenient for purposes of reference. The Board is desirous of receiving suggestions for the improvement of the journal. To show its general nature, we may indicate the principal contents of the present number—cost of growing Wheat in the United States, cold storage of fruit, agricultural co-operative societies in France, poultry rearing in Russia, experiments in checking Potato disease, agricultural depression in the United States, dairying in Victoria, the Kestrel, Potatos for stock-feeding, export of Norwegian sheep to England, crop prospects in various countries, reports on various injurious insects and fungi, besides a large number of miscellaneous extracts, reports, statistical tables, &c. The whole is published at 6*d.*, and may be had of Messrs. Eyre & Spottiswoode, East Harding Street, Fleet Street. Now-a-days the difficulty consists not so much in the circulation of useful knowledge, as in inducing people to read it and act upon it. An experimentalist or a journalist may publish articles deemed to be of immediate importance to cultivators, but as a rule it takes years to induce the practical man to take any interest in the subject. People, for instance, are only now asking about Bordeaux Mixture and its use, and not one in a thousand Potato growers knows anything about high moulding. Now that steps are taken to improve and extend technical education, it may be hoped that farmers and gardeners will become more alive to the matters that concern them, and that teachers will know how to drive home the lessons to be derived from scientific research.

Horticultural Society of Aberdeen.—The drawings for the three days of the autumn show amounted to the sum of £394 2*s.* 3*d.*

Bristol Amateur Horticultural Society.—The ninth monthly meeting of the above was held at the Colston Hall, Bristol, on Wednesday, September 12. Mr. E. G. Machon in the chair. Mr. F. Nash of Bath, read a very instructive paper on "Hyacinths, Tulips, and Narcissus," explaining the methods of potting-soils to be used, &c., affording much information regarding the culture of these bulbs. A hearty vote of thanks to the lecturer brought a very successful meeting to a close.

Palmerston Park, Dublin.—The above place of public resort in the Rathmines district, a view of the rockery in which was published, and whose general aspect and chief features were remarked upon in a recent issue of this journal, was opened to the public on the 8th inst. As was stated in our former notice of the park, Mr. W. Sheppard is responsible for the conversion of the once wild and uncouth spot into an enjoyable pleasure-ground.

Diseases of Fruit Trees.—Those who read French will find a very useful little treatise on the subject entitled, *Maladie des Arbres Fruitiers*, by M. E. Sirodot. It is published at a low price by M. Octave Doin, of Paris, and may be procured of Messrs. Williams & Norgate, or other foreign bookseller. The principal fungi and insects affecting fruit trees are passed in review, and the most efficacious means of preventing or palliating their evil effects are given.

Beds in Hyde Park.—A few beds here only recently planted are worthy of mention. A long bed near Mount Street and Stanhope Gate, Park Lane, are planted with Lilium lancifolium, having a carpet of China Asters. Several beds of early-flowering Chrysanthemems, as George Wermig, La Nymphe, Madame Desgranges, Précocité, and Golden Jardin des Plantes have taken the place of beds previously occupied with early-flowering plants. A bed near Grosvenor Gate has just been planted with seedlings of the Marguerite type of Carnations, also a very pretty bed, thus giving an instance of the manner in which the Carnation season may be prolonged. These plants were raised from seed sown early last spring.

Railway Companies and the Traders.—We extract the following from a letter of Mr. J. W. Martin's in the *Times*. Our readers will remember the details given in our columns last year:—'Now let us take fruit. Leading salesmen in Covent Garden Market inform me that the rate on fruit in one ton lots from Boulogne is 12*s.* 5*d*, empties returned free; from Folkestone and intermediate stations the rate is 25*s.* 7*d*, carriage on empties charged for. Now, what does this mean? Why, that if you compare the prospects of two fruit-growers, one farming in Normandy and the other in the south of England, and each producing and sending to the London market 1,000 tons of fruit per annum, the Frenchman will save £500 per annum in carriage alone as against his English competitor. Now, let me give you a little of my own experience. At the beginning of the present season the Midland, Great Northern, and Great Eastern Companies gave me (and other growers in the neighbourhood of Wisbech) notice that they would not collect and carry fruit in handled baskets as they had done in former years. Now why did they do this? Because there was a prospect of a very abundant crop of English Strawberries, and they wished to compel us to send our fruit in flats to market, so that it would be only fit for jam-makers when it arrived, and so keep the market open for foreign fruit in handled baskets, which they were distributing all over the kingdom at the very time when they issued this notice. The frost subsequently destroyed the English crop, or we should have had considerable trouble with these companies."

The Proposed National Potato Show.—We have received from Mr. Alex. Dean, 62, Richmond Road, Kingston-on-Thames, for publication, the following note respecting the above matter:—"I have already received so many promises of support for the proposed National Potato Show that, having the sanction of the Crystal Palace authorities to hold a meeting for the purpose in the Board Room, I venture to invite not only my correspondents, but all others interested, to meet in the Board Room at 4 o'clock on Saturday, September 29, the first day of the great fruit show. One esteemed gardener urges that vegetables should be included with Potatos. With that opinion I have great sympathy, and a special national exhibition of vegetables, with Potatos for the primary feature, would, I think, command very wide support indeed. It would form at once a most worthy and splendid addition to the national fruit show."

Ancient Society of York Florists.—On Sunday last the usual flower services were held at St. Mary's Church, York. The chaplain of the Society (Rev. H. Vyvyan) preached in the morning, founding his sermon on the words, "Flowers appear on the Earth."

Spitzbergen.—A very interesting consignment of Spitzbergen plants has been received at Chiswick, from Captain H. J. Charrington. The plants are in the form of thriving little hummocks, and if they can be wintered here safely, they will prove very interesting. Doubtless, as low a temperature as possible, together with absence of light and moisture, will afford the likeliest means of preserving the plants.

East Anglian Horticultural Club.—The usual monthly meeting of this Club was held at No. 1, Prince's Street, on Wednesday evening, the 12th inst. Mr. Bartlett, of Earlham, occupied the chair, and Mr. H. J. Woods the vice. The Club at the present time numbers exactly 100 members, and in consequence of the recent affiliation with the Norfolk and Norwich Horticultural Society, it is confidently anticipated that before long the number will be doubled. A feeling was expressed during the evening, that if all the young gardeners of the

neighbourhood could only realise one-half of the benefits to be derived from this Club, they would make application forthwith to the Hon. Secretary, Mr. A. F. UPSTONE, at Messrs. DANIELS BROS., 20, Exchange Street, Norwich, from whom all information can be obtained. Meetings are held every second Wednesday in the month, at 6 30 P.M. A paper will be read in October by Mr. ABEL, on "Scientific Gardening;" and one by Mr. RICHES in November, on "The Young Gardener."

HERBACEOUS PHLOXES.—These have nearly come to their natural term, but at Chiswick the season has been prolonged by the employment of plants raised from spring cuttings. The plants so raised are now in full flower, and about half the height of those grown in the ordinary way. This is a method strongly to be recommended to gardeners.

WIDCOMBE INSTITUTE HORTICULTURAL CLUB.—Mr. B. J. BAKER presided at a meeting of the members of this Club held at the Institute recently, when an interesting and instructive lecture on "Nature's Helps to Gardeners" was given by Mr. J. HINTON, of Batheaston.

A CHRYSANTHEMUM CATALOGUE.—M. O. DE MEULENAERE has recently published, through the Ghent Royal Agricultural and Botanical Society, a supplementary list of Chrysanthemums, prefaced by some remarks on the difficulty of ensuring accurate and suitable nomenclature. To lessen the mistakes caused by careless or uneducated writers of labels or others, the author urges the importance of unanimity on the part of growers and cultivators, and proposes that a uniform system be adopted in all catalogues and lists, and acknowledged by all writers on the subject. He further suggests the simplifying of names, or rather that prominence should be given to the leading words in them; titles, adjectives, and any other additions being either wholly omitted or inserted in brackets, as *Cassagneau* (Mme. Mathilde), *Childs* (Georges W.), *Gaules* (Reine des), *Alpins* (Soleil des), *Reine* des Abeilles, *Fusée* Comète, *Friend* (Our Mutual), &c. Such a plan, if followed, would no doubt obviate many of the mistakes which now occur, and might be applied to Roses and many other florists' flowers as well as to the Chrysanthemums here treated of. M. MEULENAERE has put his own theory into practice in this pamphlet, which contains about a hundred closely-printed pages devoted to a list of varieties with a short description of each. This long catalogue is, however, only supplementary to the one published by this authority in 1890, and it mentions only the best (3000 !) varieties introduced during the last four years. Since such confusion of names prevails in so large a field, it is not surprising that M. MEULENAERE and his collaborator, Mr. HARMAN PAYNE, think it worth their while to endeavour to reduce it to order. These two energetic and well-known authorities are doing a much-needed work in an enterprising and thorough manner. Our own experience, however, is not such as to make us sanguine of good results. Conferences may be organised, rules laid down, even lists drawn up with all the care possible, but very few, if any, take the trouble to conform to the rules or to read the lists.

AT WHAT AGE DOES YUCCA GLORIOSA FLOWER?—A correspondent from Peterhead, N.B., sends us a photograph of a plant of Yucca gloriosa, now in flower in that northern locality for the first time, though it has been planted forty years. It certainly produces flowers much sooner than that in the south, and although it does not flower every year, it does so very frequently, and, as is natural, it always excites admiration. Neither is the production of flowers in this case to be looked on as a death warrant. Our Peterhead friends seem to have mixed up some story they have read about the Agave with the Yucca. The Agave really does die after flowering, but the Yucca—well, it is hard to kill a Yucca. Even London fogs will not do it. We saw one or two in flower on the Thames Embankment this year, and, indeed, the Yucca is an excellent town plant.

ACREAGE OF HOPS.—The Board of Agriculture, 4, Whitehall Place, S.W., furnishes the following Preliminary Statement, compiled from the Returns collected on June 4, 1894, showing the Acreage under Hops in each County of England in which Hops were grown, with a Comparative Statement for the Years 1893, 1892, and 1891:—

COUNTIES.	1894.	1893.	1892.	1891.
	Acres.	Acres.	Acres.	Acres.
Berks	11	11	10	11
Gloucester	39	33	39	25
Hants	2,911	2,795	2,775	2,749
Hereford	7,525	7,079	6,797	6,560
Kent	35,520	34,815	34,058	34,266
Notts	...	...	14	14
Salop	140	123	117	112
Suffolk	17	21	18	20
Surrey	1,935	1,845	1,938	1,955
Sussex	7,589	7,326	7,124	7,150
Worcester	3,848	3,516	3,3 9	3,280
Total	59,535	57,564	56,259	56,142

PROGRESS OF A DECADE.—Our contemporary, the *American Florist*, publishes an interesting record of the progress made in various branches of horticulture during the ten years' existence of the Society of American Florists. This association was organised in 1884, and a year later "the American Florist had its birth at the Cincinnati meeting." In those days and in that country it was a new experience for the florists to get together and "talk it out," but they have since taken full advantage of it, taking an enthusiastic interest in the new venture, and starting many a movement of improvement and reform. "The uniformity in sizes and shape of flower-pots, the special postal-rates on seeds and plants, reduced charges on plant shipments, reform in plant nomenclature, the Florists' Hail Association, the Florist' Protective Association, are all the direct result of well-directed effort on the part of the Society of American Florists." Not merely this, but the wonderful advance in more purely floricultural matters should be noted; the increase in florists' varieties, the improvement of old sorts, the introduction of many new ones. How vastly have the numbers of Roses and Carnations increased during the last decade! and, as regards the latter, "progress has not been confined to the production of better flowers. The improvement in methods of cultivation has been fully equal to the improvement made in the quality of the varieties." The study of the various fungoid diseases affecting Carnations has also been carefully undertaken, with the result that many then dreaded diseases can be now successfully combated. As to Chrysanthemums, the popularity of these has been achieved almost wholly within the last decade, before which time they were far different both in mode of growth and in form from what they are now. In Cannas and Pelargoniums also the progress has been most marked. This enterprising and still young American Society is thus proved to be doing valuable work, which we hope may be long continued. This is the more likely to be the case, as according to this record, perfection in the various varieties is not considered to be yet attained. A dozen good Tea Roses, an ideal bedding Pelargonium, &c., have yet to be raised. Meanwhile the Society is actively working forward, offering prizes, holding meetings, encouraging here, reforming there, taking a very similar course to that pursued by our own Royal Horticultural Society, but laying more stress upon the purely commercial aspects, and upon the social element and meeting yearly in some suitable town. Let us hope it may have a long and useful career before it, and realise that financial results, however important, are not the only things to be considered in the case of the cultivation of plants and flowers.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The first meeting of the fourth session of this society was held on Wednesday last at 25, Westgate Road. Mr. WM. MURRAY occupied the chair, and a good number of members was present. After the election of some new members, and the naming of a large number of plants, Mr. JNO. BULLOCK, the newly-elected chairman of the society, read an able paper on the "Cultivation of Lilies," and a spirited discussion followed. Votes of thanks concluded the meeting.

STREPTOCARPUS AS BEDDING PLANTS.—Has anyone tried these for this purpose? We saw some lately planted out in the garden of a distinguished horticulturist at Burnham, which were very brilliant in colour, and which even suggested the possibility of their surviving the winter out-of-doors. At any rate, the experiment is worth trying. We imagine the plants should be kept as dry as possible in winter.

ON THE INFLUENCE OF TOWN ATMOSPHERE UPON VEGETATION.—Some experiments made in and near Berlin, have produced some remarkable results. The experiments were made with Hydrangea hortensis, to ascertain what kinds of mineral or other manures are the best for these plants. In the report upon these experiments, given in the *Gartenflora*, fasc. 17, the following statements were made concerning the influence of town atmosphere upon vegetation. There were four stations in which the experiments were made, one at Lichterfelde, near Berlin, one at Spindlersfeld, near Berlin, one in Berlin, N.W., and one in Berlin, W. Concerning these localities, the following particulars may be noted: Lichterfelde is situated about 10 kilomètres south-west from Berlin. In the neighbourhood are only cottages and a few larger buildings, several large fields, but no factories. Spindlersfeld is also situated about 10 kilomètres south-east from Berlin. In the neighbourhood are, besides cottages and larger buildings, some large forests and some factories. The results obtained at the station at Berlin, N.W. are doubtful, but not so at Berlin, W. This latter station, a large park, is surrounded by large buildings, and is in the vicinity of two large railway termini. At each experiment-station sixty specimens of Hydrangea hortensis were cultivated, fifty of them being manured, ten unmanured. The plants were all raised from cuttings from the same nursery. They were grown in similar soil, received the same quantities of manure, and were cultivated under the same conditions at each station as far as was possible. Of these 180 plants, the sixty grown at Lichterfelde produced 365 shoots, the sixty plants at Spindlersfeld produced 334 shoots, those at Berlin, W., only 274 shoots—that is to say, that at Spindlersfeld more than one-twelfth, and at Berlin, W., one-fourth shoots fewer were put forth than at Lichterfelde. The plants were cultivated until they flowered. Of the 365 shoots formed at Lichterfelde, 287 produced flowers; of the 334 at Spindlersfeld, 242; of the 274 at Berlin, W., only 152—that is to say, the sixty plants at Spindlersfeld bore one-seventh, those at Berlin almost one-half fewer flower-spikes than those at Lichterfelde. The diameter of the inflorescences was at Spindlersfeld 24—33 cm. (10 cm. = 3·93 inch), but at Berlin, W., only 9—12 cm. As already remarked, these experiments were made with the object of finding out which manure is the best for the Hydrangea. That the above results were obtained at the same time was accidental, and they are far the more important, as until then the general theory that town atmosphere was not advantageous for plant-life was not based on any comparative experiment. It may be remarked that at Berlin there is no London fog. The detrimental effects of that upon vegetation are not suffered from at Berlin.

SEEDLING PANSIES.—We have received from Mr. J. G. HAWLEY, Brookfield House, Swinton, near Rotherham, a box containing some blooms of new seedling Pansies. Most of them, though exhibiting nothing particularly new in colour or form, are good for the season. They are of large size, and fairly good in form and colour, but in several specimens the colours had run a little.

PUBLICATIONS RECEIVED.—*Agriculture as Developed by Irrigation in Colorado* (National Irrigation Congress, Denver, Colorado).—*Above the Clouds.*

By a Lyme Gardener, Lyme Regis (F. Dunster.) It contains "Musings and Memories of the Past," addressed to "brother or sister of the spade or quill," by one who has found solace and profit in gardening."

Mr. A. Pettigrew.—We have to state with much regret that Mr. Pettigrew, of Cardiff Castle Gardens, has just sustained a sad bereavement by the loss of his youngest daughter (Agnes), in her eighteenth year. She passed away on Wednesday morning last, the 19th inst.

Shirley and District Gardeners' and Amateurs' Mutual Improvement Association.—There was a numerous attendance of the members at the Parish-room, Shirley, Southampton, on Monday, the 17th inst., when Mr. A. Dean, F.R.H.S., gave an interesting lecture on "Hardy Flowers for the Garden and House." Mr. Dean could only briefly allude to the various genera, pointing out the best species and varieties, and occasionally describing their habit and their place of origin. A charming display of hardy flowers was staged by Mr. B. Ladhams, Shirley Nurseries. Mr. Wilcox and Mr. J. Jones also contributed specimens, and Mr. T. Bartlett showed a very finely flowered specimen of Vallota purpurea. The lecture next month will be by Mr. E. Molyneux, Swanmore Park Gardens, on "Wall Trees and Espaliers."

Notices of Books.

1. Talks about the Weather in its Relation to Plants and Animals.
2. Talks about the Soil in its Relation to Plants and Business.
3. Talks about our Useful Plants.

By Charles Barnard. (Funk & Wagnalls Company, 44, Fleet Street, London; New York and Toronto.)

The author of these three books has set himself no easy task. Originally prepared for the use of the students of the Chautauqua Town and Country Club at Houghton Farm, Mountainville, New York, they are now re-published for the use of schools, students, farmers, and "all who are interested in the culture of plants for pleasure or profit." The audience addressed is, therefore, large and varied, and the subjects under discussion not less wide in range. To teach how and why the variations of weather, soil, and climate affect crops, and how our practice should be correspondingly modified, are important matters, and are treated simply and practically.

The writer has steered clear of two possible errors: he has, on the one hand, avoided filling his pages with purely chemical or botanical lore, and on the other, he gives no vague and unexplained rules; striving rather to demonstrate and lead others also to prove for themselves the close inter-relation of climates and soils with the nature and quality of the crops. Thus, he not merely instances certain manures, or points out certain methods of propagating as being best in particular cases, but he explains why they are so, in what consists the advantage of multiplying by means of seed, layers, or cuttings, as the case may be.

It must be granted that cultivation, to be successful nowadays, must not be based solely upon time-worn, unprogressive rules. Modern farmers and gardeners find more and more the necessity of keeping pace with scientific progress, and recognise the importance of studying cause and effect, and of marching with the times, rather than of claiming "protection" for their productions whether these be really meritorious or not.

To all whose pleasure or profit induces them to study the economic side of plant-life, we recommend Mr. Barnard's handbooks, the contents of which are fully explained in the author's conclusion to the third book of the series:—"We have now, by experimental observation, seen something of the lives of these friends, the useful plants. We have seen how their lives begin; we have learned something of the ways in which they multiply, and have learned of the simple yet curious ways in which we can assist them to increase and multiply after their kind . . . We recognise that wealth comes out of the ground, that every crop that is gathered is so much new wealth, so much new food, or materials for clothing, or for houses and ships. All our studies of the weather and the soil lead us to the lives of these beautiful plants . . . Perhaps these few studies of flowers will help us to appreciate and love them more and lead us to a better idea of the wonderful wisdom and goodness of the Creator, who has placed these friends, the plants, in our care. Our duty is to care for them with skill and patience, and to help them to give us their best gifts, some a hundred-fold, and some a thousand-fold."

We strongly recommend these little books to the consideration of young gardeners, and of those who are endeavouring to get "technical education."

HOME HOUSE, WORTHING.

Here, in his comfortable residence with its remarkable little *bijou* garden, the chief attraction in which is the beautiful and artistic rockery, the work of its owner's own hands, lives James Bateman, Esq., the prime mover in extensive Orchid culture, and one who has been usefully connected with horticulture for the greater part of the century.

Who is James Bateman? is a question which few interested in gardening, and especially in Orchids, will have to ask. No work on Orchids can be consulted, particularly in the parts relating to cool-house Orchids, without the question being answered repeatedly.

Before the age of twenty years, and while still at college at Oxford, Mr. Bateman had taken a fancy for Orchids, and commenced to lay the foundation of the famous collection, which he afterwards got to such imposing proportions at his gardens at Knypersley Hall, Cheshire, and which proved of such high educational use to the Orchid growers of those and more recent times. In 1833 Mr. Bateman, at his own cost, sent a collector to Demerara, and the next year made arrangements with Mr. George Ure Skinner, which resulted in the introduction of the greater part of the Orchids of Mexico and Guatemala, whose portraits and history are so well set forth in the noble work which Mr. Bateman published, 1837 to 1843, *Orchidaceæ of Mexico and Guatemala*.

In 1837—a wonderful year in the history of Orchid culture, something like 300 new species, many of them through Mr. Bateman's zeal being introduced in that year—the volume of the *Botanical Magazine* was dedicated to him, and faithfully for many years, both at Knypersley Hall and Biddulph Grange, did he pursue his favourite study and hobby, the pleasures of which he so frequently made known in his own charming manner during the chatty lectures he used to give at the meetings of the Royal Horticultural Society. As late as 1864—70, Mr. Bateman published his other fine work, the *Monograph of Odontoglossums*. What wonders take place during a long and active life! In his earlier days, Mr. Bateman used to say that the chief incentive to the cultivation of Orchids was "because those fiends, the hybridists, could not touch them," and yet he still lives to see and acknowledge the beauties of some of the hybrids, and in 1886 accepted the dedication of Messrs. Veitch's fine bi-generic hybrid, Sophrocattleya × Batemaniana.

Some years ago, the necessity for seeking a more genial part of the country, more especially on account of his wife's health, caused the veteran Orchidologist to sever himself from his favourite pursuit, and remove to Worthing. The garden attached to his villa residence there, is of the ordinary limited proportions, shut in by neighbours, and open to rough winds from the south-west; yet Mr. Bateman proved equal to the occasion, and resolved to construct an alpine rockery, carrying it up high enough to be a shelter from the winds; and so well did he carry out the work that the rockery at Home House is unique in style, while still preserving a natural effect, and viewed from all points equal in beauty as it certainly is in utility to any similar work in the country. This formed the new hobby, and steadily for years did its projector pursue it. Even when it was called finished, a touch here and there had to be given, and on the occasion of our last visit, we found the venerable artist had just descended from the highest altitude, where he had been rearranging a peak which had not quite pleased him. Of this rockery (a plan and view of which was given in the *Gardeners' Chronicle*, August 30, 1890) it may be said that it would be beautiful and appropriate for the situation it occupies even were it not well planted, which is a thing that can rarely be said of artificial rockeries. But it is well and cleverly planted, and many of the subjects used to embellish it are rare, and most of them of more than ordinary interest.

Leaving the little spring garden on the left, we pass to the smooth lawn, behind which the pretty miniature alpine rocks, with their tortuous passes, little caverns, and narrow bridges, form a beautiful scene. In one place, a tall slender Bamboo rises, near it in bold relief the fan-like growth of the broad-leaved Phormium tenax. In the larger openings, the heads of Moutan Pæonies and Himalayan Rhododendrons are seen; and nodding their fine heads, in places where the show of colour is not too obtrusive, are a couple of specimens of the purple-wooded Hydrangea Hortensia mandschurica. Some Eucalyptus and other tinted foliages give variety of effect, contrasting with the dark green and silvery variegation of the lesser Ivies, which are largely used for running over the rocks; and Dracæna indivisa is another fine object.

Following our guide, agile despite his years, and mounting to the highest pass, on which a pretty little grotto is a very pleasant retreat, we take a look on the scene below, and the eye takes in the pretty silvery bushes of Olearia Haastii, the tall spikes of various Lilies and orange-tinted Montbretias; running over a rustic arch, a profusion of bloom on Lathyrus Sibthorpii, and similarly situated Clematis and other climbers; on one side the satin-like flowers of Romneya Coulteri, and on another the rich heads of the species of Hemerocallis, with everywhere neat tufts of alpines, American plants, and Ferns as an undergrowth.

But it is no more possible to describe the beautiful rockery at Home House than it is to give an adequate idea of the beauty of a fine picture, and, therefore, we will no longer continue the vain attempt. Its beauty changes with every season, and, to lovers of plants, such as both Mr. and Mrs. Bateman are, must be a never-failing source of interest, apart from the pleasant memories which bind them to it as the successful work of their own hands.

Belgium.

MONTHLY MEETING AT GHENT.

At the last monthly meeting of the Chambre Syndicale des Horticulteurs Belges, and of the Ghent Royal Agricultural and Botanical Society, the following awards were made:—Certificates of Merit were allotted to M. Jules Hye for Miltoniopsis Bleueana gigantea, for Cypripedium Météore (Cypripedium barbatum grandiflorum × bellatulum Mariæ (*à l'unanimité*), for C. Annie Measures (Cypripedium Dayanum × bellatulum) (*à l'unanimité*), and for a species of Acineta. Certificates for good cultivation and flowering were awarded to M. E. Bedinghaus for Echinocactus Wislizenii, and to M. J. Hye for Cypripedium Crossianum superbum. Honourable Mention for novelty and variety was allotted to M. De Langhe-Vervaene, for Cocos Weddeliana recurva nana.

Home Correspondence.

Strawberry Culture.—While this subject is being discussed in the pages of the *Gardeners' Chronicle* as to the relative value of a crop of Strawberries, it may be of interest to some readers of this journal to hear of the result of the labour of one man, who may be truly described as a cottager. It shows that, under good management, the cultivation of the Strawberry is still profitable, and that in spite of the present bad season. The cottager rents 1¾ acre of land, and on which stands his cottage, the land previous to 1887 being under grass. In that year hay was made from the land, which sold for £3, costing £1 10*s.* to make it. In the autumn of that year he—a discharged army pensioner—broke up

the land, took a crop of early Potatos the following year, and as soon as possible afterwards planted the bulk of it with Strawberry-plants, and this year he has 1¼ acre of land devoted to them. Two varieties only are grown, Sir Joseph Paxton, and one named Garnier, but what this is I am unable to say; its chief merit is its earliness. Its fruit ripens as a rule before any other sort; the flavour is inferior, but that appears to be of little consequence to the market-man, as long as the fruit can be gathered at an early date, flavour being purely a secondary consideration. Sir J. Paxton is a variety that is the sheet-anchor of the bulk of cultivators in this neighbourhood, and there are several Strawberry growers occupying on the whole no less than 1000 acres of land within a few miles of this place. If the plants are put out early, the fruit gathered from them the first season is reckoned upon to pay for whatever cleaning and attention the plants have required. The result of the first year's crop is well worthy of attention at this rate. Some of these growers keep their plants going for a dozen years, many consider half of that time sufficient; four years of full bearing exhausting them. After that time the fruit is still yielded in abundance, but the quality is inferior. Reckoning two years to establish them really well, and four years of full bearing, the life of the Strawberry plant in this neighbourhood is limited to six years. I am, however, digressing from the subject. This year, our cottager commenced to gather fruit on June 7, and continued doing so till August 5, from the two kinds named. The length of season shows the advantage of Sir J. Paxton, which is noted for the length of time it will continue to bear fruit. Fruit in this part of Hants is chiefly sold by the gallon, being picked direct into baskets or boxes holding that quantity, weighing 5½ lb, although, strictly speaking, a Winchester gallon contains 6 lb. The first picking realised 6*s.* 8*d.* per gallon, and the lowest price during the whole season was 10*d.* per gallon for just two gallons, this occurring on a wet day. But a few only were sold at 1*s.* per gallon. The last picking realised 1*s* 3*d.* per gallon. From the 1¼ acre 1030 gallons of fruit were picked. Averaging this quantity at 1*s.* 6*d.* per gallon, which is a low rate, it would realise £77 15*s.* from 1¼ acre. I have no hesitation, however, in saying that the actual returns were considerably more than this sum. In all instances the prices quoted were at wholesale rate, the fruit being sold to fruiterers in the towns. The whole of the labour required on the land, with the exception of the fruit-picking, is done by the individual himself; the picking is done by women and children. Thus, it will be seen that a good living can be made from even 1¼ acre of land by an enterprising and hard-working man. Two acres are sometimes considered to be a fair quantity for one man to manage, except during the picking season. The soil in this neighbourhood varies very much; some of it is sandy in character, in other parts it is nearly all shingle, and in many gardens strong loam overlying clay. This is the kind of soil in the garden alluded to, and it is of the right kind, especially during a dry summer, like that of last year, for instance. The routine of cultivation adopted in well-managed gardens (some growers do little, their returns are proportionate) is briefly this: After the picking is completed, the whole of the foliage is cut off with a fagging-hook (strong heavy sickle), which enables the plants to make a quick and vigorous growth, sufficient to protect the crowns from frost. The new leaves have short stalks in consequence of the old ones being cleared away. During the month of September the soil between the rows is lightly forked over, to enable the rain to pass quickly away from the surface, and to facilitate hoeing and cleaning among the plants in the spring, also to prevent the soil cracking and thus allowing the moisture to escape through it. A thin mulching of manure, mainly that from the pig-stye, is laid between the rows early in December if the weather be suitable. The birds and the frost which follow pulverise the land and manure, and by the arrival of spring the manure is decayed. Towards the end of February 40 bushels of soot were sown over the 1¼ acre, with the result this season, owing to its being a showery one, that rather too much foliage was made. If the weather could have been foretold, half the quantity of soot would have been enough to use. On heavy land soot is an invaluable manure for Strawberries; on light land, common salt is the better mineral manure. *E Molyneux, Swanmore Park.*

VEGETABLES IN EARLY SPRING.—I am sure many of your readers would be glad to know how to produce early spring vegetables, when they are both scarce and dear. If plants of the new Cabbage Earliest of All were put down during the autumn months, they would be fit for use the following March; the heads do not grow over large, but are firm and white, while its cooking qualities cannot be excelled. This variety is at least two months earlier than anything yet introduced. Any person desiring further information concerning the variety should send a stamped addressed envelope to *Maurice Moriarty, Mallow, Ireland.*

LARGE DEVONSHIRE QUARRENDEN APPLE.—My attention has been drawn to some particularly fine examples of the above dessert Apple, six fruits weighing 2 lb. 6 oz., gathered from a particularly healthy tree growing in the gardens of Guelph House, Hammersmith. Mr. Whalpton, the proprietor, considers the above an excellent variety for growing in town gardens *T. P. Turner, Hampshire House.*

APPLES AT SOUTH STONEHAM HOUSE.—The finest crop of Apples that I have seen this year is in the garden belonging to Sir Samuel Montague, M.P., about 3 miles out of Southampton. The presence of such a heavy crop upon the trees appears somewhat strange, as the garden is situated at a low elevation, the river Itchen flowing past at the foot of the southern part of the grounds, and the river Monk running within a hundred yards of the orchard itself. The trees are what are known as pruned standards, that is to say, they are restricted to a certain space, the branches not being allowed to grow thickly together as in some orchards. The trees just escaped the frost of May 20, not being quite in full bloom. Grand crops of clean, healthy-looking fruit I noted of such sorts as Wellington (nine trees), King of the Pippins (five trees), Keswick Codlin, Manks' Codlin, Flower of Kent, Bedfordshire Foundling, Red Astrachan, Blenheim Orange, and Strawberry Pippin. The trees have been established thirty-two years, and are no doubt assisted in growth by the fact that fowls are kept upon the grass underneath the trees continually, a wide run being given them at once, upon which they are kept for six months, moving them on the next patch, and so on until they get back to their first place. *E. M.*

ROOTED STAKES OF THE PEAR.—Much has been written of late years about fruit trees upon their own roots as compared with those that are grafted, and upon the difficulty of rooting cuttings of Apples, Pears, &c. The following has just come under my notice while working in the nursery of Messrs. Dicksons & Co., Edinburgh:—Whilst training a break of Apple trees we came across three Pear trees that had been used as stakes for trees the previous year, and upon examination found them to be growing with shoots, between 3 and 4 inches long. We took up one of these and found that it had callused immediately above the point which had been made when it was fashioned into a stake, and had emitted some nice fibry roots. The stakes were put to the trees last September, and had not been treated differently from any other stakes, but have remained behind the Apple trees ever since. These rooted stakes are 3 feet high, and measure 2 inches in circumference at 1 foot from the ground. *A. Morton, Edinburgh.*

BRITISH VINEYARDS.—Mr. Pettigrew's very interesting paper on the Cardiff vineyards, although to my mind, leaving much valuable information as to actual trade results untold, still serves to open up a subject that may have much interest for all that large section of the community who consume wines. No doubt in this matter, as in so many other things, there will long be a preference for the vilest decoctions if sold as foreign vintages, over those which seem to be pure, as manufactured at Cardiff or elsewhere at home. It is not possible to write of this subject, however, without re-calling the well-meant but luckless effort of Clement Hoare, whose work on the Vine is now, probably, seldom seen or read, who did endeavour on the southern slopes of a valley at Shirley, Southampton, some fifty years ago, to create a British vineyard. The position so far as relates to warmth and dryness of atmosphere should have been much more favourable to Grape production than Cardiff. He planted against low walls that at moderate intervals ran along the side of the hill-slope one above the other, and the conditions were esteemed the most favourable. Still, he entirely failed. Possibly he had not the Gamay Noir variety, which seems to have been Mr. Pettigrew's saving Grape, as none other seems worth cultivation relatively. We should like to learn something of the average produce of ripe Grapes per acre yearly, also of the yearly cost of production. That would enable us to see how far outdoor culture as seen at Cardiff is cheaper than is glass culture. An acre of glass-houses even without heat, would produce several tons of Grapes not only in occasional years but every year, and still further several varieties, that is a point that to my mind seems to need the fullest elucidation. *Alex Dean.*

ZAUSCHNERIA CALIFORNICA.—I was very pleased to see this old friend again a short time since at Audley End, Essex, where Mr. Vert has planted it in some of the herbaceous beds forming part of the flower garden in front of the mansion. In this position these plants modify the stiffness of beds, mostly planted with the usual tender bedding exotic plants. The blossoms of this species of Zauschneria are freely produced, and being of a bright scarlet colour, and quite distinct from other bedding-plants, it is very effectave. In cold situations it requires some kind of protection during the winter, but I remember it surviving several winters in succession in Kent about twenty years since. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

STREPTOCARPUS, ETC., AT WOODHATCH LODGE, REIGATE.—Good work is being done by Mr. C. J. Salter in the raising of new varieties of the above. The plants are cultivated early in the year, in a temperature between that of a stove and a greenhouse, and later in a cool greenhouse. They are very floriferous, with colours ranging from white and violet-purple to deep magenta, and some of the newest have white in the upper part of the throat. Sweet Peas are grown here in a run of boxes, about 60 feet in length, with a width of 10 inches, and depth 6 inches. The soil used consists of two parts turfy loam, one part manure, one part leaf-mould. The seed sown in boxes at the end of January, is germinated in a cool Peach-house, and the seedlings are placed out-of-doors towards the end of the month of March, plenty of manure-water being afforded them whilst growing and flowering. In August, these plants are about 8 feet in height, with the exception of Emily Henderson, a fine white variety, which is of a dwarfer habit of growth. That fine variety, Princess May, is a favourite here. Nepenthes in all the best varieties, are well grown here. Veitch's variety of Curtisii was noted as very fine, length from bottom of pitcher to top of lid being 13 inches, and pitcher 10½ inches. *J. B.*

AMERICAN NOTES.

[*From our own Co-respondent.*]

THE SOCIETY OF AMERICAN FLORISTS.

THE great event in the horticultural world here has been the annual convention of the Society of American Florists, which was held at Atlantic City, N.J., August 21 to 24. This is a meeting of the trade for trade interests, and is attended by representatives of the florist clubs from nearly all the important cities in the States. There were some 600 or 700 delegates, and the affair is generally regarded as having been a most successful meeting. From an English point of view, it was interesting to hear the Society discussing the same subjects as have been before the Royal Horticultural Society for some time past. Thus, much serious attention was given to the proposal to grant Certificates to gardeners, and also to the work done by special societies—the Chrysanthemum, the Rose, &c., just on the same lines as you debate in London. A sub-committee of the Society of American Florists appointed to attend to the nomenclature of florists' flowers, &c., has done, and is doing, useful work in weeding out synonyms and singling out cases where a new variety has been introduced by two different firms under distinct names. Special attention is also devoted to the classification of plants in the catalogues of dealers. Many papers on subjects of interest were contributed by well-known members of the Society.

It may be of interest to know that the Roses which are considered to be the best here for market work are:—Bridesmaid, The Bride, Meteor, Perle des Jardins, and American Beauty (= Madame Ferd.

Jamain), that being a selection of one for each colour—pink, white, red, yellow, and deep pink; the last-named variety is regarded as the best Rose yet introduced. Indeed, so greatly is it valued, that it sometimes sells at as high a figure as 1 dollar per single cut bloom, but this is with a yard or so of stem attached!

The exhibition here in connection with the Convention did not amount to very much from an outsider's point of view, the plants shown were with one or two exceptions market stock; and sundries filled by far the largest space. Messrs. Pitcher & Manda, Short Hills, N.J., Mr. H. A. Dreer, Riverton, N.J., Mr. W. A. Manda, South Orange, N.J., and Messrs. W. Tricker & Co., Clifton, N.J., had interesting collections, the last-named firm showing a collection of aquatics in great variety.

Next year's assembly will be held at Pittsburg, under the Presidency of Mr. Edwin Lonsdale of Chestnut Hill, Philadelphia.

An Englishman by birth, Mr. Lonsdale has been connected with horticulture ever since he was a lad. He first saw the light in the county of Shropshire, in the village of Habberly, which is located in one of the prettiest parts of Great Britain. He serve an apprenticeship to the profession at Enville Hall, the seat of the Earl of Stamford, a gardening school which has turned out many graduates who have since made their mark. Mr. Lonsdale's first preceptor was Stephen Taplin, then head gardener at Enville Hall, and now of Detroit, Mich., a man well known in the florist world.

Like many ambitious and progressive young gardeners, the president-elect turned his eyes towards the Western Hemisphere as a place likely to afford a wider scope for the development of his innate horticultural abilities. He landed in this country in 1869, first applying himself to agricultural pursuits in Syracuse, N.Y. That work not being suited to his tastes, however, he returned to the East, and to his first love—gardening. He subsequently worked for Professor Thomas Meehan, of Germantown, eventually starting in business in 1875, and in conjunction with his brother-in-law, Mr. John Burton, in 1880, under the firm name of Lonsdale & Burton, which co-partnership was dissolved in 1887, each of the partners now carrying on a separate concern.

Cannas.

These are the popular plants just now; everyone is looking out for novelties. The Canna is a most useful plant here for bedding purposes, and its popularity may be estimated, perhaps, when it is stated that at one nursery, Messrs. H. A. Dreer's, there are as many as 150 varieties to be seen growing. A novelty, named Queen Charlotte (orange, flamed and splashed with scarlet), is creating a *furore;* it is certainly a fine form, perhaps the best for bright effect. It is the introduction of a German house.

PUBLIC PARKS.

(*Continued from p.* 66.)

Roundhay Park, Leeds.—Roundhay is one of the most imposing of all our provincial parks, covering an area of 798 acres. Historians say that at one time it must have been a portion of the "Wood of Elmate," which was an extensive tract, covering much of the ground upon which Leeds now stands, and which formed "the happy hunting ground of kings." It was in the possession of Mr. Nicholson, a London banker, from whom it was purchased in 1871 for £139,000. The "mansion," which is of comparatively modern erection, is utilised by the Corporation as a six-day licensed premises, and is in this wise utilised for the distribution of all kinds of creature-comforts to the visitors. A great portion of it is well timbered, and affords grand shade and shelter for promenaders through its extensive walks; while in grass and water there is variety to attract attention. The whole of the acreage is not used exactly for promenading purposes, a revenue of over £1900 per annum being drawn from parts let out for grazing and for arable purposes, for military exercise, for archery work, for boating, for swings, for museums, for photography, and for fishing; it is, however, all substantially enclosed. The lake itself is one of the largest of its kind in any public park, covering an area of 39 acres, available either for ordinary boating or for a steam launch, which is largely patronised. Skating is permitted free of charge, and such is the desire for that kind of pastime, that the lake on one gala day two or three years ago was covered, we are told, with over 30,000 people.

The Trees.

The timber about the park is very notable. The Oaks are noble trees, and in the best of health. Many of them girth over 12 feet, and are growing away in rude health, the tops not being "stagheaded;" and the boles, with their wide corrugations, showing that the soil and the climate suit them admirably. The Beech, too, is as good as anyone could wish, and so is the Ash—all these trees like good feeding-ground, and it is abundantly in evidence here. The Spanish Chestnut makes a wonderfully fine ornamental park tree when it attains bulky dimensions, and the glistening leaves adorned with plumes of flowers make it one of the objects most desirable in an arboreal landscape of this kind. The Maples are beautiful in their variety, and the fine deeply-cut leaves catch the eye as one is looking for contrast. Nothing does better or is more imposing here than the Copper Beech, which is in great size, bulking 9 feet in circumference and 68 feet in height, in several specimens. There is such a thing as having too much of it in a landscape, but introduced judiciously, it is a most valuable adjunct to the make-up of what might be called prize park-scenery. A splendid example of it was planted by one of the members of the Royal Family when the park was opened, and it is now making a beautiful tree in a salient point in the fine undulating park. Mr. Beilby, the superintendent, is top-dressing and keeping it enriched, and it is responding to the goodness showered upon its roots in magnificent foliage. The Walnut, too, does here grandly; indeed, it is quite a home for trees that will not do in many places. Nothing could be finer than these tree samples.

As we dip into the forest scenes where the Ivy-mantled old Castle is situated, there is abundant evidence of the value of the timber in the thinning not being too pronounced. The "sticks" of Beeches, and even Oaks and Sycamores, are all the better in this forest glade for being close together. Nature has done its work in pruning better than the hand of man, for there will be a straight, usable tree, from 40 to 50 feet at least. The Birch here is particularly splendid. It is truly the "Lady of the Wood."

It is one thing growing for profit, quite another thing for individuals in a park to adorn a landscape. We have a good bit of both sides of the question exemplified here, and those who take a severe side either way, might do worse than have a look at the Roundhay Woods.

The Ornamental Grounds.

About the mansion there has been the usual amount of decoration in evergreen and flowering shrubs. People clamour for flowering trees, and there is plenty of them, and more to come, but they seem to forget how difficult it is to get a variety of evergreen trees and shrubs to augment those we have had for some time, and which do duty for perpetual greenery, or some kind of perpetual leaf-coloration. In this we want reinforcements, and until we get them we must be contented with our Rhododendrons of sorts, Laurels of sorts, Aucubas of sorts, Hollies of sorts, Daphnes, and a lot of peat-loving plants from the far west; while often about towns few or any of these will live for any length of time. Here, however, they are magnificent, and have capital adjuncts in lots of Conifers, which do more or less well. The Deodar has done well for a series of years, and so has the Atlantic Cedar, but this last winter has punished them very severely. The charming hide-and-seek beds, which Mr. Beilby has put down, contrast well either with their bulbs in spring, or "their bedding-out stuff" in summer, and the public seem to appreciate this more advanced style of gardenesque keep, by maintaining the grass and the edges of the walks in "ship-shape" order. This is as it ought to be, for there is abundant lounging ground in the heights and the hollows of the park generally.

The Canal Gardens are separated from the other dress-ground by walls, and form a fine ground-work for bedding-out skill. The Roses here, when in flower, must be magnificent. As it is, the Laurustinus are masses of bloom for 10 feet above the ground, and the hybrid Rhododendrons tower far above that. A private residential place is of great service to a corporation who want all the beauties of a park, and that, too, as it were, made and ready for them, and this is where Roundhay excels. To speak of all the fine things that are to be seen here would be to write a catalogue. True, there are many beautiful trees and shrubs, such as some of the American Oaks, and Japanese and American Maples, which would give a richer tone of beauty to the whole; as it is, we know nothing northwards that can touch it.

Improvements and Additions.

Great additional work has been going on in the shape of making roads for trams to run right up to the gates, and in forming tennis-grounds on a large scale. This has involved a large sum, which has been paid out to the unemployed, who work three days a week in teams of 100 or more, and receive something like 4*s.* per day wages. This has been a popular expenditure organised mainly by Sydney William Smith, the chairman of the Parks Committee, and has involved a great deal of additional duty upon the popular park superintendent. The park, however, has become such a resort for the people of Leeds that little is said about the additional taxation. The upper lake has been dried up, and filled partly up to keep it about 4 feet depth, as there have been a few drowning cases, the repetition of which it is desirable to guard against. There is one thing about this upper lake that is worth noting, and that is the quantity of Birches growing in groups, mostly grotesque from their great black wens which have crippled the trees, so much as to present them as typical subjects of Mephistopheles himself, crooked and ugly as Scott's Black Dwarf. Yet they contrast well, hanging partly in the water over a sloping embankment, like the Alders and the Hornbeam that surround them. The larger, or Waterloo lake, is clad along its fringes with lots of tree specimens, the Sycamore being one of the most distinguished, and profiting equally under the influence of water to the roots with the Huntingdon Willow or the spreading-headed Wych Elm.

There is no desire shown to overcrowd the park with beltings; in fact, the principal portion is so heavily wooded round its boundary, that nothing of that kind is desirable. There are promiscuous designs, filled chiefly with flowering and evergreen shrubs, that break the sweeping grassy surface; but where individuality in tree or bush life is desirable, it is emphasised in keeping each specimen away from troublesome neighbours. It is not every place where this non-nursing system would work, more particularly in a town park. To the uninitiated, therefore, it is a matter for wonderment that the trees are crowded together in Woodhouse Nurr, and in many places stand isolated at Roundhay; but circumstances alter cases, as one of the Leeds historical writers says, "All green things upon the earth have been driven from the actual site of Leeds," because of its public works and their emanations, so hostile to plant life.

Mr. Alderman Barrow's fountain is both an ornamental and useful gift to the frequenters of the park. It is a stately obelisk, opened in 1892, and is now the centre of a floral design, embroidered with flowering shrubs and decorative plants. The view from here is very commanding. In the woods are

running streamlets, which, when in full force, add to the rush of the waterfall through an abundant leafy canopy. The whole place is capitally supervised by Mr. Reuben Beilby, and he has the assistance of his son, Archibald Cecil Beilby. *Viator.*

THE APPLE CROP.

Much has been written on the cause of the failure of our Apple crop in many places during this present season, yet our trees are laden with a full average crop of the finest-looking fruit we ever had. The wood was well ripened last year, and the trees well covered with blossom-buds. I have just noticed a curious remark made in one of the gardening papers, where the writer says it is a mistake to suppose that the wood was well ripened last year. He says, "Instead of the wood being ripened, it was roasted, and the buds prematurely checked in growth." I believe the buds were prematurely checked in growth in many gardens, not because of the heat, which certainly was excessive, but owing to the drought, which checked the growth of the trees, and through which in many instances the leaves were ruined by the attacks of red-spider. Where the trees were watered, and the ground hoed afterwards, or mulched, which was better, to conserve the moisture in the ground, the wood ripened well. The trees under my care would certainly have been much injured if I had not supplied them with copious waterings. The trees were all right, but I was surprised that the fruit kept so badly after it was taken into the fruit-room; half the stock of the best dessert Apples, such as Ribston Pippin and Cox's Orange Pippin decayed before it was ready for use. I believe the main cause that the Apple crop is so poor in the south this year was the severe frost in May, when there were 10° to 12° in many districts of Surrey. In Essex, near Ilford, we had 1° of frost only on the night when most damage was done elsewhere.

The roots of Apple trees should be encouraged to grow near the surface of the ground, where they can be treated according to will. I have noticed some gardeners treat all their trees alike, whether they are bearing a heavy crop or a light one, which is plainly opposite to the principles of good gardening. As an instance of what I mean, I may mention two Apple trees I have growing near each other, the fruit is not very dissimilar, but one variety bears much more freely than the other. I allude to The Queen, and Cox's Pomona. The Queen grows too much, and bears little fruit, the other is very free-bearing, but consequently makes little growth. The one requires a good supply of manure, and the other none at all; and manure is best supplied from the surface, just when the trees are laden with fruit. If dry weather occur, as it does in May sometimes, the roots of trees bearing heavily draw from the ground a quantity of water, which, if they cannot get near the surface, they will penetrate deeper and wider to obtain, probably into subsoils, where they will find substances that will produce canker and other diseases. But the experienced cultivator avoids this to a large extent by draining his ground, which not only carries off water that would collect 3 feet below the surface, but the water passing through the soil to the drains is replaced by oxygen, and a more healthy medium is provided for the roots, for they will go down less or more do what we may. Feeding them at the surface, however, tends to keep them up; and if it is not possible to supply the trees with water, a mulch of decayed manure, as soon as the surface has become heated by the sun, will keep the heat in, and equalise the temperature of the soil. Unless this is done, though the ground is heated by day, it is as rapidly cooled at night. Trees bearing heavy crops may have superphosphates worked into the soil. I believe a good dressing to be about four parts superphosphate, two parts kainit, and one part nitrate of soda, and a dressing of wood-ashes, will supply potash to the soil.

Sorts to Plant.

When the object is to obtain as heavy a crop as possible from a given space of ground, do not plant a great number of varieties. I planted about 150 trees in my own ground last winter, and I planted too many varieties, but I like to see the trees in bearing, and to watch the development of the different varieties of fruit. Even for a large garden six or eight varieties of dessert Apples, and as many culinary varieties are sufficient. The best early cooking Apple for free open soils is Lord Suffield, and if it does not succeed, Lord Grosvenor should be grown. Others may be Stirling Castle, Lane's Prince Albert, Cox's Pomona, Pott's Seedling, and where it succeeds, Wellington; I have planted Newton Wonder in our clayey soil as a substitute for Wellington. Bramley's Seedling is also a useful variety. For dessert Apples Cox's Orange Pippin is by far the best. King of the Pippins is a good, old, free-bearing sort; Ribston Pippin must yet hold a place, and Scarlet Nonpareil has the best appearance of any in this class, and is good in flavour; Claygate Pearmain, Mannington's Pearmain, and Devonshire Quarrenden. Kerry Pippin is a good early, and Sturmer Pippin the best very late variety.

How to Plant.

As planting will soon be commenced, the above remarks may be useful as a hint to confine the number of varieties within reasonable limits. In order to be assured of success, all the details of the work should be well carried out; for it is no use being careful in selecting the best varieties of fruit trees if they are not also well-planted. Bruised roots should be cut clean off with a sharp knife, and the roots spread out in a horizontal direction, fine loam being well worked in amongst them, treading them firmly in when the soil has been returned entirely over them. Some of the trees will require support. A tree will do no good if it is allowed to be swayed about by the wind after being planted. When the planting is finished, a mulching of decayed manure may be placed over the surface of the ground around each tree, and as far as the roots extend. Much mischief is done by summer pruning being done too early. The tendency of young trees in good garden loam is to grow too much after they have become established, producing strong willow-like growths. I stop these growths early in the year, and instead of growing sticks long enough and strong enough for Carnations or Phloxes, three or four smaller growths are produced, which will ripen quite as well as the thicker one; and these need not be shortened very much at the end of the season. All my young trees were treated in this way early in the season, and I am now going over them again, taking the points out of all the growths that require it, thinning them out where too crowded, and in fact giving the trees all the pruning they require. It is easy to tell where to cut out young wood when the trees are in leaf, and there is no danger in doing this after September 1. *J. Douglas.*

HARVEY LODGE, ROUPELL PARK, S.W.

Visitors to the Royal Horticultural Society's meetings and other public exhibitions are often treated by Mr. Roupell to some excellent exhibits in the way of Frontignan and other varieties of Grapes, as well as hardy fruits. A recent inspection of Mr. Roupell's doings at home resulted in some interesting notes being obtained, which may be worthy of publicity. He makes a highly successful specialty of Grapes in pots and in borders. To refer in the first place to the Frontignan and round-fruited Muscat section. Why these are not more generally grown it is difficult to tell, for it is not possible to have more delicious Grapes. They possess a delicate and most agreeable flavour peculiarly their own. Their size doubtless tells against their being more generally cultivated, the tendency in these days being in the direction of the larger-sized, finer-looking Grapes, in some cases to the sacrifice of fine quality, after all the great desideratum in the Grape.

Mr. Roupell gained the Gold Medal at the Grape Conference (Chiswick, 1890), for twenty-seven varieties of Frontignan Grapes, an interesting and most instructive collection.

One noted many choice varieties not generally known or grown. Grizzly Frontignan has the very rich flavour peculiar to these varieties; and Mr. Roupell is successful in growing it without loss from shanked berries; White Frontignan, high Muscat flavour, a most abundant bearer; Purple Constantia (a variety of Frontignan), has very juicy flesh, with a rich Muscat flavour. It may prove of interest to mention that the Constantia vineyards (Cape of Good Hope) were once noted for the wine made from this Grape. The variety has been long cultivated in this country, but it does not appear to be a popular one in vineries—the more's the pity. Early Golden Frontignan is very rich and excellent. A free-bearing variety, Black Frontignan, has a very rich Muscat vinous flavour. Ascot Frontignan is esteemed on account of its being very early. Troveren may be noted as one of the finest of the Frontignans, with large and handsome bunches, rich Muscat flavour, and a great bearer. Other good varieties were noted in Chasselas Musqué le Vrai (the true) of Herr Horvath, Dr. Hogg, Primavis Frontignan, a very distinct and richly flavoured fruit, the finest of the Chasselas Musqué race; Auvergne and July Frontignan.

Amongst other varieties of Grapes observed doing well may be mentioned, of Black Muscats—Black or Muscat Hamburgh, one of the finest Grapes for flavour, not always a good setter, but when well done, as here, a delicious Grape. Madresfield Court Muscat, that very high Muscat-flavoured kind. Cracking, to which sometimes this fine variety is subject, Mr. Roupell prevents, by never letting the Vines want for water, avoiding chills, and securing a genial, growing atmosphere. Mrs. Pince is one of the finest flavoured, requires good culture and artificial setting. In white or golden-yellow Muscats may be mentioned Muscat of Alexandria, still the best of its class. Bowood Muscat, Ryton Muscat (fine seedlings of same), Mrs. Pearson, very rich late Grape. Black Grapes: Gros Maroc, a remarkably fine late variety carrying a dense bloom. This is a variety that does not stand too close pruning. Good handsome bunches are obtained on the long rod system. That everybody's Grape Black Hamburgh, Gros Colmar, Black Alicante, Trentham Black, and Alnwick Seedling. White Grapes: Buckland's Sweetwater, Foster's Seedling, Royal Muscadine, Diamant, for which Mr. Roupell gained a First-class Certificate; General della Marmora, Trebbiano, and the very handsome Duke of Buccleuch with large berries, of sprightly Hamburgh flavour, are all to be seen here. Amongst rare and curious varieties, we noted the Strawberry and Raspberry Grapes, having the strong scent and flavour of Strawberries and Raspberries; Black Monukka, stoneless, or nearly so; Sultana Raisin Grape, quite stoneless; and Chasselas Rouge, a red form of Royal Muscadine.

As regards heat application in the culture of his Grapes, although Mr. Roupell has a good command of it, little is used, and that as an auxiliary only; he is a believer in a moderate temperature, by reason of its keeping down the insect and other pests to which Vines are subject. One or two interesting experiments conducted by Mr. Roupell may be appropriately referred to here. He has inarched Gros Colmar on to Muscat of Alexandria, and it is remarkable to note that the sap prefers to go to the Gros Colmar wood in preference to that of its own branch; the supposition is, that the cells of Gros Colmar wood are larger. The practical outcome is, that eighteen good bunches were observed on the Gros Colmar branch, and two weakly ones on Muscat of Alexandria. Gros Colmar is found to be sweeter when on Muscat of Alexandria than when on its own roots; the foliage, too, is finer, and does not get scorched so much. As regards restrictions *versus* extension: after about fourteen or fifteen years of restriction to one stem, it has been found advisable to adopt the extension system, and train up fresh rods from below.

With Muscat of Alexandria, recourse has been had to cutting out the main central stem, having previously trained up two side branches, the result

being that the Vines have made a free vigorous growth, root-action has been promoted, and the Vines are strengthened for another year.

A Grape requiring good culture is Canon Hall Muscat, of which the berries are large, flesh juicy and rich, and having a true Muscat flavour. The variety is well cultivated here. Grown in pots for seven or eight years, the Vines have fruited well and continuously. Setting is done artificially by sprinkling the pollen from other Vines.

As showing what may be done in one season by proper culture, a strong cane of Gros Maroc (this summer's growth), some 12 feet in length, was noted. It will fruit next year. Fruiting-canes in pots, of which we observed, in variety, a good number of strong healthy stuff, are encouraged to throw a strong shoot from the base for fruiting the next year, the rod which carries the fruit being cut away as soon as the fruit is gathered.

Tomatos.

A house of Tomatos, grown in 10-inch and 13-inch pots, is a noteworthy feature, grown on the one-stem system. Mr. Roupell prefers pots to boxes, the latter harbouring insects, whereas the pots being cleaned before being used, no comfortable resting-places are assured for the depredators. Pots, too, are preferable, because a warmer air circulates around them.

Mr. Roupell is not a believer in keeping Tomatos alive during winter, as he avers that the destructive Tomato-insect (Aleyrodes) is propagated by this course of treatment. The principal varieties grown are Chemin Rouge and Ham Green Favourite; both are remarkably free-fruiting. It may be mentioned that William Whiteley, the universal provider, grows the former variety largely at his extensive Hillingdon establishment, a pretty good evidence as to its merits. Conference, too, and all the best varieties, are being tested. That fine variety, Sutton's Earliest of All, was just finishing a good crop.

It is questionable if any grower has what was noted here in the Tomato way, that is a yellow form of Nisbet's Victoria, fruiting very freely, and bearing small, exceedingly pretty Plum-shaped fruits, a decided acquisition. A good and successful notion was observed in the cultivation of out-door Tomatos. Where Tomatos are planted "hollow" fashion, a superabundance of moisture is encouraged during wet weather; whereas planted as here, on ridges, the water flows off, and the sun has a greater heating power, the ridge getting warm right through. Sutton's Improved Telegraph Cucumber is the favourite one, some very fine examples being noted.

Hardy Fruits.

In hardy fruits (Apples and Pears), Mr. Roupell has something worth showing the visitor. It may be remembered that at the great Guildhall Show in 1890, he took the 1st prize for a collection of hardy fruits, grown within a radius of 7 miles from the Royal Exchange

Irish Peach, with a delicious aromatic flavour, has been a splendid crop, fruits growing right on to the end of the branches. In many cases fruit is lost by a too severe pruning of these. It is a small, but excellent early sort. Mr. Roupell was one of the first to detect the good points of that fine Apple, Peasgood's Nonsuch, when shown at the great Apple Congress in 1883, where it was in grand condition, and secured a good stock of it. Newton Wonder is a valuable new kind, a handsome fruit, keeping soundly. Mr. Roupell is rather proud of gaining a Cultural Commendation for it when he exhibited it, the raiser's exhibit of it at the same time securing the lesser recognition of a Vote of Thanks!

Lady Sudeley (Jacob's Strawberry) is large for a dessert fruit, with soft, melting flesh. Cellini Pippin crops heavily year after year. Cospatric, which first came out at the Apple Congress, is a medium-sized kitchen variety, a free bearer, and good grower. Worcester Pearmain is very richly coloured, a great and early bearer, very handsome, and fine as a garden tree. The Devonshire Quarrenden was noted as carrying a very heavy crop.

The indispensable Cox's Orange Pippin is, of course, grown here, and grown well. Striped Beaufin is a very large and excellent kitchen fruit. Ribston Pippin trees, free from canker on the Paradise, are producing some good fruit. Scarlet Nonpareil forms a prolific tree on the Paradise.

Most of Mr. Roupell's trees are grown in a natural pyramid shape. He is no advocate for severe pruning, but is in favour of lifting.

Cordon Pears on the Quince stock are allowed to take a natural growth, branching freely; that most delicious variety, Doyenné du Comice, growing in a natural pyramid shape, is covered with fruit. An unpruned tree of that best of late Pears, and of refreshing, sweet, juicy flavour — Beurré Rance — ripens in the open. A fine tree of Plum Pond's Seedling, some fifteen years old, is bearing a good crop of large fruits—a sturdy grower.

Myatt's Linnæus Rhubarb is found to be good, both early and late, free from "strings," brittle and tender, but still it is not a popular market variety.

Flowers are not extensively cultivated. Sutton's strain of Sweet Peas were noted in great beauty and luxuriance. That good Tricolor Pelargonium—Mr. H. Cox—is doing well, as are a few silver, tricolor, and gold and bronze varieties. *J. B.*

SOCIETY.

ROYAL CALEDONIAN.

September 12, 13.—As stated last week, the annual show of this society took place on the above dates in the Waverley Market, Edinburgh.

Plants.

There were only two competitors for the group of plants 300 feet square. The 1st prize went to Mr. J. McIntyre, of Darlington, whose tastefully-arranged group had miniature paths between. The 2nd prize was secured by Mr. W. Stewart, Brayton Hall, whose group lacked lightness in arrangement.

A pretty table of plants was arranged by Mr. G. Wood, of Oswald House, Edinburgh, this took 1st place; Mr. W. Stewart again coming 2nd. Stove and greenhouse flowering plants were small. For six specimens, Mr. A. Thomson, Dalkeith, was 1st, and his best plants were a good Clerodendron Thomsonæ, Balfourianum, and a large well-flowered Eucharis amazonica. Heaths were well shown by Mr. J. McIntyre, who was 1st with three compact plants.

Orchids were not numerous. Mr. W. Hutchinson, Aberdeen, was 1st with plants of Cattleya gigas, C. Gaskelliana, Oncidium incurvum, and Cypripedium calurum; Mr. D. Wilson, Kelvinside, was 2nd with good plants. This latter exhibitor was 1st for three Cattleyas, and Mr. W. Hutchinson 2nd, he being 1st for three Cypripediums.

Ferns occupied a large space, the exhibits in some cases being grand plants. For the six exotic species, Mr. J. Napier, gr. to Mr. P. N. Fraser, Murrayfield, was 1st with exceptionally fine plants, Polypodium subauriculatum, Gymnogramma tartarea, and Nephrolepis pluma being excellent. Maidenhairs were arranged upon the floor, where their beauty was well shown, the same exhibitor being 1st for four of these. Mr. J. McIntyre brought a fine plant of Adiantum tenerum Farleyense, about 3 feet across, gaining the 1st prize. For the six foliage plants, Mr. T. Lunt, Keir, took 1st honours; Mr. D. Wilson 2nd. Palms were good, Mr. T. Lunt coming 1st with four well-grown specimens. The numerous plants of Fuchsias were much admired. Mr. A. Thomson was 1st with superb well-flowered plants. The two best Crotons came from Mr. T. Lunt. Show and fancy Pelargoniums were poorly contested, though zonal varieties were numerous, causing quite a blaze of colour. Mr. J. M. Kenna took 1st prize with three well-flowered plants.

Cut Flowers.

Twelve splendid spikes of Gladioli were staged by Mr. D. Whitelaw, Brechin, the colours being very vivid, and the flowers large; Mr. Smith of Roselea was a close 2nd.

Mr. F. Robertson of Jedburgh took 1st prize for five spikes of Hollyhocks, his exhibits having been cut from seedling plants.

The Dahlias from Mr. W. Veitch, Carlisle, who had the best twelve blooms, were remarkably fine. Fourteen entries were made in the class for six blooms of Dahlias, Mr. R. Graham, Wreny, Carlisle, coming 1st. The twelve trusses of single Dahlias were well staged, Mr. J. Pearson, Beechwood, being a good 1st.

The twenty-four Roses from Mr. W. Parlane, Roselea, were objects of attraction, being good blooms.

In the class for twelve trusses of stove and greenhouse flowers, Mr. McIntyre, The Glen, Innerleithen, was a good 1st amongst five entries.

Mr. W. Sharp, Freelands, Forgandenny, was the only exhibitor of the twelve trusses of Orchids.

For twelve Chrysanthemum blooms, Mr. A. McMilman, Trinity Cottage, came 1st, with good flowers.

The tables of Pansies and Violas showed some fine varieties, the bunches of the latter being particularly well staged.

Fruit.

For the collection of twelve dishes of fruit, Mr. J. Hunter, Lambton Castle, took 1st honours, his dishes consisting of Gros Maroc, Raisin de Calabria, and Black Alicante Grapes, Williams' Bon Chrétien Pears, Apples, Peaches Noblesse and Sea Eagle, Figs, Nectarines, Apricots, and Melon; Mr. A. Kirk, Norwood, 2nd; and Mr. W. Smith, Oxenford Castle, 3rd.

The 1st prize for eight dishes was again taken by Mr. J. Hunter; and Mr. M. McIntyre, The Glen, was 2nd.

Grapes, as usual, required a long stretch of tables to contain them, the prize-winners staging some excellent fruit. For six bunches of three varieties, Mr. W. McKelvie, Broxmouth Park, was 1st; Mr. W Murray, Polmont, 2nd. Mr. A. McDonald, Newbattle Abbey, took 1st prize for two bunches of Muscat of Alexandria; and Mr. J. Menzies, Larbert, for two of Black Hamburgh.

For the best bunch of Black Alicante, eleven entries were made, Mr. T. Boyd, Callender Park, being the best, with fine bunches and well-coloured berries. Classes for single bunches were all well contested.

For Pine-apples, Mr. M. McIntyre, The Glen, took 1st place, for Queen, smooth, and also for two not less than 5 lb. in weight.

Apples occupied a large table, the fruit in most cases being good, but somewhat lacking the colour of last year. The 1st prize for the collection of twelve varieties was won by Mr. J. Gibson, Devonhurst. This exhibitor was also 1st for the collection of six varieties of dessert Pears.

Currants, Cherries, and Plums were all well represented, the former classes being very strongly competed.

Vegetables.

Eight entries were made for the collection of twelve varieties of vegetables, the 1st prize exhibit from Mr. R. T. Rae, Sunlaw, containing Leeks, Onions, Tomatos, Celery, Peas, and other kinds, all exceptionally clean and well grown. The prize for Cucumbers went to Mr. J. Waldie, Dollas. Tomatos were good, Mr. P. Main being 1st for twelve. Mr. J. A. Murie staged some excellent Cauliflowers, taking 1st place. Turnips were very fine, the evenness of these being especially remarkable. Potatos took up a large space, the many varieties looking clean-skinned, and of fine shape.

Nurserymen's Classes.

Messrs. R. B. Laird & Sons were successful competitors, taking 1st prize for twenty-four evergreen shrubs, six Palms, twelve Conifers, and also for twelve table-plants. Some fine spikes of Gladiolus, from Mr. C. Mair, Prestwick, carried off the 1st prize in the class for thirty spikes. Messrs. D. & W. Croll, Dundee, carried the 1st places for thirty-six distinct Roses, as well as the class for twelve. For the eighteen, Mr. H. Dickson, Belfast, was 1st.

Some good honorary exhibits from local and other nurserymen were staged. Messrs. Thyne of Glasgow put up a good table of Crotons, which were finely coloured. Messrs. Methven & Sons had a table of Begonias, and also of stove and greenhouse foliage and flowering stuff. Messrs. Cocker & Sons' table of herbaceous flowers were justly admired. Messrs. Dobbie & Sons staged some good Carnations and Sweet Peas. At the east end of the building Messrs. Dickson & Co., Edinburgh, staged their usual fine display of Violas, Pansies, and other florists' flowers.

Messrs. R. B. Laird & Sons staged a table of good Dracænas, Allamandas, and some fine Lilium auratum.

Quite a feature of the show was the pretty collections of Ferns, tropical, greenhouse, and hardy species from Mr. J. Birkenhead.

The show of the Scottish Bee-keepers' Association, held in connection with that of the Horticultural Society, attracted considerable attention.

A table was devoted to the exhibits of soldiers, under the auspices of the United Service Horticultural Work Society, the exhibits showing in some cases well-trained plants.

FLORISTS' FLOWERS.

BEGONIAS.

ONE fact in relation to Begonias is indisputable: it is that no one grower, great or small, has all the plums. So far from that being the case, quality is most evenly distributed, and no matter whether we see these beautiful flowers in all their glory at Forest Hill, Swanley, Bexley, Lewisham, or even so far off as Yeovil, we see now superb quality in every case. There is in the doubles great size, and so far as tastes run, superb quality; in the singles the dimensions are enormous—Heaven preserve us from any bigger flowers!—and there is almost perfection of form, if that form be found in roundness of outline; and there is the most beautiful variations in colour it is possible to conceive. All these things I find everywhere, and not least, that immense development of production which leads to the raising of hundreds of thousands of seedlings every year. A very special fact has been evidenced in relation to the Begonia, arising from the extremely diverse nature of the weather of the two past summers. Under the great heat and drought of last year, Begonias kept well watered did splendidly outdoors; this year, with constant heavy rains and winds, also very low temperatures, especially at night, Begonias outdoors seem to be not one whit the less beautiful. In many cases they have proved to be marvellously so; and whilst Pelargoniums have in the storms been denuded of every flower, the gloriously beautiful, stout, leathery Begonias have given colouring of the richest and loveliest kind. Yeovil, away in distant Somerset, lies so wide of the ordinary track of observers that it is not often the outer world can see what it can produce in Begonias, yet Mr. Davis is fully up to the mark in every respect, both indoors and out; indeed, it is probable that his somewhat elevated, clear-aired, and warm position gives him special facilities for securing fine effects from planted-out Begonias that growers nearer London do not possess. It has also the merit of being close to the high road, where every passer-by may see, and where from the surrounding country thousands do, during the summer, flock to enjoy it. *A. D.*

VIOLETS FOR WINTER BLOOM.

In Violet culture a timely start is not everything, but it goes a long way towards securing success, and the present month is a good time to begin planting. In ordinary winters, the Violet blooms well in the south with simple frame protection, but to be independent of the weather, something more is needed. It is not good practice to employ disused Cucumber or Melon-frames, although hotwater-pits, with a bed of soil raised well up to the glass, answers well enough, provided the warmth from the pipes can be entirely shut off; still, these structures are, at the best, makeshifts, and liable to be infested by that enemy to Violets—red-spider. Some cold frames, in number equal to probable demands, are the best, and these should be placed on a low substructure of brick walling, set up without mortar. This secures a stable foundation, which will not sink. The interior may be filled with soil, or brushwood with soil over it, common garden-mould answering well enough, and this must be trampled on, so as to form a solid basis for the soil in which the plants are to grow, which need not exceed 7 inches in depth. See that the brickwork base has a sharper slope than the frame, so as to let the plants have as much of the slanting winter sun's rays as possible. The soil should consist of garden mould or loam, one-half; leaf-mould, one-fourth; decayed stable-dung, one-fourth, all intimately mixed and sifted through a half-inch meshed sieve or screen. Lift the plants that were planted in May, cutting off the runners, and planting the balls of earth and roots with which they should be well furnished at about 10 inches apart, varieties with much herbage at 12 inches, packing the soil closely and firmly about them, and half an inch above the ball. The leaves should be within 4 inches of the glass. Having planted a frame, afford a good watering with a fine-rose can, close the lights, which should be clean and bright, and shade for a few hours daily if the sun shines. After fresh roots are emitted, no more shading will be required. The plants must be well aired after this, and the lights kept off them till frosty weather arrives. After-management will consist in tickling the surface of the beds with a hand-fork or pointed bit of stick, and surfacing with fresh mould once or twice during the season.

If dry weather should occur, the plants may be well syringed once or twice a day, so as to keep the foliage healthy. The water used during the winter should be tepid, and always given in the morning when there is a chance, the leaves being dried before the frames are closed for the day. Covering of mats and, in hard weather, of litter also should be afforded from November to April; and ventilation, always by day, more or less in quantity, and for a few hours at a time, when there is no actual frost.

To exclude frost the more effectually, linings of half-spent stable litter should be used round the frame, letting these reach to the level of the top of the frames, and be not less than 1½ feet thick at the upper part. The frames, sometimes built against the south walls of plant houses, serve admirably for Violets, as their warmer position admits of a greater amount of ventilation by day. They perhaps have a drawback in the tendency there is of red-spider developing late in the winter, unless much watchfulness is used. *H. Markham, Mereworth Castle, Maidstone.*

Obituary.

THE LATE MR. J. H. BODDY.—The death is announced of Mr. J. H. BODDY, proprietor of the Land's End Vineries. Mr. BODDY was a very remarkable man. He was originally a carpenter, but was desirous of becoming a cultivator of the land. He tried to obtain a small holding in Cornwall, but did not succeed, and emigrated to Canada. As the climate did not agree with him he returned to Cornwall, and after some difficulty obtained an acre and a half of land "which would not feed a bird." On this he began his operations as a cultivator. He first built a fowl-house—following at the same time his occupation of a carpenter—and soon had 300 fowls. He then grew flowers, chiefly pearl-white Narcissus, for which he found a ready market. Next he erected glass houses, and began to grow Cucumbers. This was followed by Vine and Peach culture. His first produce was sold at Penzance, and his market was afterwards extended to Plymouth, Exeter, Bristol, Birmingham, and Covent Garden. When he got his acre and a half into full working order he kept his family of thirteen persons upon it—a feat which has probably never been done by any other man. He soon had 250 feet run of lean-to glass houses, and nearly the same length of span-roof. Anyone who has seen his grounds, which are situate on the main road between the Logan Rock and Land's End, would observe at a glance evidence of great industry, perseverance, skill, and judgment. Recently Mr. BODDY extended his holding very considerably, and established upon it a sanatorium. His crops of flowers, Peaches, and Grapes became enormous, and his history attracted attention in all parts of the country. A few years ago he published in the *Daily Press* a series of articles descriptive of his work, and these were afterwards issued in pamphlet form. Mr. BODDY was never very robust, but he had the old English energy—an unhesitating belief that persistent industry must succeed—and his desire to assist others was shown in his gratuitous advice to small occupiers. He was a man of some literary ability, of gentle and unassuming disposition, with a strong conviction—to use his own words, "that God is behind every human life." *Western Press, September* 6.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

ANDROMEDA HYPNOIDES and JANKÆA HELDREICHI.—*X. Y. Z.* would be greatly obliged if any of our correspondents would inform him where good plants of the above species are to be procured.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Above (+) or below (—) the Mean for the week ending September 15.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	74	0	+ 304	— 52	10 —	164	37·8	27	33
1	1 +	82	0	— 44	+ 6	7 —	147	26·5	40	35
2	1 —	81	0	+ 31	— 53	6 —	148	18·5	40	33
3	2 —	87	0	+ 43	— 100	5 —	141	18·1	37	36
4	2 —	78	0	+ 52	— 80	7 —	138	17·4	43	33
5	3 —	93	0	+ 83	— 119	6 —	137	20·3	40	37
6	0 aver	79	0	+ 40	— 69	10 —	153	34·4	51	34
7	1 —	87	0	+ 162	— 120	9 —	152	24·5	41	33
8	3 —	85	0	+ 81	— 81	9 —	153	27·2	64	39
9	0 aver	85	0	+ 29	— 33	8 —	172	27·3	34	30
10	2 —	83	0	+ 63	— 67	8 —	156	29·2	44	32
*	2 —	107	0	+ 204	— 18	7 —	151	25·3	61	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 15, is furnished from the Meteorological Office:—

"The *weather* during this period was much finer and drier than of late; but a good deal of cloud and mist prevailed during the latter part of the time over 'England, S. and S.E.,' and some slight drizzling rain was experienced.

"The *temperature* was slightly above the mean in 'Scotland, N. and E.,' and just equal to it in 'Ireland, N. and Scotland, W.,' but continued below the normal in all other districts. The highest of the maxima were recorded on the 11th, and ranged from 70° in 'England, S.,' to 66° in the 'Channel Islands,' and to 63° in 'Scotland, N.' The lowest of the minima were registered during the earlier part of the week, when the thermometer fell to 31° in 'Scotland, E. and Ireland, N.,' to 32° in 'Scotland,

W.,' and to 33° in 'Ireland, S.' In most other parts of the Kingdom they varied from 34° to 40°, but in the 'Channel Islands' the thermometer did not fall below 48°.

"The *rainfall* was much less than the mean in all districts. Over the greater part of the Kingdom the weather was quite rainless.

"The *bright sunshine* exceeded the mean in all districts, excepting 'Scotland, N. and England, E.' The percentage of the possible duration ranged from 64 in 'England, S.W.,' 61 in the 'Channel Islands,' and 51 in 'Scotland, W.,' to 34 in 'Ireland, N.,' and 27 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, September 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Foliage plants, doz.	9 0	24 0
Aspidistra, per doz.	12 0	30 0	Fuchsias, per dozen	4 0	6 0
— specimen, each	7 6	21 0	Heliotropes, per doz.	3 0	6 0
Asters, per dozen ...	3 0	6 0	Hydrangeas, per doz.	9 0	18 0
Campanulas, p. doz.	6 0	12 0	Lilium Harrisii, per dozen ...	12 0	24 0
Chrysanthemums, p. dozen	6 0	15 0	— lancifolium, pr. dozen ...	9 0	12 0
Cyperus, per dozen...	4 0	10 0	Marguerites, p. doz.	6 0	12 0
Dracæna, each ...	1 0	5 0	Mignonette, per doz.	3 0	6 0
Evergreen Shrubs, in var., per dozen ...	6 0	24 0	Palms, various, each	2 0	10 0
Ferns, various, doz.	4 0	12 0	— specimens, each	10 6	84 0
— small, per 100	4 0	6 0	Pelargoniums, scarlets, per doz. ...	3 0	6 0
Ficus elastica, each	1 0	7 6			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl....	2 0	4 0	Mignonette, 12 bun.	1 0	3 0
Asters, doz. bun. ...	2 0	6 0	Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Pansies, 12 bun. ...	1 0	2 0
Carnations, 12 blms.	0 6	1 0	Orchids:—		
— doz. bun. ...	2 0	6 0	Cattleya, 12 blms.	6 0	12 0
Chrysanthemums, p. 12 blooms ...	0 6	1 6	Odontoglossum crispum, 12 blms.	2 0	4 0
— p. 12 bunches	3 0	8 0	Pelargoniums, scarlet, p. 12 bun.	2 0	4 0
Cornflowers, 12 bun.	1 0	2 0	— 12 sprays ...	0 4	0 6
Eucharis, per dozen	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
Gaillardias, dz. bun.	1 0	2 0	Roses, Tea, per dozen	0 6	2 0
Gardenias, per dozen	1 0	3 0	— coloured, p. doz.	2 0	4 0
Gladiolus, doz. bun.	4 0	12 0	— yellow (Maréchals), per doz.	1 6	4 0
Lapageria, 12 blooms	0 6	1 0	— red, per dozen ...	0 6	1 0
Lavender, 12 bunches	4 0	6 0	— outdoor, per doz. bunches... ...	2 0	6 0
Lilium Harrisii, doz.	2 0	4 0	Stephanotis, dozen sprays	2 0	4 0
— lancifolium, p. bunch	1 0	2 0	Tuberoses, 12 blms.	0 3	0 6
— — p. 12 blooms	0 9	1 6			
Maidenhair Fern, per 12 bunches ...	3 0	6 0			
Marguerites, 12 bun.	1 0	3 0			

ORCHID-BLOOM in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, per sieve ...	4 0	6 0	Grapes, Muscat, 2nd quality, per lb. ...	0 9	1 0
,, Dessert, half-sieve	3 0	5 0	,, Guernsey, per lb....	0 5	0 9
Cobs, per 100 lb. ...	25 0	30 0	Melons, each ...	1 0	2 0
Damsons, half-sieve	1 6	2 0	Peaches, large, per doz.	4 0	8 0
Figs, per dozen ...	1 6	3 0	,, small, per doz. ...	1 0	2 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	Pears, p. sieve, small	2 0	2 6
,, English, 2nd quality, p. lb.	0 6	1 0	,, (Dessert), half-sieve	3 0	4 0
Grapes, Muscat, per lb.	1 6	2 0	Pine-apples, St. Michael, each ...	2 0	5 0
			Plums, half-sieve ...	2 0	5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, half-sieve	2 0	2 6	Cucumbers, per doz.	1 6	2 6
,, Runners, sieve	1 0	1 6	Marrows, per doz. ...	1 3	2 0
Cauliflowers, p. doz.	1 0	1 6	Mushrooms, per lb.	0 9	1 3
			Tomatos, per lb. ...	0 3	0 4

POTATOS.

Trade slow except for best samples. Prices:—Snowdrops and Main Crops, 80*s.* to 90*s.*; Hebrons, 70*s.*; Giants, 50*s.* to 60*s.*; Blacklands, 50*s.* per ton.

SEEDS.

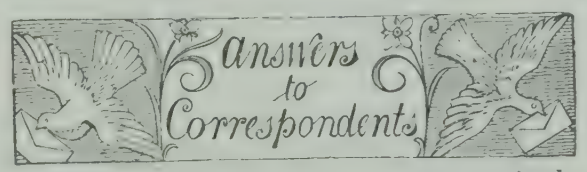
LONDON: *September* 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now a fair sale for Trifolium, at the remarkably low rates now current. Winter Tares are cheaper, some choice parcels are now obtainable at very tempting rates. Rye continues abnormally low. The fine Cow-grass which has recently arrived from New Zealand meets with favour. Mustard and Rape seed are steady. Canary seed keeps firm, the extreme shortness of the new Turkish crop is now proved beyond a doubt. Linseed tends upwards. For Peas and Haricots there is an improved tone.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *Sept.* 18.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Turnips, 1*s.* 6*d.* to 3*s.*; Carrots, 1*s.* to 2*s.* 3*d.*; Parsley, 9*d.* to 1*s.* 6*d.* per dozen bunches; Beans, Scarlet, 1*s.* to 2*s.* 3*d.* per bushel; Horse-radish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, 2*s.* to 2*s.* 6*d.* per bag; English, do., 3*s.* to 4*s.* per cwt.; Apples, 1*s.* 6*d.* to 6*s.*; Plums, 1*s.* to 2*s.* 3*d.*; Pears, 9*d.* to 2*s.* 6*d.* per bushel.

STRATFORD: *Sept.* 19.—The supply to this market during the past week has been excellent, and with a large attendance of buyers a brisk trade was done at the undermentioned prices:—Cabbages, 2*s.* to 4*s.* per tally; Cauliflowers, 1*s.* to 2*s.* 6*d.* per dozen; do., 4*s.* to 8*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, household, 40*s.* to 45*s.* per ton; do., cattle feeding, 25*s.* to 28*s.* do.; Mangolds, 16*s.* to 21*s.* per ton; Swedes, 16*s.* to 18*s.* do.; Onions, English, 80*s.* to 90*s.* per ton; do., Belgian, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; do., Oporto, 5*s.* to 6*s.* 6*d.* per case; Apples, English, 2*s.* 6*d.* to 7*s.* per bushel; Pears, 2*s.* to 4*s.* per bushel; Tomatos, 4*s.* to 4*s.* 6*d.* per dozen lb.; Guernsey Tomatos, 3*s.* to 3*s.* 6*d.* per dozen lb.; Cucumbers, frame, 1*s.* to 3*s.* per dozen; do., field, 4*d.* to 8*d.* do.; Celery, 9*d.* to 1*s.* 2*d.* per roll.

FARRINGDON: *Sept.* 20.—Quotations: Carrots, 2*s.* 6*d.* doz. bun.; Turnips, 2*s.* do.; Celery, 12*s.* per doz. rolls; Cauliflowers, 9*d.* per dozen; Cucumbers, 1*s.* 9*d.* do.; Beetroot, 2*s.* per bushel; Blackberries, 4*s.* per half bushel; Tomatos, English, 3½*d.* per lb.; Apples, 5*s.* per bushel; Pears: Hazel, 2*s.* do.; Williams, 4*s.* do.; Onions, 4*s.* per cwt.; do., picklers, 5*s.* to 6*s.* do.; Beans, 1*s.* 6*d.* to 2*s.* per bushel; Marrows, 1*s.* to 1*s.* 3*d.* per dozen.



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, &C., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named. This work consumes much time, is often attended with considerable expense, and is beyond any obligation to our subscribers, though we are glad to oblige them if possible. We hope that those who thus avail themselves of our services will remember the claims of the "Gardeners' Orphan Fund," and send us an occasional contribution for it.*

BOOK: *J. Everton. Artistic Flower Decoration*, by B. C. Saward. Published at the *Bazaar* office, 170, Strand, W.C.

CARNATION "BUCCLEUCH CLOVE": *John Forbes.* A deliciously-scented variety, and, as it is said to be free, it is of great value at this or any season.

CORRECTIONS: National Dahlia Society Show Report in our last issue, 3rd prize in class 5, Mr. H. Harris, Writtle Road, Chelmsford; for the last name read Cambridge.—The hardy Senecio named in last week's *Gardeners' Chronicle* as S. latifolius, should have been called S. laxifolius. It has nothing to do with S. latifolius, as, indeed, the description shows. A coloured illustration will shortly appear in the *Botanical Magazine.*

DAFFODIL BULBS DISEASED: *E. H. J.* The bulbs have been under observation for some days, but no trace of a parasitic fungus has been detected. A species of bacillus is present in the rusty excrescences, and is probably the cause; but inoculation of healthy bulbs would be necessary to prove this. Some of the affected bulbs might be placed for an hour in a 10 per cent. sol. of salicylic acid as an experiment. *G. Massee.*

GARDENERS' ORPHAN FUND: *P. O. M.* The Secretary is Mr. Barron, Royal Horticultural Society's Garden, Chiswick, London, W.; or if you send your contribution to us, we will forward it. We agree with you, that every gardener who is able to do so should contribute to it.

LARGEST BUNCH OF BLACK GRAPES: *Yankee.* A bunch of Gros Guillaume was shown by the late Mr. Roberts, gardener at Charleville Park, having a weight of 23 lb. 5 oz. (see *Gardeners' Chronicle*, November 10, 1877). The biggest bunch of Black Hamburgh Grapes was shown at Belfast, August 20, 1874, by Mr. Hunter; it weighed 21 lb. 12 oz.

MUSHROOMS: *J. G.* What you send is the common Horse Mushroom, used for Catsup, and the flavour is by many preferred to that of the common Mushroom.

NAMES OF PLANTS: *C. W.* Cobœa scandens.—*H. B. E.* Your Lælia is L. pumila. From it, L. p. Dayana is easily distinguished by the raised fringed, purple lines running from the base of the lip. The Dendrobium MacCarthiæ is an exceedingly good form. We have seen it flowering in several places lately.—*Arcadia.* Your Dendrobium formosum is the large form known as D. f. giganteum; 2, Miltonia spectabilis; 3, it is impossible to name from the single dried-up flower received. Send the whole inflorescence when it is fading, and of no further use to you. Also leaf or description of growth. — *H. V.* should have addressed the Editor. To address the wrong department causes delay and confusion. 1, Phillyrea angustifolia; 2, Skimmia japonica; 3, Acanthus spinosus; 4, Pulmonaria sibirica.—*Amy R.* 1, Clerodendron fœtidum; 2, Ceanothus azureus, seedling var.; 3, Tradescantia virginica.—*R. C. B.* 1, Picea (or Abies) alba; A, Thuya gigantea; B, Cupressus Lawsoniana.—*W. D. H.* Coreopsis tinctoria.—*A. A.* Cotoneaster frigida.—*F. S.* The double Pomegranate, Punica Granatum.—*P. O. M.* 1, Platycodon grandiflorum; 2, Hippophae rhamnoides, Sea Buckthorn; 3, Santolina incana.—*C. J. G.* 1, Cupressus Lawsoniana; 2, Carex vulpina; 3, Impatiens fulva; 4, Atriplex patula. *F. S. M.* Your climber is probably a Bignoniaceous plant. It will flower in time; and when it does so, send blooms.—*S. H. K. M.* Zephyranthes carinata. *W. H. Y.* 1, Selaginella cæsia; the other next week.—*T. T., Leeds.* Stanhopea inodora.—*D. T. J., Galloway.* 1, Adiantum pedatum; 2, Goniophlebium appendiculatum; 3, Polypodium aureum; 4, Asplenium viviparum; 5, a garden Dracæna—Lastrea aristata variegata. *S. S. S.* 1, Chorozema ilicifolia; 2, Sedum Sieboldii variegatum; 3, Pteris tremula; 4, Schubertia graveolens; 5, Selaginella cæsia; 6, Pteris serrulata.—*William Leighton.* Pyrus salicifolius.—*B. W. T.* 1, Mentha aquatica; 2, Epipactis latifolia; 3, Lepidium Smithii; 4, Mentha piperita.—*J. C.* Polygonum orientale.

NOTICE TO LEAVE EMPLOYMENT: *Y. H. Y.* We cannot help you in such complicated circumstances as yours, and would advise legal advice being sought.

PEAR WORKED ON THE MOUNTAIN ASH: *W. T.* The union would be satisfactory, and there is no reason to doubt Dr. Paterson's statement, which you have quoted.

SINGLE-FLOWERED DAHLIAS: *D. & Co.* The blooms have beautiful tints, but we do not detect much of the "Cactus" form.

SPOT AND SHANKING IN GRAPES: *P. O. M.* These maladies of the Vine have been discussed, and the reasons for their appearance given in the *Gardeners' Chronicle* on many occasions in recent years. Spot is incurable, but may be averted by the timely use of the Bordeaux Mixture on the Vines, and flowers-of-sulphur on the hot-water pipes in union with whitewash, to make it adhere to them. Shanking need not occur if Vines are kept healthy at their roots, are not cropped beyond their capacity to bear fruit, and not robbed of great quantities of foliage at one time—in fact, when well managed from start to finish.

COMMUNICATIONS RECEIVED.—J. H. V.—Baron von Mueller, Melbourne.—W. E. G.—MM. Tissot, Paris.—R. C. B.—D. G.—A. H.—R B.—D. C.—Dr. Buyssmann.—J. W. C.—J. A.—H. G. O.—J. M. C.—G. M.—C. B.—J. D. H.—A. A.—G. S.—T. E.—Amy R.—W. Newton.—Dartnall & Co.—A. R., and others.

PHOTOGRAPHS, DRAWINGS, SPECIMENS, &C., RECEIVED (with thanks).—A. O. W., Dublin.—G. B., Southampton.—M. W., Durban, Natal.—J. H., Rotherham.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

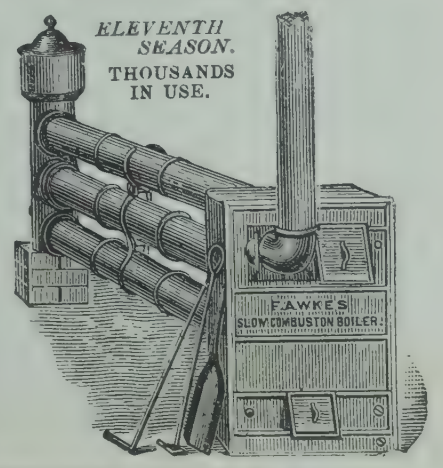
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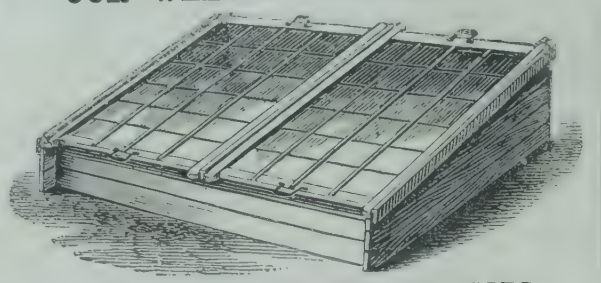
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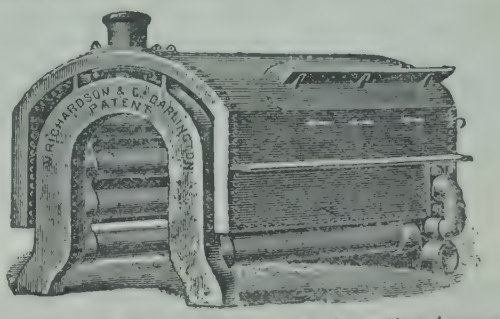
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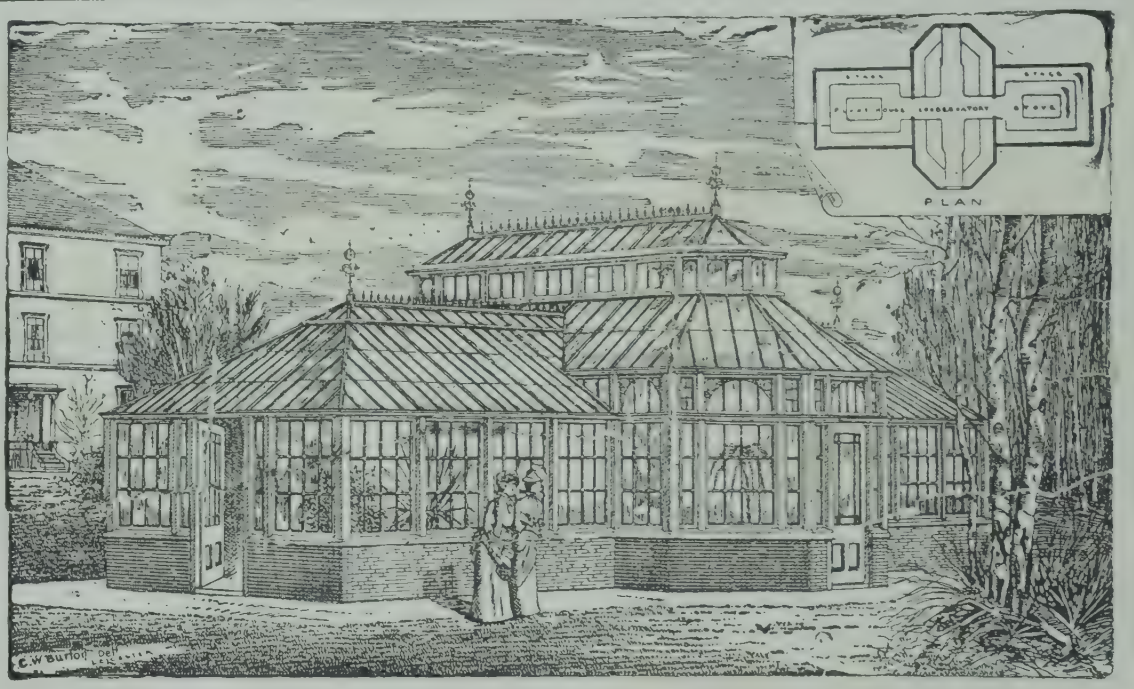


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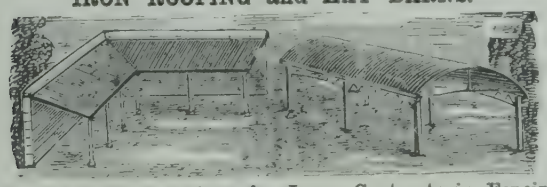
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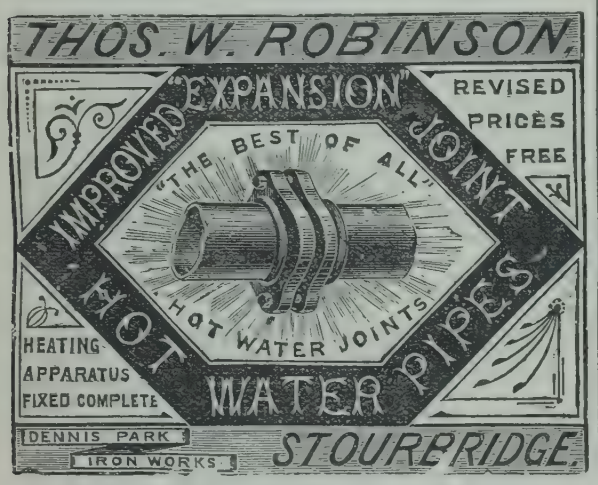
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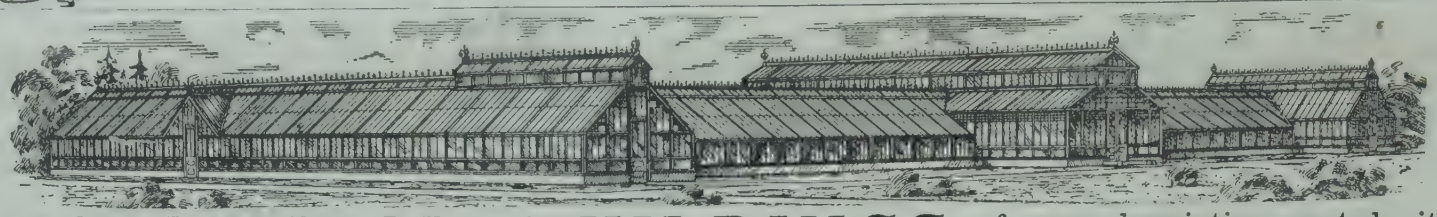
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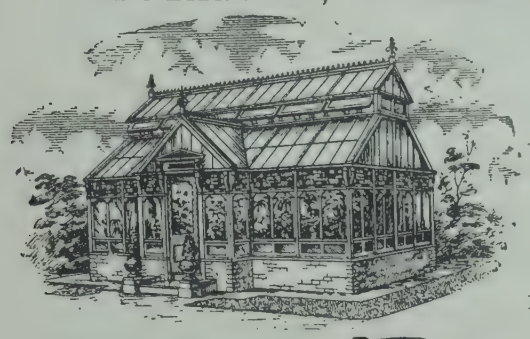
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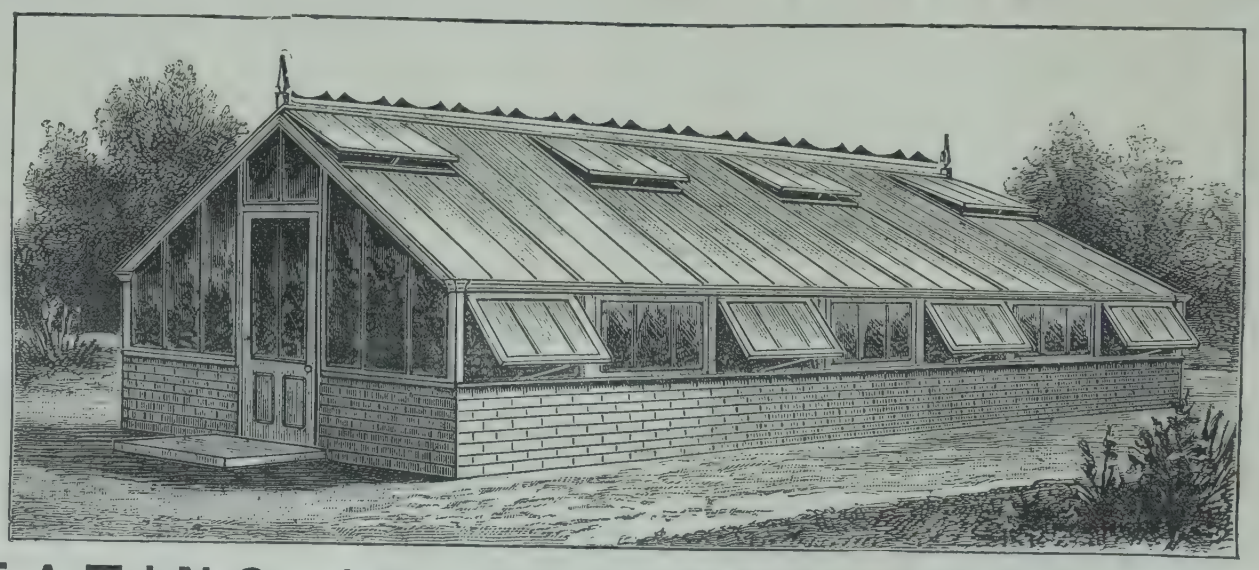
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ORCHIDS.—Many rare and choice Cattleyas, Cypripediums, Odontoglossums, &c., always in stock. Inspection invited. CATALOGUE free. W. L. LEWIS AND CO., Chase Side, Southgate, London, N.

JULES DE COCK'S NURSERIES, Ledeberg, Ghent (Belgium). 30,000 Azalea Indica, 12,000 A. mollis, 50,000 Begonia Bulbs, 3,000 Dracæna Bruanti, 2,000 D. discolor, 4,000 D. indivisa, 2,000 D. lineata, 2,000 rubra, 10,000 Gloxinias, 30,000 Spiræa japonica, 4,000 S. j. aurea reticulata, 10,000 Palms in variety, with characterised leaves; 2,000 Ficus elastica.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address— GEORGE WAITE, the Foreman, Calcot, near Reading.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s. R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchant, Southgate, N. Established 1797.

ANTHEMIS ETOILE D'OR CUTTINGS, 3s. per 100; 20s. per 1000. Cash with order. T. WELLINGTON, Milton, Lymington, Hants.

GERMANIA CARNATION.—Strong plants, in 60's, 15s. per 100, £5 per 1000. Old Crimson CLOVE, strong-rooted layers, 10s. per 100, £4 per 1000. C. JOHNSON AND CO., The Nurseries, Hampton.

GREENHOUSES for the MILLION.—Complete from 50s. Fourteen Prize Medals awarded. Quality sure test of cheapness. Beware of worthless imitations. Send for CATALOGUE, free, to the Original Inventors of Portable Greenhouses, ALFRED PEEL AND SON, Horticultural Works, Wood Green, London. Established 20 years.

BEESON'S MANURE Crushed Bones and all High-class Fertilisers. Genuine only from— W. H. BEESON, Carbrook Bone Mills, Sheffield.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers. Terms, Cash with Order. E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

HORTICULTURAL SHEET GLASS. Stock Lists and Prices on application. GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Rd., Chelsea, S.W.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers,

CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Monday Next.

Decorative PALMS; 50 lots of STOVE and GREENHOUSE FERNS and PLANTS; HARDY BORDER PLANTS and BULBS; ROSES in Pots, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, October 1, at Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next. Without Reserve.

The COLLECTION of ESTABLISHED ORCHIDS, formed by J. H. Reeves, Esq., North Walsham, who has been collecting the same for upwards of fifteen years, for Sale, owing to his Greenhouses having to be pulled down, comprising Cattleyas, Cœlogynes, Cymbidiums, Cypripediums, Dendrobiums, Disas, Epidendrums, Lælias, Lycastes, Masdevallias, Maxillarias, Miltonias, Oncidiums, Odontoglossums, Sacco labiums, and Vandas in variety.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, October 2, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

The BINROCK COLLECTION of ESTABLISHED ORCHIDS, many of which are fine specimens. By order of John M. Keiller, Esq., who is leaving Dundee. Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, October 23, at half-past 12 o'Clock.

Further particulars will appear.

Tuesday, October 2.

By order of the Executor of the late Mr. J. D. Richard, Nurseryman and Florist, of Mildmay Park, N.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, October 2, at half-past 12 o'Clock, about 600 beautifully-grown ORCHIDS, which have been cultivated for several years for Cut Flowers, including choice varieties of:—

200 Odontoglossum Alexandræ	60 Oncidium tigrinum
2 ,, Wilkeanum (true)	150 Lælia autumnalis, Dendrobium nobile, Cattleya Percivaliana, and others.
12 Cœlogyne cristata, Chatsworth and other varieties	

On view morning of Sale, and Catalogues had.

Thursday Next.

LATANIAS, DRACÆNAS, ASPIDISTRAS, FICUS, &c., from Belgium; 20 Lots of PALMS, 50 Lots of GREENHOUSE PLANTS and FERNS, HARDY BORDER PLANTS and BULBS in variety, ROSES in Pots, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, October 4, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

An importation of 250 PHALÆNOPSIS GRANDIFLORA received direct for unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will INCLUDE the above in their ORCHID SALE on FRIDAY NEXT, October 5, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

By order of Messrs. Linden, Brussels.

Rare and Beautiful

ESTABLISHED and SEMI-ESTABLISHED ORCHIDS,

amongst which will be found the following grand species:—

CATTLEYA REX.

LYCASTE AURANTIACA. PHAJUS HUMBLOTI.

Two superb new LÆLIO-CATTLEYA, in flower.

CATASETUM BUNGEROTHI. ONCIDIUM SCHLIMI.

LYCASTE ROSSIANA and LYCASTE LANIPES.

AGANISIA LEPIDA. | COCHLIODA NOTZLIANA.

ONCIDIUM AUROSUM. | PERISTERIA LINDENI.

CATTLEYA ACLANDIÆ TIGRINA.

ANGULOA EBURNEA (TRUE).

GRAMMATOPHYLLUM MEASURESIANUM.

ODONTOGLOSSUM PRÆSTANS.

Different fine CYPRIPEDIUM.

ODONTOGLOSSUM NEBULOSUM CANDIDISSIMUM, and O. KRAMERI, &c.

All in superb condition.

Also Four complete Collections of LINDENIA, Iconography of Orchids.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, October 5, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

HIGHLY IMPORTANT SALE

Of the Remaining Portion of the Famous

PICKERING LODGE COLLECTION

OF

ESTABLISHED ORCHIDS,

Together with the

GARDEN TOOLS, GREENHOUSE PLANTS, CARRIAGES,

and a portion of the

WELL-KNOWN CELLAR of CHOICE WINES

formed by the late George Hardy, Esq. The Orchids are reputed to be the Grandest Lot of Plants in the North of England, having won the Highest Honours at Manchester and other leading Shows.

By Order of the Executors, without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS, are favoured with instructions to SELL by AUCTION on the Premises, Pickering Lodge, Timperley, near Manchester, on TUESDAY, October 16 and following days, at half-past 12 o'Clock precisely each day, the Remaining Portion of this far-famed COLLECTION of ORCHIDS.

The whole of the plants are in the best possible health, and are remarkable alike for their size and the grandeur of the varieties. For upwards of twenty years the late Mr. Hardy was an enthusiastic buyer and a keen judge, and made a practice of discarding from his collection all varieties that did not reach the highest standard of excellence. In order that intending buyers may judge for themselves of the beauty of the varieties, an effort will be made as far as practicable to offer everything in flower.

Amongst the numerous items to be offered will be found the following:

Cypripedum œnanthum superbum	Dendrobium splendidissimum Leeanum, three plants
,, Statterianum	,, Schroderianum, three plants
,, Swinburnii	,, nobile nobilius, several
,, Leeanum gigantum	,, ,, giganteum, Stand Hall var., three plants
,, Lathomianum giganteum	,, nobile Cooksonii, several
,, Io Grande	,, Wardianum album
,, Arthurianum	,, Dominianum
,, insigne Studleyana	,, nobile Backhouseana
,, ,, giganteum	,, ,, Wallichianum
,, Godseffiana superbum	,, crassinode alba
,, insigne aureum	,, nobile nivalis
,, Amesiana	,, splendida grandis
,, insigne Sanderæ	,, nobile, Hardy's var.
,, javanico superbiens	Odontoglossum Edwardi
,, Leeanum giganteum	,, Wilckeanum
,, Morganiæ	,, Halli
,, insigne Ernestii	,, Ruckeriana
,, Bartetii	,, Hebraicum
,, insigne Wiottii	,, Andersonianum, Stand Hall var.
,, ,, albens	Cattleya Hardyana
,, Patersonii	,, Massiana
,, Sallierii	,, Bluntii
Lælio-Cattleya calystoglossa	,, Claesianum
,, bella	,, Reichenbaniana
Lælia anceps Schroderii	,, Trianæ alba
,, Schroderiana	,, Schroderæ alba
,, Tressideriana superba	,, exoniensis
,, anceps Dawsoni	,, aurea
,, ,, Schroderæ	,, Dowiana
,, ,, Schroderiana	Cymbidium eburneum
,, Gouldeana	Lycaste Skinneri alba
,, anceps Protherœana	Sobralia, pure white
,, elegans Turnerii	Vanda Sanderiana
Cœlogyne cristata alba	Dendrochilum glumaceum
,, Lemoniana	
Eulophiella Elisabethæ	
Dendrobium Dominianum Stand Hall var., two plants	

150 PHALÆNOPSIS SCHILLERIANA, AMABILIS, SANDERIANA, P. GLORIOSA, amongst which are extra fine plants, numerous Cattleyas, Odontoglossums, Oncidiums, Dendrobiums, Vandas, Aërides, Masdevallias, Lælias, Sophronites, &c.

STOVE AND GREENHOUSE PLANTS.

PALMS, FERNS, CROTONS, AMARYLLIS.

Garden Implements, Tools, Frames, Hand-barrows, Mowing Machines, Grindstone, capital Barouche, and a Mail Phaeton.

Together with a portion of the late Mr. Hardy's

WELL-KNOWN CELLAR OF CHOICE WINES,

comprising 22 doz. Claret Château Kerwen, vintage 1881; 11 doz. Claret Château Leoville; 7 doz. Port, Sandeman's; 24 doz. Port, 1 doz. Bots.; 20 doz. Champagne, Deutz and Gueloerman Gowlac; 34 doz. Do., Veuve Clicquot; 3 doz Magnums; 11 doz. Bots. Hennessey's old Brown Brandy, 1875; 17 doz. Bots. Geo. Roe's old Irish Whisky.

May be viewed. Catalogues may be obtained of Mr. HOLMES, the Head Gardener, on the Premises, and of the Auctioneers, 67 and 68, Cheapside London, E.C.

Loughton, Essex.

TWO DAYS SALE of particularly well-grown and thriving NURSERY STOCK.

By order of Messrs. William Paul & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Branch Nurseries, Loughton, Essex, on THURSDAY and FRIDAY, October 18 and 19, large quantities of HOLLIES, AUCUBAS, YEWS, RHODODENDRONS, CONIFERS, in great variety, and STANDARD ORNAMENTAL TREES, in beautiful condition, and for the growth of which these Nurseries are so well-known. Fuller particulars will appear.

Bagshot, Surrey.

(Within a few minutes' walk of the Railway Station.)

Re Richard Mason, deceased. By order of the Executors.

IMPORTANT SALE of thriving young NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Windlesham Nurseries, Bagshot, Surrey, on TUESDAY NEXT, October 2, and two following days, at 12 o'Clock precisely each day, an extensive assortment of

WELL-GROWN NURSERY STOCK,

including thousands of choice named Hybrid Rhododendrons, 1½ to 2 feet; 5000 Ponticum Rhododendrons, 1½ to 2½ feet; 1000 Azalea Pontica, 1 to 1½ feet. 2000 GREEN HOLLIES, 6 in. to 2 feet; 1500 English Yews, 2 to 3 feet; 1000 Thuiopsis dolabrata, 1 to 2 feet; 1000 Striped Tree Box, 3 to 5 feet; 2000 Thuiopsis borealis, 2 to 5 feet; 5000 Cupressus Lawsoniana, 3 to 7 feet; 1000 Abies Douglasii, 7 to 9 feet. 10,000 LAURELS, of sorts, 2 to 4 feet; 15,000 SMALL CONIFERÆ, for Potting and Boxes, including Retinospora plumosa, R. plumosa aurea, R. leptoclada, R. pisifera aurea, and others; 500 Spruce Firs, 5000 Mahonia aquifolia, for potting; thousands of STANDARD ORNAMENTAL and FOREST TREES, comprising Copper Beech, Sycamores, Poplars, Limes, Laburnums, and 20,000 Common Beech, 2 to 5 feet; 1000 Mountain Ash, 7 to 9 feet; 1000 Horse Chestnuts, 6 to 9 feet; 10,000 QUICK, 2 to 3 feet. A few hundred of Standard and Pyramid Fruit Trees, consist- of Apples, Pears, Plums, Gooseberries, Currants, and other Stock.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; of Messrs. REEP, LANE AND CO., Solicitors, 4, Great St. Thomas' Apostle, E.C., and Bagshot; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Tunbridge Wells.

About ten minutes' walk from either of the Tunbridge Wells Railway Stations.

THREE DAYS' UNRESERVED SALE of well-rooted NURSERY STOCK, by order of Messrs. Thomas Cripps & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Tunbridge Wells Nurseries, Tunbridge Wells, on TUESDAY, October 9, and two following days, at 12 o'Clock precisely each day, a portion of the exceedingly

WELL-GROWN NURSERY STOCK,

which is in capital condition for removal, and consisting of 2300 Specimen BORDER SHRUBS, adapted for effective planting, and arranged in suitable lots; 500 Araucaria imbricata, 5 to 7 feet; 400 Cedrus Deodara, 3 to 4 feet; 400 Abies Douglasii, Parryana, and others, 8 to 14 feet; 450 Thuiopsis dolabrata, 3 to 4 ft.; 1700 Retinospora plumosa, R. p. aurea, and R. p. pisifera, 3 to 5 ft.; 1000 Cupressus Lawsoniana lutea and erecta viridis; specimen Portugal Laurels; 10 0 English Ywse, 1½ to 2 feet; 400 Picea nobilis, 2 to 4 feet; 1000 named RHODODENDRONS, including about 600 Standards and Half-standards of the best sorts, 600 Hybrid Seedling Rhododendrons; 3 0 Azalea mollis and pontica; Kalmias, Laurels; 1000 named Dwarf ROSES of the leading varieties; 450 Scotch Firs; Pinus austriaca; specimen Variegated Hollies, 8 to 10 feet; 400 Standard and Pyramid Pears, 1300 Currants and Gooseberries, a quantity of Standard ORNAMENTAL TREES, 300 Greenhouse Rhododendrons, Solanums, Jasminums, 50 specimen Lapagerias, 2 00 hardy Ornamental Trees and Shrubs, comprising 900 Escallonias of sorts, Benthamias, Ceanothus, and others.

May now be viewed. Catalogues may be had on the Premises; at the Seed Shop, 49, High Street, Tunbridge Wells; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Isleworth.—Special Trade Sale.

ANNUAL SALE of thousands of beautifully-grown YOUNG CONIFERS and GOLDEN EUONYMUS for immediate Potting, Window-boxes, or for Growing-on. By order of Messrs. Chas. Lee & Son.

IMPORTANT to NURSERYMEN, FLORISTS, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Wood Lane Nurseries, Isleworth, five minutes' walk from the Isleworth Station, L & S.W. Railway, and twenty minutes' walk from Osterley Park Station, District Railway, on TUESDAY, October 9, at 12 o'Clock to the minute, in consequence of the large number of lots—

5000 BEST GOLDEN EUONYMUS,

in splendid condition and colour, from 9 to 15 inches.

THOUSANDS of SMALL SHRUBS for BOXES,

including Golden Privet, Aucubas, Tree Ivies, Osmanthus, Golden Box, Euonymus radicans variegata, and small standard Golden Euonymus, and standard Tree Ivies in pots.

5000 CONIFERS, from 9 to 18 inches, including 1000 Cupressus erecta viridis, 12 to 18 inches.

250 EURYA LATIFOLIA VARIEGATA, from 1 to 7 feet,

Hundreds of specimens from their famous

COLLECTION of ORNAMENTAL TREES,

including the beautiful Tricolor, Cornus elegantissima, Planes, large-leaf Purple Beech, Poplars, Chestnuts, and standard Weeping Ash and Kilmarnock Willows, Birch, Spanish Chestnuts, Maples of sorts, Rhus coccinea, &c.

500 PALMS, KENTIAS, various sizes; COCOS PLUMOSA, 4½ to 6 feet; LATANIAS, 1½ to 5 feet, and many others. 300 YUCCA RECURVA, 1½ to 2 feet, perfect plants.

A quantity of CLIMBING ROSES in pots, Maréchal Niel, Wm. Allen Richardson, Devoniensis, Gloire de Dijon, &c., 6 to 8 feet; CLEMATIS JACKMANI SUPERBA, in pots; AMPELOPSIS VEITCHI, in 32's, 4 to 5 feet; ARAUCARIA EXCELSA, from cuttings, 9 to 12 inches, in 48-pots; 100 CLIVIAS, very strong, including some good dark varieties.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises; at the Royal Vineyard Nursery, 36, Hammersmith Road, W.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

Windlesham, near Bagshot.

Re Richard Mason, deceased.

IMPORTANT to NURSERYMEN and OTHERS desirous of securing some of the most valuable and productive Nurseries in this country.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, immediately preceding the Sale of the Nursery Stock, on TUESDAY NEXT, October 2, at Half-past Eleven o'Clock, the well-known FREEHOLD PROPERTIES, known as MASON'S NURSERIES, Windlesham, Surrey, covering an area of nearly 23 Acres, and the LEASEHOLD PROPERTIES of 16 Acres, together with the GOODWILL of the BUSINESS, carried on so successfully for many years by the late Mr. Richard Mason. The purchaser will have the opportunity of buying at the Sale the first portion of the thriving NURSERY STOCK, which is to be offered in suitable lots, and also of taking at a valuation the remaining Stock.

Particulars may be had on the Premises; of Messrs. REEP, LANE, AND CO., Solicitors, 4, Great St. Thomas' Apostle, E.C., and Bagshot; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Woodford Green.

By order of the Executors of the late R. Letchford, Esq.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Prospect House, High Road, Woodford Green, 15 minutes' walk from Woodford Station, G.E.R., on MONDAY, October 8, at 1 o'Clock, without reserve, the whole of the well-grown GREENHOUSE PLANTS, specimen Camellias and Azaleas, Orange Trees, Palms in variety, specimen Cycas revoluta. ESTABLISHED ORCHIDS, comprising Vandas, Cattleyas, Oncidiums, Odontoglossums, Cypripediums, and others; 150 GREENHOUSE FERNS, 120 CHRYSANTHEMUMS, also BEGONIAS, GLOXINIAS, and many other Plants, LOOSE LIGHTS and IRON FRAME, Iron GARDEN SEATS, capital VICTORIA, for Single or Pair; sundry MUSICAL INSTRUMENTS, &c.

May be viewed Saturday prior and morning of Sale. Catalogues had on the Premises; at the Castle Hotel, Woodford; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Walton Grange Gardens, Stone, Staffs.

IMPORTANT SALE of SURPLUS ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from William Thompson, Esq., to SELL by AUCTION, on the Premises, the Walton Grange Gardens, Stone, Staffs., about 15 minutes' walk from Stone Railway Station, on THURSDAY, October 11, at 11 for 12 o'Clock precisely, a fine stock of particularly well-grown

ESTABLISHED ORCHIDS,

Comprising a fine healthy lot of ODONTOGLOSSUMS, for the successful cultivation of which this collection has been noted. Amongst these will be found Odontoglosum elegans (Pollett's variety) Allumianum, part of the only known plant; also the rare O. elegantinus, and other grand varieties of crispum; Lælia tenebrosa, Walton Grange variety; Cypripedium Leeanum giganteum, Dendrobium splendidissimum grandiflorum, D. Venus, fine piece; D. Cooksonii, and D. Casiope; Lælia Perrinii alba, L. Guildiana, grand variety; Cattleya intermedia alba, C. aurea, Maxillaria Sanderiana, a large number of unflowered Odontoglossum crispum, in 5 and 6-inch pots; Cattleya labiata in sheath, &c.

May be viewed one week prior to the Sale. Catalogues may be had of Mr. STEVENS, Head Gardener, on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

High Beech Nurseries, near Loughton, Essex.

ATTRACTIVE SALE of SPECIMEN HOLLIES and CONIFERS, by order of Messrs. Paul & Son, affording an opportunity seldom met with of acquiring some of the finest specimens of these plants to be obtained in Europe.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, High Beech, Epping Forest, 2 miles from Loughton Station, 2½ from Chingford, and 4 from Waltham, on WEDNESDAY, October 10, at 12 o'Clock, 400 of the finest SPECIMEN GOLDEN and SILVER HOLLIES, 6 to 10 feet, of perfect shape; 250 Golden Queen Hollies, 4 to 6 feet, exceptional specimens; 100 large Bushy Green Hollies, 400 Araucaria imbricata, 2 to 7 feet, probably the finest Stock in the kingdom; 200 Specimen Cedrus deodara, 12 to 14 feet; 400 Half-specimen Rhododendrons of the choicest named kinds, well set with bloom, bushy plants 3 to 4 feet; 50 splendid Specimen Standard Rhododendrons of the best named kinds, &c.

May be viewed. Catalogues may be had on the Premises, at the "Old" Nurseries, Cheshunt, and of the Auctioneers, 67 and 68 Cheapside, London, E.C.

The Auctioneers desire to call special attention to this most important Sale. It has never been their privilege to offer to the Public by Auction a grander lot of Specimen Plants of this character, and they particularly invite intending purchasers to make an inspection previous to the Sale.

Preliminary Notice.—Friday, October 12.

WITHOUT THE LEAST RESERVE.

ENORMOUS SALE OF

10,000 IMPORTED DENDROBES,

ALL IN THE FINEST POSSIBLE CONDITION.

Lotted to suit Amateurs and the Trade, and consisting of

8000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, and other remarkable kinds, some with pseudobulbs like Dendrobium Guiberti or Schroderi, but from a totally new area, where no Orchids have before been collected.

THE MOST WONDERFUL SALE OF DENDROBES EVER MADE.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, October 12, at half-past 12 o'Clock, a magnificent Importation of the finest of all Dendrobiums—

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

In simply perfect condition; and also many other ORCHIDS collected in a totally new area, from whence no Orchids have previously been collected.

Full particulars and descriptions will appear in next week's Paper and Catalogues.

Feltham, Middlesex.

UNRESERVED SALE of splendidly-grown and well-finished CONIFERS, and other NURSERY STOCK, by order of Messrs. Charles Lee & Son.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION on the premises as above on TUESDAY, October 16. Fuller particulars will appear.

Sunningdale, Berks.

THREE DAYS' ABSOLUTE CLEARANCE SALE of a choice assortment of NURSERY STOCK. By order of Mr. C. Noble.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, The Sunningdale Nurseries, Berks, on TUESDAY, October 23, and TWO FOLLOWING DAYS.

Further particulars will appear.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

50,000 best Berlin LILY OF THE VALLEY CROWNS, just imported direct; 50,000 FREESIA REFRACTA ALBA, 10,000 African TUBEROSES, 25,000 Early White Roman HYACINTHS, 20,000 Forcing NARCISSUS, 5000 Italian HYACINTHS, 5000 LILIUM HARRISII and L. CANDIDUM, 30,000 SNOWDROPS, &c. Also a splendid consignment of STOVE and GREENHOUSE PLANTS from Ghent, comprising Latania borbonica, Corypha australis, Phœnix tenuis, Aspidistra (Green and Variegated), Ophiopogons, Ficus elastica, Dracænas, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 3.

On view morning of Sale, and Catalogues had.

Sale of Nursery Business at Wokingham.

MR. FRANK COOKSEY has been instructed to SELL by AUCTION, at the Queen's Hotel, Reading, on TUESDAY, October 2, 1894, the FREEHOLD NURSERY, with 3 Glasshouses, and 2 Rows of Cool-pits, in one lot; and 4 Glasshouses in other lot, as a going concern, with possession.

Particulars and conditions of Sale may be obtained of Messrs. COOKE, COOPER AND BARRY, Solicitors, Wokingham; or of the Auctioneer, High Street, Southampton, and 17, Market Place, Reading.

MESSRS. J. LAMING AND SON are favoured with instructions from Mr. A. Moore of St. John's, Spalding, to SELL by AUCTION, on THURSDAY, October 4, 1894, the whole of his remaining GREENHOUSES, FORCING-PITS, LIGHTS, PLANTS, BUILDINGS, and OUTDOOR EFFECTS, in consequence of his relinquishing horticultural pursuits. Greenhouse, 60 feet by 15 feet, and 520 feet of hot-water-piping, &c.; ditto, 34 feet by 21 feet, and 200 feet of hotwater-piping; ditto, 22 feet by 10 feet, and 116 feet of hot-water-piping; Forcing-pit, 60 feet, and 116 feet of hotwater-piping; 6 Six-light Frames; Forcing-tank, 21 feet by 3 feet, &c.; large Tubular Boiler, 6 feet, by Thames Bank Iron Company (nearly new); large Independent Boiler, Iron Tanks, Iron Shed 15 feet by 14 feet, by 9 feet 3 inches; Carpenter's Shop, and several thousand Plants.

Sale at 11 o'Clock precisely. Particulars of the Auctioneers.

Annual Sale.—Milford Nurseries, Milford, near Godalming, ¾ of a mile from Milford Station, and 1 mile from Godalming New Station, both on the direct Portsmouth line.

HIGHLY IMPORTANT THREE DAYS' SALE of FIRST-CLASS NURSERY STOCK.

MESSRS. MELLERSH have received instructions from Messrs. Maurice Young & Son, to SELL by AUCTION, on the Premises, the Milford Nurseries, Milford, near Godalming, on TUESDAY, WEDNESDAY, and THURSDAY, October 9, 10, and 11, at 11 for 12 o'Clock precisely, each day, without reserve, a large quantity of exceptionally

WELL-GROWN NURSERY STOCK,

lotted to suit all classes of buyers, comprising 2,500 Specimen Evergreens and Conifers, from 2 to 8 feet, consisting of Piceas, Abies, Pinus, Cupressus Lawsonianas, Fraserii, erectas, Youngii, cœrulea, &c., Thuias, Cedrus deodara, Aucubas, Laurels, Hollies, Golden Junipers, Golden Yews, Rhododendrons, Azaleas, &c.; 1,000 English Yews, 1½ to 3 feet; 100,000 transplanted Forest Trees, from 2 to 4 feet, comprising Ash, Birch, Spanish Chestnut, Hazel, Alder, Withey, &c.; several thousand Standard, Pyramid, and Trained Fruit Trees; Stand and Pyramid Thorns, Flowering Crabs, Ornamental Deciduous Trees, &c.; Standard and Dwarf Roses of the leading kinds, Tea Roses in pots, Clematis, Ivies, Ampelopsis, Honeysuckle, Passion-flower, &c.; 1000 fine bushy Laurels of sorts from 2 to 3 feet, and a quantity of General Nursery Stock.

The Auctioneers specially invite the attention of intending planters to this important Sale. They have personally inspected the Stock, which has made good growth, and is in exceptionally fine condition for removal this season, and they will be pleased to execute commissions for gentlemen who cannot attend the Sale.

The Stock may be viewed. Luncheon (by ticket) will be provided each day for purchasers, and Catalogues may be obtained on the Premises; at the leading Hotels in the neighbourhood; and of Messrs. MELLERSH, Auctioneers and Surveyors, Godalming and Guildford.

BALHAM.—To Small Nurserymen & Florists.—Lease, Goodwill, four Greenhouses, fixtures, and Plants of a Small Nursery (rent only £17), to be SOLD by AUCTION, at the "Falcon" Hotel, Clapham Junction, S.W., on THURSDAY EVENING NEXT, by Messrs. CLIMPSON & JOHNSON, 221, High Road, Balham, S.W.

Annual Sale.—Dorking Nurseries, London Road, DORKING.

Close to the L. B. & S. C. R. and S. E. R. Stations.

THE WELL-GROWN AND HEALTHY YOUNG NURSERY STOCK (in first-rate condition for transplanting), viz., Aucubas, Box of sorts, Portugal and common Laurels, Golden and Green Yews, Thuja Lobbi, and other varieties; Thujopsis, Retinosporas and Cupressus, Pinus and Piceas, various; FLOWERING SHRUBS IN VARIETY; Abies Douglasii, Spruce Fir, &c., large, for immediate effect, Cedars, Junipers, Hollies, green and variegated, and a quantity of STANDARD ORNAMENTAL TREES, such as Birch, Maples, Poplars of sorts, &c., Ivies and other climbers in pots, choice kinds of Dwarf Bush Roses, Strawberry Plants in small pots—leading varieties; to be SOLD by AUCTION, as above, by—

MESSRS. WHITE AND SONS, under instructions from Messrs. Ivery & Son, on TUESDAY and WEDNESDAY, October 9 and 10, 1894, at 12 o'Clock precisely each day.

Catalogues may be obtained at the place of Sale; of Messrs. IVERY AND SON, High Street, Dorking; at the Inns in the neighbourhood; and of the Auctioneers, Land Agents, and Valuers, High Street, Dorking; and on Fridays at Leatherhead.

Bishop's Stortford, Herts.

To MARKET GARDENERS, NURSERYMEN, and OTHERS.

Re JOSHUA MILLER AND SONS.

MESSRS. G. E. SWORDER AND SONS have received instructions to SELL by AUCTION, at "The Chequers" Hotel, Bishop's Stortford, on TUESDAY, October 23, 1894, at 3 o'Clock precisely; the Valuable FREEHOLD NURSERY PROPERTY, situated within easy reach of the Railway Station, consisting of a well-enclosed MARKET GARDEN, in a high state of cultivation, with several ranges of Vineries, Forcing-houses, and Pits; also Gardener's Cottage Residence, and other erections, the whole containing 1a. 3r., more or less. Immediate possession can be had.

Particulars and Conditions of Sale, and Plan, may be obtained of Messrs. W. GEE AND SON, Solicitors, Bishop's Stortford; and of the Auctioneers, Bishop's Stortford.

WANTED to RENT, on Lease, a MARKET GARDEN, about 5 to 10 Acres, with House and Outbuildings, with or without Glass, within an easy distance of Chatham, Strood, or Rochester.—G. NEWMAN, Myrtle Cottage, Mereworth, Maidstone.

To Nurserymen, Horticulturists, &c.

WANTED, to PURCHASE, a SHARE in an Old-established NURSERY, &c., or a Position with a view to a PARTNERSHIP, by a young man of several years' experience in a Country Nursery and in a leading London Orchid Establishment; also at the Royal Botanic Gardens, Kew. Applications, with particulars, to be addressed to—

W. Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C. Principals only dealt with.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation-house, heated by Hot-water. Near the main-road.—Apply to W. H., The Nursery, Park Row, Greenwich.

TO BE SOLD, with Immediate Possession, small NURSERY GROUND, with 360 feet run of GREENHOUSES. Capable of great extension. Houses have been erected about one year, of modern construction. The whole is held on lease for 21 years, at the low rent of £4 per annum. Probably freehold might be acquired. Price £250. Stock at valuation. Apply,

MESSRS. CRAWTER, Land Agents, Cheshunt, Herts.

LONDON, S.E.—A NURSERY for SALE. About 3 Acres: 16 Houses, 2 Lean-to Pits, 2 Span Pits, each about 100 feet long, 2 smaller houses, all well heated, &c.; also Cold Frames, &c., Dwelling-house, Stables, Sheds, &c. About 5 miles from Covent Garden. Open to consider a reasonable offer.

Apply to SHUTTLEWORTH, Limited, Peckham Rye, S.E.

FOR SALE, a Freehold Compact NURSERY, situated in the centre of the west end of one of the most fashionable seaside towns on the south coast, consisting of five modern-built Houses, all heated with hot-water. Capital required for Freehold, &c., £1000. Part can remain.—FLORAL, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

FRUITERER, FLORIST, and GREENGROCER'S BUSINESS, in a small way, to be DISPOSED OF, in the neighbourhood of Acton; suitable for a young couple. Good Pony Round. Reasonable terms. Apply to—

Mr. FOSTER, 276, High Street, Acton Hill, Middlesex.

TO NURSERYMEN.—TO be LET or SOLD, a FREEHOLD NURSERY containing Fourteen well-built Greenhouses, in all about 740 feet run; Stable, Van Shed, Potting-house, Workshop, and Dwelling-house; with Stock, which is small, at valuation. Apply to—

W. EYDMANN AND SON, Auctioneers, Acton, W.

To Market Gardeners, Cow-keepers, Farmers, and OTHERS.

TO LET, at Michaelmas next, within 2 miles of Norwich Market Place, a FARM of 150 Acres, 51 of which are Meadow Land. There is an excellent House, superior Farm Buildings, Cow House for 40 Cows, and Covered Yards. Apply, THOMAS ROSE, 21, Prince of Wales Road, Norwich.

STRAWBERRIES.—The best that money can buy. Grand rooted runners of Noble, Sir Joseph Paxton, President, and Prince Teck, 15s. per 1000; La Grosse Sucrée and Scarlet Queen, 30s. per 1000, for cash with order.

THOS. TILBROOK, Fruit Grower, Houghton, Huntingdon.

THE GARDENERS' CHRONICLE

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NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

NEW CARNATIONS { PERPETUAL OR WINTER-BLOOMING VARIETIES.

Certificated by the Royal Horticultural Society, also at the Crystal Palace, Bath, Exeter, &c.

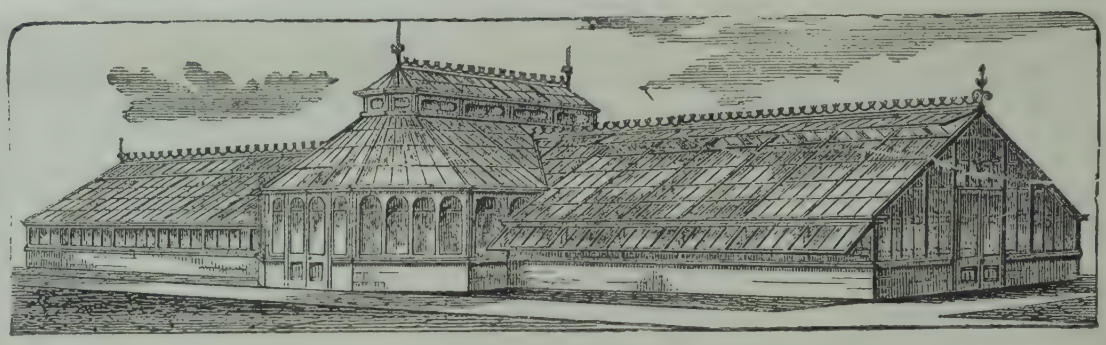
MISS MARY GODFREY.—Undoubtedly the finest white in existence. Blooms of good shape and good substance, 3 inches in diameter, of the purest white, freely produced, of robust habit, "non-bursting," and thoroughly perpetual.

REGINALD GODFREY.—Has the same good qualities as the preceding variety, but is of a rich salmon-pink. Three times the size of Miss Joliffe, richer in colour, much more robust, and will produce *five* times the quantity of blooms. 5/- each.

These varieties have caused a great sensation wherever exhibited.

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Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes,** &c., always in Stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS.

Post-free 3½d.; 25 Copies, 5s.; 50, 10s.; and 100, 20s.

Parcels of not less than twenty-five delivered, Carriage Free, in *London* only.

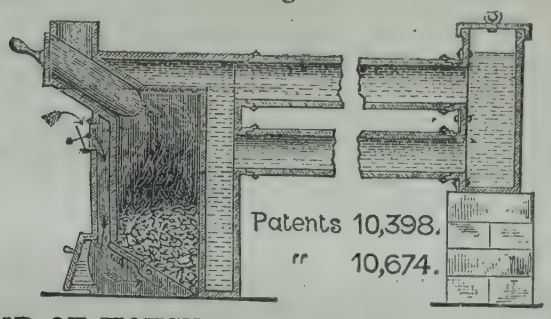
Not less than one hundred Carriage Paid to any part of Great Britain.

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SILVER MEDAL HORSE-SHOE BOILER

(KINNELL'S PATENT).

Section of Boiler showing Action of Hot Blast.



FIX IN END OF HOUSE. NO BRICKWORK REQUIRED.

Awarded First Prize in Open Competition by the R.H. Society.

WILL BURN LONGER WITHOUT ATTENTION THAN ANY OTHER BOILER OF THIS TYPE, as well as being the most POWERFUL and ECONOMICAL MANUFACTURED.

NO WASTE HEAT through front plate of Boiler. Compare sizes and shape with others, and AVOID DISAPPOINTMENT and LOSS.

DON'T BUY CHEAP SMALL BOILERS WHICH WILL NOT BURN THROUGH NIGHT WITHOUT ATTENTION.

Catalogues and Estimates for Complete Apparatus FREE.

Largest Show Rooms solely devoted to Heating Appliances in the Kingdom,

CHAS. P. KINNELL & CO.

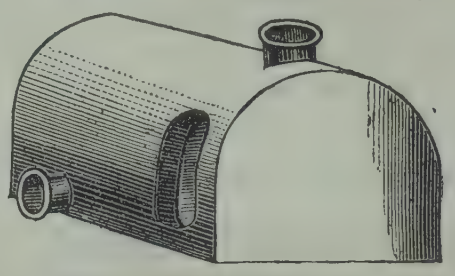
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IRONFOUNDERS and BOILER MAKERS.

CAST IRON SADDLE with WATERWAY END and SIDE FLUE OPENINGS.

HIGHLY RECOMMENDED.



SOLE MANUFACTURERS OF—

THE ROCHFORD HORIZONTAL TUBULAR BOILER, WITH CAULKED or INDIA-RUBBER JOINTS.

KINNELL'S PATENT VENTILATING GEAR.

MOVABLE GLAND THROTTLE VALVES.

DIAPHRAGM VALVES WITH RUBBER FACE.

LARGEST STOCK OF HOT-WATER PIPES AND FITTINGS IN LONDON.

☞ *COMPARE QUALITY OF GOODS and PRICES.*

ADDRESSES: 65 & 65A, SOUTHWARK STREET; 31, BANKSIDE; 4, 5, & 6, THE GROVE, SOUTHWARK, S.E.; and TRUCHOT STORES, GUERNSEY.

UNITED HORTICULTURAL BENEFIT and PROVIDENT SOCIETY.
The ANNUAL DINNER will take place on TUESDAY, October 9, at the "Cannon Street" Hotel. The Chair will be taken at 6 P.M., by ARNOLD MOSS Esq. Tickets, 5s. each, to be had of W. COLLINS, 9, Martindale Road, Balham, S.W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TO EXHIBITORS. — SPRINGTHORPE'S CUP and TUBE; Highly Commended by National Chrysanthemum Society, Sept. 4. Provisionally protected.
For circulars, apply to G. SPRINGTHORPE, Coombe Court Gardens, Kingston-on-Thames.

PTERIS TREMULA.—Fine stuff, in 2½-inch pots, fit for potting on into 48's, 10s. per 100, £4 10s. per 1000; fine stuff, in 48's, £1 per 100.
C. JOHNSON AND CO., The Nurseries, Hampton.

VIOLAS.—VIOLAS.—Strong, rooted plants, propagated from Cuttings, guaranteed true: Countess of Kintore, Magpie, Skylark, Souvenir, Her Majesty, Goldfinch, Ardwell Gem, Bullion, Countess of Wharncliffe, Lillias, The Mearns, and Duchess of Fife.
5s. per 100; 40s. per 1000. Carriage paid.
BRUCE BROS, Florists, Haynford, Norwich.

ROMAN HYACINTHS, 4¾ to 6 inches, impossible to surpass, 10s. 6d. per 100. HYACINTHS, finest named sorts, 4s. per dozen, 25s. per 100; second quality, named, 2s. per dozen, 14s. per 100. BULB LIST on application.
WALSHAW AND SON, Scarborough.

To the Trade.
M. PRICHARD'S AUTUMN WHOLESALE PRICE LIST of HERBACEOUS PLANTS is Now Ready. As it contains several Novelties of great merit not previously offered, it should receive special attention of growers.
Hardy Plant Establishment, Christchurch, Hants.

STRAWBERRY PLANTS.—Sir Joseph Paxton, true to name, 100 parcels post, 3s.; 1000 on rail, 6s.; 5000, 25s. Samples free. Address—
Mr. WISE, Chertsey, Surrey.

5,000 CARNATIONS, Raby Castle, strong rooted layers. Price on application to—
THOS. GRANT, Serlby Gardens, Bawtry, Yorks.

HARTLAND'S Irish-grown DAFFODILS. Pronounced by the Press "The Best in the World." Write for Cheap Prices, 1894.—WM. BAYLOR HARTLAND, Seedsman, F.R.H.S., Cork, Ireland.

I. DAVIES & SON

Are now offering Nursery Stock at reduced prices, to clear a large portion of their Nursery ground required for building purposes. Catalogues free by post to any address.
BROOK LANE NURSERY, ORMSKIRK.

ORCHIDS.

NEW IMPORTATIONS of BRAZILIAN ORCHIDS.
Full particulars on application to—
A. H. GRIMSDITCH (Orchid Importer),
5, CLAYTON SQUARE, LIVERPOOL.
Sole Agent for CARLOS TRAVASSOS, Rio de Janeiro.

CATTLEYA LABIATA AUTUMNALIS.

HUGH LOW & CO.

Have at present at their Clapton Nursery two houses full of unflowered Plants, in sheath, of this useful Winter-flowering Cattleya, of which they respectfully invite inspection.

CLAPTON NURSERY, LONDON, N.E.

INTENDING PLANTERS

Are invited to inspect the very Extensive & Superior Stock of
HARDILY-GROWN
FOREST, FRUIT,
AND ALL OTHER
TREES & PLANTS, ROSES, EVERGREENS, &c.
Prices & all Particulars on Application.
DICKSONS Nurseries 450 Acres **CHESTER**

EXHIBITION.

National Chrysanthemum Society.
ROYAL AQUARIUM, WESTMINSTER, October 10, 11, and 12, 1894. EARLY AUTUMN EXHIBITION of CHRYSANTHEMUMS. Valuable Prizes for Table Decorations, &c.
Schedule of Prizes on application to RICHARD DEAN, Hon. Secretary, Ranelagh Road, Ealing.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

VEGETABLE, FLOWER, and FARM SEEDS.—Saved from Choice Selected Stocks of 1894 Growth. On application, we shall be pleased to forward a List of the varieties which we can offer, and will quote lowest prices on hearing sorts and quantities required.
B. L. COLEMAN AND SON, Seed Growers and Merchants, Sandwich, Kent.

CUTHBERT'S BULBS for EARLY FORCING.
ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.
R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.
Bulb Importers, Seed Merchants, &c., Southgate, N.
Established 1797.

CYCLAMEN a SPECIALTY. — World-renowned Strain. Gold and Silver Medals, and highest Awards. SEED per packet, from 2s. 6d. DRY BULBS, from 12s per doz., post free. PLANTS coming into bloom, good, in 48-pots, 18s. and 24s. per doz., free on rail. Cash with order. Special prices to the Trade.—The ST. GEORGE'S NURSERY CO., F.R.H.S., Hanwell, Middlesex.

Hyacinths, Tulips, Crocus, Lilies, &c.
C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

CARNATIONS.—Ketton Rose, 40s.; Germania, 30s.; Mrs. Muir, 20s.; Raby, 18s.; Merry Andrew (yellow and cerise), 25s.; Reynolds Hole, 25s.; Cerise, 20s.; Hunting Pink (New), 25s.; Old Clove and White Clove, 12s. 6d.; Horace (F.C.C.), 35s.; Orient (orange), 30s.; Gloire de Nancy, 25s. per 100 PINKS: Snowflake, Magnum Bonum, 20s.; Alice Lee, Mrs. Pettifer, 25s. VIOLAS, 100 or 1000, best named. BULBS, HERBACEOUS PLANTS. Lists.
HOPKINS, Mere, Knutsford.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12s. per doz.; six sorts of PALMS, in 48's, 9s. and 12s. per doz.; Large KENTIAS, in 60's, 5s. and 6s. per doz.; eight sorts of PALMS, in 60's, 4s. and 5s. per doz.; do. in large thumbs, 3s. per doz., 20s. per 100; ARALIAS, in 48's, 5s. and 6s. per doz.; FICUS, in 48's, 12s. per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5s. per dozen; twelve best sorts of FERNS, 12s. per 100; ASPARAGUS PLUMOSUS NANUS, 6s. per doz.; variety of FERNS in 48's, 5s. & 6s. doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.

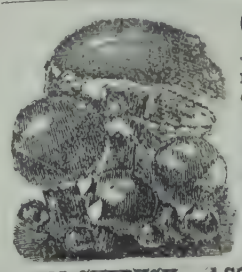
FERNS. — GREAT ANNUAL SALE. — SURPLUS STOCK (TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 10s. per 100; 200 out of pots, 16s.; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 20s. per 100. Aralias, Grevilleas, Rhodanthe, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, 1s. each. Pelargoniums and Hydrangeas, 9d. each. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

FERNS.—PTERIS CRISTATA,

in 2½-inch pots, fit for potting on, at 9s. per 100. A large quantity of 48's. Pteris Cristata, Major Cretica, Nobilis and Tremula, Adiantum Fulvum and Pubescens, at 4s. 6d. per dozen. Polypodium and Adiantum Cuneatum, at 5s. 6d. per dozen. Packed free for cash with order.—B. PRIMROSE, Blackheath Nurseries, St. John's Park, Blackheath, S.E.

NOTICE!—LILIES OF THE VALLEY.

Owing to the severe Drought of last Summer, 3-year-old Flowering Crowns will be very scarce this year, and prices are sure to advance.
To insure a supply, and first quality, send your Orders without delay. 2½ Millions of Crowns offered for Forcing and Planting Out, of unsurpassed quality. Prices on application to
T. JANNOCH,
Lily of the Valley Grower by Special Appointment to H.R.H. The Prince of Wales,
DERSINGHAM, KING'S LYNN, NORFOLK.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6s. per bushel, 1s. extra for package; or, 1s. per cake, free per Parcel Post.
WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

BROMELIA PLANTS.—A remarkably fine collection for Sale, or Exchange for Greenhouse Plants. Address, GARDENER, Pendell Court, Bletchingley, Surrey.

CARNATION Mdlle. Thérèse Franco (Perpetual), a beautiful pink, large, well formed, and very fragrant; strong plants, in 4-inch pots, 2s. 6d. each; price to the Trade on application. Carnations for massing:—Comtesse de Paris, blush-white; Meteor, scarlet; Germania, yellow; strong, well-rooted layers, 5s. per dozen, post-free.
L. PIKE, 6, Hillside, Wimbledon, S.W.

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THE
Gardeners' Chronicle.

SATURDAY, SEPTEMBER 29, 1894.

FIFTEENTH CENTURY GARDENING.*

MISS AMHERST has for some time been engaged upon a *History of Gardening*, which may be expected to form a valuable contribution to our knowledge of the subject. In the course of her investigations she has unearthed the very interesting document which is now printed for the first time by the Society of Antiquaries. The MS. is in the library of Trinity College, Cambridge, where it forms part of a book of eighty-eight pages. The poem was apparently written about 1440—50, and is thus considerably earlier than the works of Turner, Tusser, Gerard, and others; to the reprint Miss Amherst has added an interesting preface, and a valuable series of notes.

From the former we gather that the author of the poem, for the treatise is written in verse, cannot be identified. A man of the same name was gardener at Windsor at the beginning of Edward III.'s reign, but this date is much too early to allow of his identity with the author. "He must," says Miss Amherst, "certainly have been a practical gardener, as the poem is a series of most sensible and reasonable instructions for growing fruits, herbs, and flowers, and his work is singularly free from the superstitious beliefs in astrology, and the extravagant fancies and experiments in grafting and rearing plants, especially fruit trees, so prevalent in the writing of this period." With the help of Professor Skeat, Miss Amherst arrives at the conclusion that the author was Kentish, and wrote in the Kentish or London dialect.

The parts, or chapters (to which the titles have been added in a later hand), are "The Feate of Gardeninge," "Of Settyng' and Reryng' of Treys," "Of Graffyng' of Treys," "Of Cuttyng' and Settyng' of Vynys," "Of Settyng' and Sowyng' of Sedys," "Of Sowyng' and Settyng' of Wurtys," "Of the Kynde of Perselye," "Of other maner Herbys," "Of the Kynde of Saferowne." It ends with "Explicit hic liber qui vocatur Anglice Mayster Ion Gardener," which, with the previous line, "Thus seyde mayster Ion Gardener to me," would incline us to think it possible that "Mayster Ion Gardener" was the name of the book, rather than the author; but so obvious a suggestion could not have escaped Miss Amherst's notice, and may therefore be set aside.

As an example of the author's style, we may quote his lines on—

"THE FEATE OF GARDENINGE.

"Ho so wyl a gardener be
Here he may both hyre [hear] & se
Euery tyme of the yere & of the mone
And how the crafte schall be done
Yn what maner he shall delue & sette
Bothe yn drowthe [drought] and yn wette
How he schall hys sedys sowe
Of euery moneth he most knowe
Both of wortys and of leke
Ownyns and garleke
Percely clarey and eke sage
And all other herbage."

* *On a Fifteenth Century Treatise on Gardening.* By Mayster Ion Gardener. Communicated to the Society of Antiquaries, with remarks by the Hon. Alicia M. Tyssen Amherst. *Archæologia*, vol. liv. (1894).

The glossary contains identifications of the plants named in the text, with some valuable elucidatory notes taken from his additions made early in the sixteenth century to a copy of the *Aggregator Practicus de Simplicibus*, in the possession of Lord Amherst. We hope that Miss Amherst will at some future time make these accessible in their entirety, for the extracts show that they contain much interesting information. We may venture the suggestion that it is desirable in glossaries of this kind to add to each name a reference to the place in the text at which it occurs: in this way consultation is greatly facilitated. It is matter for regret that Miss Amherst did not secure a botanical "reader" for her proofs, as some of the Latin plant-names are mis-spelt.

A few errors in transcription of the MS.—often mere misreadings of "u" and "n"—are easily explicable; perhaps the most notable is "seueny," for which, no doubt, "seneuy" (senevy) should be read. The identifications, in some cases, seem to need correction. "Carsendylly," for example, is printed as one word; it should, we think, be two, the first part, "Carsen," probably referring to some Cress—not Lepidium sativum, however, which is specially mentioned as "Tuncarse,"—and the second, "dyllys," is almost certainly Dill. "Gladyn," as a garden plant, is probably neither of our English Irises, but some common garden species, such as I. germanica. "Holyhocke," in spite of the confusion to which Miss Amherst calls attention, may well stand for the plant still called by this name; and "Flos campi" is neither Lychnis Flos cuculi nor L. diurna, but L. coronaria, the Rose Campion, which was early popular in gardens. The list of "herbys," it may be noted, is not limited to useful plants:—

> "Herbs to make both sauce and show
> Thou shalt have them here a-rowe,"

says Gardener—at least, so we translate his lines:—

> "Herbys to make bothe sawce & sewe
> Thu schalt haue ham here A rewe."

More than a hundred years later, Tusser gives a list of "herbes, branches and flowers, for windowes and pots" (in which he includes the three just mentioned) in his enumeration of "herbes the cheefe;" and the present day limitation of "herbs" to the aromatic denizens of the kitchen-garden is apt to mislead the casual reader of early writers. A further evidence of the wide meaning of herb is found in the inclusion of "Honysoke," which Miss Amherst rightly glosses as Honeysuckle (Lonicera Periclymeum).

Miss Amherst has made good use of the *Dictionary of English Plant Names*, but her laudable anxiety for accuracy has introduced an unnecessary element of doubt into some of the identifications. For instance, the *Dictionary* mentions a local use of the name Woodsour for Berberis vulgaris, in addition to its general employment for Oxalis Acetosella; Miss Amherst glosses "Woodsour = Oxalis Acetosella, or Berberis vulgaris," although there is absolutely no doubt that Gardener had the former in view. In the same way, she gives four alternative names for "Walwort," two of which are certainly out of court; and three for "Valeryan," although there can be little hesitation as to what plant Gardener had in mind. "Lyverwort" is quite certainly Anemone Hepatica, and "Parrow," as Miss Amherst suggests, must be a mistake for Yarrow. "Pympernold" can hardly in the context be anything but Poterium Sanguisorba; and "Mouseer," on the same evidence, is Hieracium Pilosella. Other instances might be adduced to show that the collaboration of a botanist is desirable in work of this kind.

One name which Miss Amherst is unable to identify is equally puzzling to us. Among the "other maner Herbys" occurs "herbe Wat*er*," the italicised termination being presumably added by the transcriber. In the glossary this is given as equivalent to "Herb Walter," a name on which the *Dictionary of English Plant Names* throws no light, nor have we met with it elsewhere, either in its Latin or English form. The possibility of an error in writing or transcription seems removed by the passages cited from the MS. notes in the *Aggregator* already referred to; "Herba Walteri is called Herbe Walter his leves be lyke pselye but whytier & thykker & fatt & tender he wyll ease wounds but he stynkethe." Can any reader suggest what this plant may be?

We may note that "lammasse of Peter Apostull" is not June 29, as stated in a footnote, but August 1.

In conclusion we have to congratulate Miss Amherst on having brought to light this interesting treatise, and on the care with which she has edited it. *James Britten.*

KEW NOTES.

HIPPEASTRUM ANDREANUM. — This plant, now flowering at Kew, is nothing more than typical Amaryllis belladonna. According to Mr. Baker, it was first found by André, in 1876, in New Grenada, on the banks of the Rio Cauca, at an elevation of 8000 feet, and was first described by Mr. Baker in the *Gardeners' Chronicle*, 1880, ii., p. 424. It was also found by Mr. Fawcett, in 1890, on the Jamaica hills, and he sent the bulbs to Kew which are now in flower (see *Jamaica Bulletin*, 1890, p. 2). As soon as they arrived at Kew, they were suspected to be the Belladonna Lily, and when they produced their leaves, the suspicion was strengthened. Now that the plants are in flower, there is no doubt about their identity with the Amaryllis. It is singular that this plant should have become naturalised in New Grenada and Jamaica, but no more so than the occurrence, in a wild state, of Hippeastrum equestre in tropical West Africa, India, &c.

GYNERIUM SACCHAROIDES.

The plumes of this gigantic South American grass are largely imported by florists and decorators, who dye them various colours, and sell them under the name of "Uva-grass." They are not unlike the plumes of the Pampas-grass, but much longer, looser, and more elegant. An account of them was first published in *Gardeners' Chronicle* in 1888, ii., p. 416, and the measurements of a living example of the plant then at Kew were also given; but the Kew plant had not then flowered. It produced a plume for the first time last year, when a figure of it was published in the *Botanical Magazine*, t. 7351, and it is now flowering again in the Victoria-house. This species is grown as an aquatic, the roots revelling in a bed of soil in the tank in which the Victoria regia is grown, and the stems reaching to the roof, a distance of about 15 feet. They are solid, and become almost as hard as Bamboo stems. The plumes are of a greyish-white colour.

FARADAYA SPLENDIDA.

This fine stove climber was introduced to Kew from Queensland, of which country it is a native, in 1879, and flowered for the first time in 1890, having grown up a wire to the full height of the Palm-house, and thus obtained plenty of bright sunlight, which is evidently necessary to induce it to flower. It is now flowering freely again; the flowers are borne on branching cymes 1 foot across, and are white, tubular below, divided into four spreading segments above, and suggestive of a large white honeysuckle. The leaves are ovate, about 1 foot long, bright green, and being evergreen, the plant is a useful climber for large houses even when not in flower. Faradaya is a genus of Verbenaceæ, and is related to Vitex; it contains three species, all natives of tropical Australia.

LECANOPTERIS CARNOSA.

Living examples of this extraordinary Fern are now to be seen in the Kew collection, having been collected and forwarded by Mr. Curtis, Superintendent of the Botanic Garden at Penang. This is the first time the plant has been introduced alive, although it has many times been attempted, the singular formation of its rhizomes being of special morphological interest. They form a crust round the branches of trees, and have an inflated appearance, not unlike the stem of a Myrmecodia; indeed, they are galleried exactly as in Myrmecodia, and it is suggested that ants are essential to the welfare of the plants. Mr. Curtis found myriads of ants on and in every specimen he collected. The crust-like rhizome entirely envelopes the tree-branch, one specimen at Kew forming a layer 6 inches thick. The surface is green when young, brown-black, and shining when old, and it is covered all over with little bosses, to which the fronds were once attached. The genus was included in Polypodium by Hooker and Baker, but it is now kept up, and is placed near to Dicksonia by Baker. The plants at Kew have produced plenty of new fronds since their arrival.

RICHARDIA REHMANNI.

A figure of this plant was published in the *Gardeners' Chronicle* last year, vol. xiv., p. 564, and a full account of it was given on p. 770, including a communication from Mr. Medley Wood of Natal to the Director of Kew respecting the colour of the spathes, which in Natal are uniformly rose-purple. Tubers of the plant were sent to Kew, and one of these is now in fine leaf and flower. The spathe is like a small spathe of R. æthiopica, white, with a dark green recurved tip, and a flush of rose on the inside upper portion. Evidently this plant does not colour so well here as in Natal. There can be no doubt that the spathes are wholly rose-purple there, but here they are merely rose-tinted. This has been the case on three separate occasions, first in the Cambridge Botanic Garden in 1888, next with Mr. Krelage at Haarlem last year, and now at Kew. Possibly more colour would have been developed by the Kew plant had there been more sunlight during the last ew days. The tubers sent by Mr. Wood were from the plant that produced rose-purple flowers with him. This species is distinct from all other Richardias in having lanceolate, not sagittate leaves. Of course, it is pretty enough to find favour as a garden plant, but so far it has failed to deserve the name of "pink-flowered Calla." *W. W., Kew.*

FORESTRY.

THINNING FORESTS.

IN Forestry it is unfortunate that those who form theories resulting from their own work in plantations and observation, are generally too old, after they have formed them, to carry them into practice. The late Mr. Enys, of Enys, Penryn, Cornwall, formed one late in life, but was unable to work it out systematically. He applied it to his own plantations to a certain extent, and one that had not been thinned for thirty or forty years had openings made in it after it fell in hand, which restored it to a growing state, without any trees being blown down, as would have probably been the case if it had been regularly thinned.

My father planted some 200 acres, and had some old plantations of Pinus pinaster which he cut down and re-planted, and some Oak woods. He thinned regularly, and when he and my father-in-law met, they had warm arguments in my hearing, which resulted in my being converted to the more natural way of treating plantations, cutting holes, and vistas.

This made the entrance to Emys very pretty, as views



Fig. 47.—Pterocarya caucasica: leaf and fruit. (shown at the Chiswick conference.)

of distant woods were seen through the vistas, and the Hydrangea, Aucuba, Benthamia fragifera, Fuchsia, and other flowering and foliage shrubs, beautified the holes that had been cut in the plantation each side of the road. Pinus insignis, Cryptomeria, Abies Morinda, Deodars, Cypress, and other Conifers diversified the scene.

The discussion in your columns for some months as to thinning, advised in Brown's *Forester*, and that practised by the German school, has led me to trouble you with some remarks on the Enys theory which I hope to explain, and the way in which I have attempted to carry it out for thirty years in my own plantation near Callington, Cornwall.

In natural forests there is no artificial thinning. There are openings made by storms, and there are spaces without trees from the ground being too rocky, too swampy, or from some other circumstances. Trees are sometimes grouped by differences of soil, exposure, climate, &c.

The result is fine-grained timber, free from knots in the thick parts of the forest, caused by the side branches not having air and light enough to keep them alive, and the trunks increase slowly, from the trees only having a brush of foliage at the top, that has struggled up to the light after killing its weaker neighbours—the survival of the fittest. The open spaces cause differences in temperature, creating a constant circulation of air, even in forests which are too extensive for the storms to penetrate far, both by day and night.

During the day, especially if there is sunshine, the air is rarified in the open spaces and rises, its place being taken by the cooler, and consequently heavier, air from the surrounding shady wood, causing a circulation of air even on calm days. At night this is reversed. The open spaces are colder than those which have leaf canopy, the air descends there, and rises through the trees. I have been surprised at the warmth among the trees in the morning compared with the cold in the open spaces in my plantation.

German foresters say complete leaf canopy is essential, so that carbonic acid gas may be undisturbed near the ground. How this promotes growth I do not understand. May it not be that the currents of air caused by differences of temperature in plantations, enable the leaves of trees to take up more carbon from the air as it passes them than can be taken up from a still atmosphere more highly charged with gas containing carbon which remains near the surface of the ground? Hence Mr. Enys argued that there should be no regular thinning—only cut holes and vistas.

Those gentlemen who combine sport with planting, will find that woodcocks like this mode of treating plantations. He laid down the rules—woods and plantations at maturity should have two-thirds of the ground occupied by trees, one-third open spaces; and parks one-third trees, two-thirds open spaces. I have tried removing one-fifth of the trees at a time, and am well pleased with the result. The first series of cuts made were two trees wide, leaving eight trees between the cuts. If I began treating another plantation, I should open it earlier, making cuts one tree wide, and leaving four trees.

It will be seen, by the extracts from my log of plantation work which follow, that the trees on the level sheltered ground near the river, where growth is most rapid, were opened first, then vistas were cut in the south corner of the wood near the river. Only the Fir were removed from the vistas, leaving young Oak and Spanish Chestnut to be taken down two years after they were exposed to light and air.

The mixed trees at the head of the wood were thinned, first by taking up a cartload of Spruce Fir and Silver for another plantation; then the shelter belts of Green Fir were thinned regularly. The grass was all killed in the field part, so that was opened next, and Scotch Fir at the head of the wood thinned regularly, as sturdy growth is more essential in the most exposed parts than great height of the trees. I have put three shelter belts: one along the ridge between the wood and the part taken in from a field, one falling from the mixed

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trees, Sycamore, Beech, and Turkey Oak being planted among the Fir at the head of the wood to the river in a north-westerly direction, and another nearly parallel to it across the narrow part of the wood, to break the prevailing south-westerly winds. Then the roads were made; next, cuts made from the roads in a direction that let in the least wind and most sunshine; then cuts parallel to the roads in the wood, dividing it into blocks, eight trees wide by twelve trees long. After that, dead and suppressed trees were removed, and forest trees branched. Next year I propose to make cuts in the line of rows of trees 20 feet wide, with close trees 80 feet wide between the cuts; these being the last cuts that I intend to make, and shall cut dead and suppressed trees until the plantation is mature. It has been my practice to cut in May, when the trees want room, and winter storms are over.

Poles full of turpentine are more durable than those that are cut in winter, and I saw Spruce and Silver Fir cut in June in the Black Forest, where snow buries the best part of the tree in winter. I have cut all the trees myself, except employing a carpenter once for half a day, and vary the direction of vistas when a fine tree comes in the way.

In the 5 acres of wood I have only lost one tree of any size, and that had its head ringed by a squirrel, which I attribute to my mode of treatment. In the field part I generally have lost thirty trees from death annually for several years past, out of only 1 acre, though it was cultivated ground before it was planted, and scarcely any trees died young. This I attribute to its not having been opened at regular intervals as were the five acres of wood.

I intend to make cuts through the field part next year, at same distances as in the other, and shall employ men, as my time will be spent in measuring and directing the work. The cuts will be in a different direction from those in the wood, and parallel to its outer hedge on the east. I am curious to see whether this will prevent the death of more trees.

The plantation, which it has been my pleasure to work in has an area of six acres, five of which was an Oak wood before it was felled in May, 1855. The other acre was part of a field with some Oak trees on the north side. All steep ground except a strip by the Lynher River, on part of which some Oak trees were left to shelter from the west. One that was felled contained 85 cubic feet of timber. A group of Oaks was left in the south-west corner for shelter. About an acre was occupied by the timber that remained, by rocks, and two paths through the wood.

The trees were planted from February 23 to March 5, 1857, by contract, £7 10*s.* per acre; planter kept it filled for two planting seasons. Labour was leading man 15 days; labourers 33½ days; boy to carry trees, 8 days; and was superintended by myself; and the work was very well done.

Trees planted: 100 Cornish Elm, 500 Scotch Elm, 100 Spruce, 150 Silver, 500 Scotch Fir, 500 austriaca 150 Oak (in field part), 800 Spanish Chestnut, 12,271 Larch, some Turkey Oak, Sycamore and Beech. In October, 1857, a few Pinus insignis and other Conifers three Fagus macrophylla, three Abies Cephalonica were planted. March, 1864, planted one Picea Menziesii, one Abies Nordmanniana, six Cryptomeria japonica near the river, where they were cut by frost several times until their heads were above the fogs; one Abies grandis, one A. Pinsapo. Pinus insignis were planted three times, and were all killed by frost.

In December, 1857, brambles were cleared, and the shoots knocked off from the stools. Sowed insignis April 4, 1866, transplanted thirty-three on March 5, 1867, seven were alive November, 1867. All were killed in the winter of 1880 to 1881, when snow lay on the ground for some time. One was 30 feet high and 45 inches round at 3 feet from the ground. They were sheltered from the east, so the snow was not shaken off the branches. One in the same parish exposed to the east had not a branch killed. Survivors, 1894: one Wellingtonia, one Fagus macrophylla (Patagonian), one Picea Nordmanniana, one Menziesii, two Douglasii, one bought for nobilis more like grandis), two Cryptomeria, one Pinsapo.

The Spruce and Silver Fir were mostly planted near the river, as I had noticed Spruce Fir grew in damp places in the small islands of the Baltic, and in a slate quarry that had not been worked for many years, as my father had planted refuse-heaps with Spruce that had grown very well. The English Oaks were planted amongst Larch in the field part. Spanish Chestnut and Scotch Elm were scattered through all the plantation. Scotch, austriaca, with a few Turkey Oaks, Sycamore, Beech, Silver Fir, and Spruce were planted as a shelter-group at the head of the wood, where it rises to the top of the country and is much exposed. From this group two shelter belts of green Fir run to the bottom of the wood. One towards the north along a ridge between the wood and the field part, the other west, down a steep slope to the river, and there is another belt parallel to this between it and the south-west corner of the wood.

Fogs lie in the valley, and some Silver Firs lost their leaders from frost several times until they grew 12 feet high. *H. R.*

(To be continued.)

The Use of Scientific Forestry.

Forestry, like all other arts, has its scientific side. Hitherto it has received little attention from those engaged in the practical work connected with it, partly owing to the difficulties of acquiring the necessary knowledge, and applying it to practice; and partly to apathy and indifference concerning subjects not directly connected with practical operations. Times are changing, however; and the day is not far distant, if not already here, when an acquaintance with scientific principles, upon which his work may be based, will be within the reach of every craftsman. We are sometimes told, however, that what has been gained in one direction, has been lost in another. Practitioners of the old school had to acquire their knowledge as best they could, and one of the most potent means at their disposal was the faculty of observation. That this faculty is wanting in the present generation is not asserted for one moment, but there is little doubt that its place will be to some extent taken by lecture-room notes and text-books; now, the latter sources of information consist chiefly of generalised facts and principles; and, although they may require qualifying and modifying before being applied to any particular case, yet they enable one in a few minutes to acquire information which represents the labour and observation of many generations of workers. With such advantages at hand, therefore, it is not surprising that less reliance should be placed on personal or individual observation, than upon general deductions drawn from the collated records of several generations. In the case of forestry, this fact deserves special consideration. The farmer or gardener, after a few years' practice, can tell pretty well whether his methods and treatment of his crops are correct or not. The forester, however, is less favourably situated. Crops which require a century or so for their development, cannot be watched and attended to from seed to maturity by one generation of men, while the amount of observation usually devoted to annual crops is seldom extended to the growth of forest trees, or if so, the experience thus gained is often lost with the observer. A young forester, therefore, whose training has been carried on in one quarter of the country, may be called upon to fill a situation in another and distant one, where the species of trees and methods of work differ greater from those he has been accustomed to. In possession of empirical knowledge only, he must either rely upon local custom as his guide, or go to work in an uncertain and haphazard manner. Errors of judgment in forestry matters have often far-reaching effects, and cannot be rectified so rapidly as those made in growing annual crops. It must be apparent to all impartial minds that a man who has gone through a systematic course of training in the scientific, or as it is sometimes erroneously termed, theoretical part of his work, is, other things being equal, more likely to get quickly in touch with his work and grasp the ideas, and carry on the plans of his predecessor, than one lacking that training. Even when riper years have brought experience to his aid, the forester who prides himself upon being "practical" (with a big P), often labours under delusions, and bases his methods of work upon erroneous ideas, which a little scientific knowledge would quickly dispel. Any system of sylviculture to be successful must be carried out in its entirety, and for this to be done it is necessary that successive generations of foresters in charge should be acquainted with, recognise, and work on that particular system which their predecessors have adopted. This does not mean a rule-of-thumb adherence to certain rules and practices, but that a wood should be treated with a view to the most successful execution of the original plan, so long as this plan is adapted to the condition of the crop.

After all, however, this question concerns the proprietor more closely than anyone else. Under present conditions, a young forester who regards his calling merely as a means of livelihood, is not encouraged to expend time and money in acquiring knowledge which is practically ignored by his employer, and the possession of which by a candidate for an appointment is sometimes regarded with suspicion, as being likely to render him "above his work." The low standard of excellence which proprietors look for in wood-management also induces them often to select a man more for his general knowledge of estate work than for any skill he may have exhibited in forestry matters. Hence it is, that British woods are often placed under the care of men who are ignorant of the elementary principles of forestry, but who are possibly intelligent enough and capable enough in other branches of estate work. Such men have their own ideas of the way in which planting, thinning, &c., should be done, which may or may not be in accordance with correct principles, but as often as not are totally different to those formed and carried out by their predecessors. The result is obvious. Plantations are crowded at one period, and excessively thinned at another. Preference is given to particular species in planting, which may be totally unadapted to soil, situation, or the meeting of the local demand for timber. Species which require totally different treatment are mixed up indiscriminately, and so forth. Systematic management for any length of time is consequently out of the question, and woods, instead of being a substantial source of income, often prove expensive luxuries on an estate, although the actual loss, being spread over a long period, may be rarely apparent to the proprietor whose predecessors have planted them. *A. C. Forbes.*

Nursery Notes.

MESSRS. H. CANNELL & SONS.

The familiar invitation, "Come and see," which Mr. Cannell keeps so persistently before us, denies one of the least excuse for omitting a visit to this flowery nursery at Swanley. Such a circumstance, no doubt, is to the benefit of all who have a "weakness" for flowers, and who are ever within a convenient distance from the spot, for they might otherwise miss an instructive, as also an interesting excursion, it being a truth that at all times and seasons the visitor will see something that will command attention, and something upon which to reflect, whether it be a fine display of Begonias in summer, the autumn Chrysanthemums, an unparalleled glow of zonal Pelargoniums—the colours of which are heightened or deepened by a snow-covered ground in winter; or other specialties of well-known flowers.

On a recent occasion, among many other things that interested us, were some of the newest of the hybrid Cannas, varieties of which are becoming more numerous each year, and certainly as flowering plants they are improving in large degree, both in size of flower, and in the colours thereof, also in habit of growth. Dwarf Cannas are no longer plants 4 feet in height, but many of them blossom at 1 foot

high, and bear flowers in every sense better than the old varieties. These improved varieties are almost all due to the continental raisers, but several of our English firms are taking up the work, and we shall see still further improvement in the near future, though the botanical structure of the flower is such that cross-fertilisation is not quite so easy as in many other florists' flowers.

Senator Montefiore (Vilmorin), is in colour a rich apricot inclined to chestnut, with margins of yellow, and rather obscure spotting. Conquérant is brighter and richer than the foregoing, and almost self-coloured, the sepals are wide, and it is a good flower.

Diavolo (Vilmorin), was not in perfect form, but one could see that the flowers are of large size, petals good, and the colour rich madder-red. One of the very finest of all the varieties sent out this year, is called Queen Charlotte, from Pfitzer of Germany. It It is one of the most easily grown, and with the greatest freedom throws up spikes of exceedingly handsome and large flowers. In colour the bloom is of very bright scarlet, each sepal having a tolerably broad band of bright yellow round the margin; the sepals are about 1½ inch wide. There is a large stock of this gem here, and the flowers were to be seen therefore in quantity. It strikes one as being a seedling from Madame Crozy, an older and well-known variety of considerable merit. J. D. Cabos has been out for several seasons, and is a good self-coloured variety of amber shaded chestnut. Paul Marquant (Crozy) is dwarf, and in colour a reddish-chestnut; it is very pretty. Paul Lorenz, another dwarf one, and named after the raiser, is an exceptionally high-coloured variety; and a dwarf-growing sort of high-coloured scarlet is Kaiser William II., sent out a few seasons since. Alphonse Bouvier, which is not new, has a flower of intense crimson; then there is Star of '91, perhaps the dwarfest of all the sorts, flowering at a foot high, and sometimes less; the flowers are not quite of first-class form, the margin of the sepals having a partially ragged appearance. Victor Hugo and Paul Bert are also dwarf, and the flowers are good. There are numerous varieties of the type bearing yellow flowers spotted with colour more or less intense and of differing size, of which Amiral Avelan and Duchess of York are specimens; and we had almost forgotten to mention Aurora, another of Vilmorin's, bearing prodigious-sized flowers of bright chestnut-red, and Progress, from the same source, which is also a desirable sort.

One of the best varieties for sub-tropical effect is one called Sénateur Millaud, the foliage of which is exceedingly large and handsome; the centre of the leaf is not an extra good colour, but a band of fine dark colour close to the margin is seen to advantage, and where a large bold leaf is required it is just the thing. The flowers are orange-coloured.

Since the flowers of the Canna have been so much improved that they are not inaptly termed Gladiolus-flowered varieties, these handsome plants might well become a little more popular in gardens. Most of them possess foliage of very fair decorative value, and the additional attractiveness of the flowers ought to induce gardeners to use them more freely for planting in large tubs to stand in conservatories and approaches thereto, and also for placing about the lawns, though probably these newer varieties will be found to flower less freely if grown in the open. In a tub or pot in the conservatory, however, the best results can be obtained, especially with such a variety as the new Queen Charlotte, which, in such a position, will go on making new growths, and producing a spike of bloom from each of them.

The Seed Grounds at Eynsford.

Eynsford is the next station down the line from Swanley, and here—almost abutting on the station—is the farm a few years since acquired by Messrs. Cannell for seed-growing and similar purposes, and to which considerable interest attaches, from the fact that Mr. Cannell is determined to succeed—if that be possible—in producing seeds of Asters, Scabious, Coreopsis, and, indeed, most of our annuals, the supply of which we have always had from Germany.

The idea of growing our own is a laudable one, and there can be little doubt that in a fairly large degree, at any rate, the purpose will be fulfilled. A good part of this farm forms a sort of ravine, and furnishes some considerable slopes, both north and south. On the southern bank, then, where they are well exposed to the sun and protected from the north by the hill, are all the flowers that have been planted for seed. A walk amongst these very soon reminds one again of the destructive May frosts which have been blamed so frequently that invective has well-nigh exhausted itself. However, the Asters have suffered terribly from that cause, the loss of plants amounting to one-third of the whole or more. On the other hand, those that were spared have done remarkably well, the plants all being unusually robust and free-flowered. Plenty of examples were carrying upwards of forty blooms, and in one instance we noticed one with fifty-two, including large and small. All the different sections of the Aster are represented, and we noticed the quilled varieties and the Pompon, the dwarf Chrysanthemum in twelve colours, Pæonia-flowered, Giant Comet, Dwarf Bouquet, Victoria, Giant Emperor, Mignon (a most delicate white variety, changing to lilac) and Jewel. Examination of the flowers showed that the seed in many cases was formed and already plump, only needing a little autumn sunshine to ripen a good harvest, failing which the yield will be considerably minimised. All kinds of other half-hardy flowers are grown in the same way, and with considerable success. The varieties of Coreopsis were remarkably bright, and not the least effective of these was the dark-flowered sanguinea. Nor is the seed farm devoted to flowers only. Peas, Beans, Potatos, Onions, and Brassicas in numerous varieties, together with miscellaneous other vegetables, and covering acres of land, are noticed in this Kentish seed farm.

Fruit at Langley.

Such is the different result experienced by the fruit-grower or tree-producer at the end of one season from that at another, that a visitor to the Langley fruit nursery a week ago found almost everything opposite in character and appearance to the circumstances of the place at the same time last year. Then Apples were plentiful, Pears not quite so abundant, the trees had made but little growth, and especially noticeable was this in the maidens of Apples, Pears, and Plums alike, but the little wood that was made was thoroughly ripened, the buds were already plump and hard, and fruit trees generally, even in September, clearly promised an extraordinary wealth of blossom to succeed the winter. The ground itself was dry and parched, there had been little trouble from weeds during the season, and the drought had caused the leaves of all trees to fall prematurely.

This season, on the contrary, although Apples are a better crop than we have seen in some gardens, they are poor when compared with the harvest of last year; whilst on the other hand, Pears are an extraordinary yield, being even more plentiful than Apples were then. Plums—some of which were still hanging—have also been a good yield, but there has been much splitting. In the place of the short well-ripened shoots of last year, there are strong and lengthy shoots on trees of every kind, and the cultivator is hoping for some sun during the shortening days that intervene before winter to ripen these rather green shoots. However, the last fortnight or so has done considerable good in this respect, and the outlook is not so bad as was expected it would be. The ground everywhere is supplied with water, and all kinds of herbage is green, whilst weeds have been troublesome.

With such a set of changed circumstances, the display of blossom next spring may not be expected to equal that of the last spring, but the trees are full of vigour, and if favourable weather should prevail there will, no doubt, be a fair quantity of blossom, which, if it escape spring frosts, may produce as good a crop of fruit generally as we have had this year.

Messrs. James Veitch & Sons have just completed budding on much better stocks than were available in 1893, and an inspection discloses a fine stock of trees, both maidens and older ones, of Apples, Pears, Plums, and Cherries, in almost any shape of form, and of great variety. Looking at the novelties—for most of the Apples and Pears were still ungathered—Marguerite Marillat is a very large heavy fruit, of good colour, with rather small deeply-set eye, stem sometimes placed obliquely, it is a free bearer, and may prove a desirable addition from the French lists; it is in season in October, and the flavour is said to be good. Another one called Beurré Fouqueray was exhibited by Messrs. Veitch last season. It is a round good-looking fruit, a wonderful cropper, and last year is said to have stood the spring frosts better than most varieties; it is recommended to be grown as a pyramid on the Quince. Then there is Magnate, a first-class Pear, raised by Messrs. Rivers and Sons. The fruit is large, and of handsome shape, but the trees are young, and will bear better another season; it is described as very free bearing. Duchesse de Angoulême Panachée is identical in most respects with the type, but the fruits and the wood are striped; it is an old variety, and has never been largely grown. There were some capital specimens of Triomphe de Vienne, a variety less known than it deserves to be. The fruit is large and long in shape, tapering almost evenly throughout, of good flavour, and the habit of tree good and very prolific; it is generally ripe in September. La France is the name of a variety from France; it has produced a heavy, uneven kind of fruit, but nothing can be said as to its flavour at present. Huyshe's Prince Consort bore a very heavy crop, even when compared with other free kinds; it is a large, juicy, well-flavoured variety, and is ripe about mid-season. General Todtleben, a later Pear, and a large, well-known variety, was also very plentiful; whilst Louise Bonne of Jersey has such a crop that the size of the fruits suffer. Flemish Beauty, Doyenné Boussoch, Beurré Sterckmans, Baronne de Mello, Bergamotte d'Esperen, Beurré Hardy, Marie Benoist, Olivier de Serres, Beurré Bachelier, Fondante d'Automne, Bergamotte Heimbourg, Brockworth Park, and Beurré de Jonghe are all good varieties, and were among the most noticeable in regard to heavy cropping. The old and well-flavoured Gansell's Bergamot had a good crop and large fruits. Bellissime d'Hiver is a capital stewing Pear, though not so large as Catillac; it is a better cropper, and in habit of growth is closer and more compact.

First among the Apples may be remarked Beauty of Stoke, awarded a First-class Certificate by the Royal Horticultural Society last year. It is a culinary variety of good size and weight, has a russetty appearance, and is said to be of excellent cooking quality. As pyramid or standard it bears very freely, and is a capital late, good-keeping Apple. Bismarck, now so well known that it needs no remark, except it be because it has become so common in a short space of time, was noticed in good form; cordons of it were roped with fruit—it will grow almost anywhere. Wealthy, a good kitchen Apple, bore a heavy crop, of good colour. Tyler's Kernel had several immense fruits; and Sandringham, Tom Putt, King of the Pippins, Court of Wick, and Bramley's Seedling had crops good in quantity and quality. A tree well cropped with the old Alexander had the best-coloured fruits of this we remember seeing. Winter Hawthornden was looking well on moderately-sized pyramids; and Baumann's Winter Reinette and Warner's King were good. Fraise de Hoffinger is a new one from France, the fruit is high-coloured, of good size, and the flavour is described as satisfactory. Peasgood's Nonsuch, King Harry, Pomme de Neige—the white-fleshed Apple, Landsberger Reinette, Scarlet Pearmain, Abbot's Pearmain, Seaton House, a pretty and excellent variety; Cellini Pippin, Bradleigh's Russet, and Saltmarsh's Queen were all noticed as bearing satisfactory crops for this season, which is not by any means a good Apple year.

THE GENUS CEANOTHUS.

MRS. KATHERINE BRANDEGEE has just published, in the *Proceedings of the Californian Academy of Natural Science* (ser. 2, iv., 173), the results of a long and careful study of the difficult genus Ceanothus, which, finding its greatest development in California in many beautiful species, makes in early spring one of the most conspicuous and attractive features of vegetation, especially in the Coast-range region south of the Bay of San Francisco. The last study of these plants was that of Dr. C. C. Parry, published in vol. v. of the *Proceedings of the Davenport Academy of Science*, where thirty-two species were recognised, and where, for the first time, the prevalence of natural hybrids in this genus, the ease with which these may be recognised in the field, and the corresponding difficulty of their separation in herbaria, were pointed out. According to Mrs. Brandegee, "the hybrids of Ceanothus are found wherever two species of the same section grow together. As a rule, to which there are, however, many exceptions, no two species of the same section occupy the same area. Either one grows at a higher elevation or at a different exposure, and the hybrids occur along the lines of junction. They seem usually to be fertile, and show every gradation from one to the other parent.

"Ceanothus is very readily and completely killed by the fires which so frequently run over the chaparral hills of California. About the places where their parents grew the seedlings then spring up in great numbers, although they are otherwise rarely seen. A certain proportion of these seedlings are always where two different forms have grown intermingled, found to be hybrids. If the district should be again swept by fire before the seedlings bear fruit, the species in that locality would be exterminated, with, perhaps, an occasional sheltered exception, which may almost as readily be a hybrid as one of the parent forms. In this way, as may readily be conceived, a fertile hybrid might become established as the prevailing form in a given district. Where the seedlings survive in great numbers, cross-fertilisation being made certain by the swarms of insects attracted to their fragrant flowers, a continual crossing takes place, not only between the original forms, but between the hybrids and their parents on either side."

In this paper the number of species is reduced to twenty-one, divided into two sections, Euceanothus and Cerastes, with the three closely-related species which Mrs. Brandegee suggests may, perhaps, best be treated as varieties of one. In addition to species, many hybrids are described. Under each species the original description is published verbatim, because "the modification which descriptions undergo by increasing knowledge of their variations is often very great, and it seems to me the duty of monographers to give the original diagnoses in addition to their own, so that readers may be in possession of the data necessary to form some sort of independent opinion without the necessity of acquiring a considerable library." *Garden and Forest.*

GARDENING IN NICE.

THE following extract from the British Consul's Report on the trade of Nice for the years 1893–94 will indicate how they manage such things in France:—"It is much to be regretted," says the Consul, "that the municipal engineer should have thought it necessary to complete the laying-out of these gardens by cutting a broad avenue through the old Jardin Public, destroying its fountain and old Pepper-tree (Schinus Molle), and this for no discoverable reason, except to come out opposite that very ugly building the Jetée Promenade, or Promenade Pier. It is said that even the handsome row of Palm-trees on the Quai Masséna is menaced, as also the Eucalyptus on the square of the same name, which, being our single really large tree, is the pride of the city. This tree was stated to be doomed two years since, and a veritable Gum-tree question arose among us. Petitions for its preservation were started, and the name of the late reigning Duke of Saxe-Coburg appeared at the head of the one most numerously signed by the foreign visitors, in answer to which the mayor gave assurance in writing that there was no question of destroying the tree. An ingenious 'plebiscitum,' or public voting, was on this occasion started by one of the local papers; two small, oblong squares were left in blank for many successive days in one of its columns, the one having 'Oui' in the centre, the other 'Non.' One of these little squares was to be detached, and deposited according to the reader's opinion on the question, in the letter-box at the office of the paper. The result was an overwhelming majority in favour of the retention of the tree."

In another part of the report, Consul Harris says, "that an Englishman of the name of Thornton, has established, in the immediate neighbourhood of Nice, and on property of which he has acquired the freehold, a training-school for young gardeners, chiefly waifs and strays, who are trained in a thoroughly practical manner, and are kept under strict and almost military discipline. The education of the first batch of these will be completed next autumn, when occupation will be found for them, which will supply a want much felt in these parts, where no good native gardeners are available."

THE SEED TRADE.

(Continued from p. 336)

THE SEED TRADE OF TO-DAY.—At one time the outcome of the British seed-harvest could be taken as a good guide for the seedsman to form an opinion of the season's outlook; not so now, however, for with an increasing annual demand our country is only found capable of producing an infinitesimal portion of the seeds required for home use and exporting purposes.

Keen merchants discovered this years ago, and after conducting exhaustive experiments in both hemispheres, they have to-day a knowledge of the peculiarities of every district in the world to enable them to supply their wants. The result of this energy on their part has attracted the attention of resident landholders, and speculators with a small knowledge of seed-cultivation have also migrated to these favoured localities, and we now find all kinds of choice seeds grown and offered in every direction.

New Zealand specially claims attention in this respect; this colony, favoured with probably one of the finest climates in the world, is every year becoming a more important factor in the seed supply. A few years ago offerings from this distant part of the world were looked upon as a novelty, now such samples find their way to Mark Lane in regular supplies that vie in quality with the best British productions. Canada, New South Wales, and Victoria are also becoming great seed-producing centres. The temperate parts of Australia, which include the colonies aforementioned, seem eminently adapted for the production of the more tender kinds of garden and flower-seeds, and already some enticing parcels have found their way to London.

The leading European countries have for many years made the cultivation of seeds quite an important industry, and where favoured with a genial climate, the choicest of their harvestings are poured into our British markets, where better prices are realised than at home.

The United States and California are also becoming large seed-producing channels.

It will thus be seen that our home growers require to exercise the greatest intelligence in the selection of their cultivations, to keep pace with these astute competitors of sunnier climes.

The latest information we are able to publish pertaining to the British seed trade with the world, is that collected by Her Majesty's Customs for the year of 1893. It will be observed that the figures represent an enormous volume of business, quite sufficient to give as an important standing amongst the commercial transactions of the country.

For the present we give the quantities with values of certain seeds imported into the United Kingdom, and similar particulars of certain seeds exported, some of which are produced here, others received from abroad for transhipment only.

Imports of Clover and Grass Seeds during 1893.

	cwt.	£
From Denmark	1,601	3,723
Germany	105,633	294,443
Holland	19,680	36,728
Belgium	12,435	29,081
France	60,083	103,977
United States	103,018	260,375
Other countries	2,069	3,054
Total from foreign countries	304,512	731,381
From Victoria	25	50
New South Wales	6,715	13,826
New Zealand	20,834	43,422
Canada	1,244	3,371
Other colonies	13	11
Total from British possessions	28,891	£60,680

The Board of Trade returns give the imports into the United Kingdom of Clover and Grass seeds for the first seven months of this year as 198,867 cwts., value £502,417, as against 193,717 cwts., value £481,874 for the corresponding period of 1893.

Imports of Vegetable and Flower Seeds during 1893.

	lb.	£
From Germany	521,989	26,448
Holland	263,494	7,856
Belgium	10,636	3,158
France	1,341,648	48,354
Italy	67,076	3,940
Madagascar	1,173,760	5,240
United States	87,837	2,177
Other Foreign Countries	53,155	2,127
Total from Foreign Countries	3,519,595	99,300
Total from British Possessions	145,006	2,223
Total	3,664,601	101,523

Exports of Seeds of all Sorts during 1893.
(Produced in the United Kingdom.)

	cwt.	£
To Sweden and Norway	964	2,207
Denmark	30,464	41,148
Germany	64,956	73,108
Holland	23,604	27,424
Belgium	10,806	13,011
France	73,069	100,752
Italy	1,335	1,495
United States	11,942	27,955
Other foreign countries	2,584	3,860
Total to foreign countries	219,724	£290,960
To Channel Islands	1,289	3,089
British South Africa	1,369	5,042
Bombay	134	1,063
Bengal and Burmah	232	1,817
Other Indian Possessions	60	570
Victoria	1,100	2,529
New South Wales	1,073	2,267
New Zealand	15,650	49,585
Other Colonies	686	1,593
British North America	1,099	2,672
Other British Possessions	161	527
Total to British Possessions	22,853	£70,757
Total	242,577	£361,717

NOTE.—Although these figures are as taken from the record, it seems to me that they must include a good deal that is produced in the United Kingdom in name only.

Exports of Clover and Grass Seeds during 1893.
(*Foreign and Colonial-grown.*)

	Cwt.	£.
To Denmark	6,703	13 714
Germany	12,349	29,607
Holland	4,625	8,346
Belgium	2,116	4,064
Austria	2,557	5,965
United States	3,937	8,997
Other Foreign Countries	2,001	3,925
Total to Foreign Countries	34,283	74,618
To Australasia	5,683	19,321
Other British Possessions	49	155
Total to British Possessions	5,732	19,476
Total	40,020	94,094

Exports of Vegetable and Flower Seeds during 1893.
(*Foreign and Colonial-grown.*)

	lb.	£
To United States	1,130,648	33,682
Other foreign countries	50,888	1,338
Total to foreign countries	1,181,536	35,020
To Australasia	73,531	3,142
Other British possessions	64,334	4,116
Total to British possessions	137,865	7,258
Total	1,319,401	42,278

Seedsman.

(To be continued).

GUNTON PARK.

In a county so famous for its old houses and extensive sporting domains, as is Norfolk, there are few probably that have acquired and retained so envied a name as Gunton. The family of Harbord has been settled in this part of the county for a long time, the first baronet was created in 1745, and the first baron in 1786; but much of their former wealth, now alienated, was obtained from Middleton, Manchester. The place lays some few miles north-east from Norwich, and is readily reached by railway. The character of the landscape commences to change at Norwich, and, instead of the flat land and marsh so common to the eastern and western parts of Norfolk, a somewhat sharply undulating succession of hill and dale presents itself, much woodland being interspersed with agricultural land of apparently great fertility, and affords constant surprises to the traveller, which culminate in the district of Cromer. The less fertile land is covered with Gorse, Heather, or Bracken, and in the summer season with innumerable Poppies and other native plants, making a glorious floral picture. Some of the Gunton home estate has a poorish soil, and some of it little better than sand. Notwithstanding the poorness of the land in parts, Oak and Beech of large size are met with in the woods—as instance the Thorpe Oak (Quercus pedunculata), with a girth of 23 feet at 6 feet from the ground, a splendid "stick," straight and smooth to a height of 40 feet, at which point the main limbs diverge. This tree must be 400 to 500 years old—a tree near it, aged 100 years, being a mere sapling by comparison. *Apropos* of a recent controversy in these pages in reference to the thinning of timber trees, we may say here, that "thick canopy" is the rule in the older woods at Gunton.

It may be that this close order from the first, with, of course, some moderate degree of thinning-out, has much to do with the fine growth of trees on a naturally infertile soil, the decaying vegetable matter of leaves and undergrowth being preserved for the benefit of the timber, instead of being reduced in bulk by evaporation, as in the case of woods maintained in "open order." The anchor-roots lie deep in the soil, but the feeders would probably be found in the spongy mass of decaying herbage and tree leaves covering the ground in these thick woods. Another circumstance that doubtless assists growth is the frequency of sea-fogs, which are heavily charged with moisture.

Conifers, with a few exceptions, make satisfactory growth, but the best timber is that of indigenous deciduous species. To furnish planting-stuff for so large an estate as Gunton, it has been found desirable to form a tree-nursery at Thorpe, a short distance from the Park; and the kitchen-garden of an old manor-house, which has long since disappeared, having an area of 2 acres, has been utilised for this purpose. This nursery is filled with a thriving lot of Larch, Spruce, and Fir, in variety, besides deciduous trees, shrubs, &c. Gunton being at the present day a sporting estate, and one in which "big bags" must be obtained at all costs, the owner's attention is naturally concerned with covert-planting, a kind of planting in which the damp air of close-canopied woods, which does not favour the game-preserving, is absent, pheasants requiring thick, low-branching trees, especially Spruces, Douglas and other Firs, in which to roost in comparative safety from the poacher, and with open spaces as nurseries for the chicks.

The Fruit Gardens.

The next most interesting feature of the place is its fruit-collections indoors and out of doors. The kitchen-gardens, for there are several divisions, have excellent walls, and these are exceedingly well furnished with Pear trees, and in some cases with Apples, the branches being usually trained at an angle pointing slightly upwards, with the idea, probably, of overcoming the tendency of the lower branches of horizontally-trained trees to die off at an early stage, or at least to become weak and nearly infertile. The fruits are, this season, clean, and generally free from blemish. Those that are the best fruiters of the year are Glou Morceaux, the fruits of which are likely to be smaller than usual; Marie Louise, Marie Louise d'Uccle, Conseiller de la Cour, Louis Bonne of Jersey, Emile d'Heyst, Thompson's, Jargonelle, Beurré Baltet, B. Heimbourg, also fruiting well in the open quarter; Doyenné de Comice doing well on wall, espalier, and bush; striped Bon Chrétien, Pitmaston Duchess, Doyenné Boussoch, Brockworth Park, General Todtleben, Jersey Gratioli, and Nouvelle Fulvie (this variety rarely ripens here satisfactorily). The above list, as our readers will perceive, comprises the cream of our Pears, and goes to prove that in this garden 1894 must be regarded as a year of Pears.

Apples, on the contrary, are few in number, and Lord Grosvenor is this season the heaviest bearer. Mr. Allan, his lordship's head-gardener, told us that he has become dissatisfied with bush-fruits in the kitchen-garden, and intends to replace them with espalier trees, the latter occupying but little space as compared with bushes and half-standards; moreover space is valuable for flower growing where a large demand for cut blooms, as here, has to be met. He will likewise cultivate Gooseberries on espaliers.



Fig. 48.—PHILLYREA DECORA: FLOWERS WHITE, FRUIT REDDISH PURPLE. (SHOWN AT THE CHISWICK CONFERENCE.)

The fruits on espalier trees are always better developed and coloured, owing to their fuller exposure to sunlight than those of bushes and standards; moreover, the wind cannot cause the fall of the fruit owing to the rigidity of the branches, and that is a great consideration in windy Norfolk.

The Peach out of doors is not a success, with the one exception of the Violette Hâtive, which fruits well for a great number of years. We saw some trees of this variety which could not be fewer than 80 years old. Gunton has of late years been famed for its fine new varieties of Strawberries of Mr. Allan's raising; but beyond the rows of vigorous plants we observed nothing, the crop having been gathered some few weeks before.

THE HOUSES.

Under glass, there was much that afforded food for thought in the behaviour of the various inarchings of Vine upon Vine, and various crosses of Grapes bearing on their own and other roots. Taking the seedlings first, we were shown a black one which had sprung from crossing the Muscat of Alexandria with Black Morocco. It has berries of the shape of those of Madresfield Court, and a handsome bunch, but it is shy to set in a cool vinery; it has not been tried as yet in a warm one. Of this cross, the seedlings which have been fruited are not identical in colour or shape of bunch and berry; and some came so little up to the requirements of a first-class Grape, that they have been thrown away. One with streaked fruits was thought to be good enough for a stock on which to work other varieties—Mrs. Pearson, amongst others, which has done capitally upon it.

In regard to the practice of inarching Vines of different varieties, Mr. Allan is a believer in the use of a late variety as a stock for an early one, but not *vice versâ*; for the reason that the late variety gives the longer season for developing the fruit, and finishing it off to the highest degree of perfection. In the reverse union, these processes are considerably curtailed in point of time. Good examples of the former method were observed in Foster's Seedling and Buckland Sweetwater Vines on stocks of the Black Hamburgh. Mrs. Pearson is a Grape of much excellence when worked on a late seedling Vine of the gardener's raising; as was also Duke of Buccleuch inarched upon Alnwick Seedling. As a variety for fruiting on a back wall of a vinery that is shaded by the Vines on the roof, no variety that has hitherto been tried succeeds so well as Lady Downe's Seedling, the bunches being almost as large on the rods near the bottom of the wall, say 8 feet down from the top of the vinery, as those at the top, and in point of good colour there was no noticeable difference whatever. This is proved fully in the Muscat vinery, where Lady Downe's does the best, and where no other is now planted. In a late vinery where but little artificial heat is employed in good seasons, the Black Alicante is the most successfully employed variety for a back wall. Vines in these positions are greatly to be preferred to Figs, Camellias, and other plants usually made use of, seeing that they are not so liable to be infested by scale and mealy-bug, and do not harbour spiders and dirt in general.

A strong Madresfield Court Vine (Certificated at R.H.S., August 20, 1867), planted the year it was sent out, *circa* 1868, was remarked. It is still very fruitful and healthy, and once occupied much more space in the vinery than it now does, other varieties having been planted for the sake of securing Grapes of different colours and flavours, as well as a longer succession of fruit.

Figs in pots are grown in considerable numbers—Negro Largo, Brown Turkey, and some others. They were finishing off their second crop. Several Peach-houses were entered, filled with vigorous, fruitful trees, some still bearing fruits.

We observed growing in hot-water pits a great number of very large potfuls of Eucharis amazonica in the most perfect health. These plants are now at rest. In the few plant-houses there was a quantity of plants in variety, grown chiefly for furnishing, and a few species of Orchids in considerable numbers, chiefly Cypripediums, Cœlogyne cristata, Calanthe vestita, &c.

The pleasure-grounds are extensive, and contain many fine old trees. The flower garden, which fronts the mansion, and is separated from the great park by a low wall of an ornamental character, is planted effectively with the usual kinds of tender plants. Standing apart a little from this geometrically-formed parterre, a large circular bed was remarked, planted with Hydrangea paniculata, which at the time of our visit was profusely furnished with its pure white trusses of bloom, a most effective and attractive object. Bambusa Metake makes a fine mass of rich green foliage, the plant freely extending itself by means of its underground rhizomes. It suffers but very little even in the severest winters.

THE KITCHEN GARDEN.

Mr. Allan is an adept in kitchen gardening, as was shown by the crops now approaching maturity. The Onions especially were an enormous crop of fine bulbs of a very good strain, which, for want of a more distinctive name, we will call Allan's Reliance; it seemed to be a variety of the Brown Globe. We understand that it will be put into commerce next year. Sweet Pea Princess Beatrice, grown in clumps of about 2½ feet in diameter, and reaching a height of 8 feet, afforded glorious pictures of floriferousness, in a wide, long border in the kitchen garden. The rest of this border was thickly planted with Carnations of a few decided colours, from which in the season thousands of blooms could certainly be cut every day.

The above does not by any means exhaust our notes, but enough will have been said to show that Gunton is well worthy of ranking with our best English gardens.

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton.*

PARIS DAISIES (CHRYSANTHEMUM FRUTESCENS, ETC.)—Than this plant none is more largely grown as a decorative plant in the Metropolitan district, and its handsome foliage, and the freedom with which it blooms, account for its popularity. For early spring-flowering, plants raised in July, will be found the most suitable; and for general purposes, a batch of cuttings, rooted at the present time, and kept growing freely, will be of great value. In striking the cuttings, place them round the rim of 4½-inch pots, use a sandy soil, and place the pots in a frame standing on a mild hot-bed, such as is used at this season for striking tender kinds of bedding plants; moisten the foliage in the morning and afternoon, and keep the frame somewhat close till it is seen by the appearance of top-growth, that roots are formed, when air should be gradually afforded. Pot the cuttings into 60's, as soon as sufficiently rooted, and grow them on shelves or benches, near the light, in an intermediate-house.

AMARYLLIS (HIPPEASTRUM).—Established bulbs will now have become sufficiently matured for water to be withheld from the soil, and the pots to be stored away on the benches of a dry airy house, there to remain till January, the month usually chosen for repotting. Young bulbs, such as those raised from seed this year should, however, be kept briskly growing in a warm-house, potting them up if this be found necessary; or liquid manure may be resorted to instead. Gesneras, Tydæas, &c., now become uninteresting, may also be afforded less water at the root, and gradually ripened off, afterwards storing the tubers in dry sand, so as to economise space, if it be limited in extent.

EAST LOTHIAN STOCKS.—Seed may now be sown in somewhat poor sandy soil, standing the seed-pans on the greenhouse shelves, and watering them very sparingly. When the seedlings have formed the third leaf, they should be put singly into small thumbs and 60's, in which sizes they may remain till the month of January, at which time it is usual to put them into their flowering pots. The plants should occupy a shelf near the glass in a cold greenhouse, water being sparingly given, or damping will soon play havoc with them. The aim at this stage should be the development of a firm, stocky growth, and with this aim, no enrichment of the soil is allowed—in fact, a compost of poorish maiden loam, with a little leaf-soil and sand, suits them best.

CYCLAMENS.—The time is again at hand when these usually begin to bloom; but those plants which are growing in frames may still have the lights removed at night, so that the foliage may benefit from the heavy dews. All flowers as they appear should be pulled clean away from the crowns; and clear soot-water afforded once a week. In arranging the plants, give plenty of space between them.

DEUTZIA GRACILIS.—Those which have been plunged in a bed of coal-ashes, may now be taken out of the bed and stood on planks or pots; the foliage having now dropped, the plants are practically at rest, a stage at which the roots are likely to suffer from any excess of moisture.

ACACIAS.—Remove to the greenhouse plants standing out-of-doors, washing the pots or tubs, removing weeds, decayed leaves, &c. Where it is the practice to tie the plants into a certain shape, the present is a good time for doing this. As a rule, Acacias do not lend themselves to formal training, and whatever is done in this matter should be as graceful as the natural habits of the plants will allow.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PREPARING FOR PLANTING WALL FRUIT TREES.—The weather at this season favours the preparation of old borders and the making of new ones for fruit trees to be planted at a later period this year. It is an operation that is nearly always called for if the garden is an old one, trees never growing satisfactorily in worn-out soils, and it will be advisable in such case to entirely remove the soil for a distance of 4 feet from the wall, and at least 2 feet in depth, having due regard to the kind of subsoil. To do this kind of work whilst the weather is dry, expedites and lessens the labour of planting. Most gardeners keep a stock of various soils, and, except the operations are of great magnitude, they should not have to wait for turf to be cut and carted. For stone fruits, if the land does not rest on chalk or limestone, or it is not rich in lime, plaster, mortar-rubble or broken chalk in large quantities may be mixed with it, and also form a part of the drainage materials of the border. Naturally-light soils need retentive loam, or a clayey kind of soil, or even marl, to be mixed with the staple, but heavy land will need more chalk or limy-rubble. For Pear trees, lime in the above form is not so essential, although if the soil be stiff or cold, it will be improved by their use, and may always find a place at the bottom of the border, where in the form of drainage materials they will render the soil warmer. Charred refuse may be freely mixed in the soil, especially if heavy. Should the staple soil of the garden be considered good enough for tree-growth without additions, take surface soil from a part of the garden not under fruit trees, and mix it with that of the border, simply exchanging the one for the other. Anything remaining over of the soil of the border may be made use of as the covering for the dressing of short-dung applied to the beds of Asparagus. At Maiden Erlegh at the time of writing, preparations for replanting a wall with Pear trees is in progress. The various soils and materials are being, in dry weather, wheeled on to the border—a wide one—ready for planting the trees, which will be done as soon as the fruits are gathered from them. Where a few trees only are to be planted, stations 8 feet long by 4 feet wide and 2 feet deep are prepared. For trees in the open borders, the stations are 8 feet square; and in the orchard, the round holes are not less than 8 feet in diameter.

GATHERING APPLES AND PEARS.—In our district, Apples and Pears have dropped in alarming numbers, and it has been necessary to go over the trees frequently and gather all the fruits that parted easily from the spurs. The gathering of New Hawthornden, Cellini, Peasgood's Nonsuch, Emperor Alexander, Warner's King, The Queen, and Ribston Pippin, from old trees, is now finished. Pears which are in season in October and the early part of November, if they are dropping, should be gathered, these being sure to ripen satisfactorily. The manner of storing Pears mentioned in a recent Calendar should still be carried out.

GENERAL WORK.—Cut off runners of Strawberry plants, hoeing and cleaning the beds whilst the weather remains fine, and the land not saturated with rain. The quarters and borders of bush fruits should be hoed over, and weeds raked out.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

BEGONIA BEDS.—Beds of one colour are more effective, I think, than where mixtures are planted. To keep the plants true to colour, they will need carefully labelling now, and style of habit, &c., recorded, marking at the same time any plants not worth keeping another year. Seed may be gathered from the best coloured varieties, but I prefer to purchase from trustworthy seedsmen. The last two weeks of fine weather has improved all bedding plants immensely.

PROPAGATION.—If not yet finished, complete this work with all speed. In the case of Lobelias and Alternantheras, mark several plants of the best habit and colour to be taken up and divided or potted intact, as may be preferred. Spring cuttings may have to be taken from these if those already put in should not do well. If Pelargoniums and other cuttings are standing outside, it will not be safe to leave them much longer without some means of protection being at hand in case of frosty nights. If no houses or pits are reserved specially for these, some vineries or early Peach-houses, with shelves near the roof-glass will suffice for such as Pelargoniums, either in the storepots or the early struck cuttings. All Pelargoniums planted in the reserve garden for the purpose of furnishing cuttings will now be bushy dwarf plants fit for taking up and potting, and those will produce a quantity of early cuttings next spring, as they have had time to break well since the first batch of cuttings was taken from them.

DAHLIAS.—These must be gone over at once, to see that they are true to name, and to take note of their heights, marking all those that it is intended to throw away to make room for improved varieties. They will also require frequent attention to remove decaying flowers, and to give a tie where required.

VIOLAS.—Those cuttings put in late in the spring will now have formed strong bushy plants, having been topped once or twice during the summer, and they will now remove with nice balls of roots. If they are to be planted in the same positions as last season, first remove all the old plants, saving what further cuttings may be required. These should be made and inserted as quickly as possible in cold frames, or under any glass protection, preferably under a north wall, and in a moderately light soil. The border to be planted with the rooted plants will require a good dressing of cow-manure and soot, and if it can be spared, a little fresh loam The ground should be dug twice, to make sure that all the old roots are removed, or they will be found very troublesome next season. If the prepared plants are put in lines of distinct colours, be careful not to crowd them; they should not be nearer than from 12 to 14 inches in the row, and 6 to 8 inches from plant to plant. Make them fairly firm with soil, removing any long loose shoots. I do not advise the retention of the old plants.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

DENDROBIUM INFUNDIBULUM AND ITS VARIETY JAMESIANUM.—These species, coming from the mountains of Moulmein, require during the summer the cool moist temperature of the house in which the Odontoglossums succeed; but from the present time a little more warmth is required to develop the new growths, and a cool place in the Cattleya or intermediate-house is more suitable. Root-moisture should be afforded, and atmospheric moisture by damping round about the pots on fine days until growth is completed. Plants of Lælia harpophylla now starting into growth should be removed forthwith to the same house, their requirements being nearly identical; the only difference being, that the Dendrobiums are benefited by a slight syringing overhead on warm sunny days, whereas the Lælias are better without it, as the young growths, being very tender, are liable to turn black. The new shoots when only a few inches high, are liable to infestation by yellow-fly, and should be sponged at short intervals of time, so as to keep these pests in check, as unmolested they seriously injure the plants, and prove very troublesome. Lælia pumila (Cattleya marginata) and its varieties, L. Dayana and L. præstans, are charming little plants, and their flowers at this season much admired. These species have been till now accommodated in the cool-house, and should, after this date, be hung up near the roof of an intermediate-house, where the access of sunlight will tend to intensify the colour of the flowers. In the cool-house their flowers quickly become spotted, and the young growths and leaves suffer. Lælia pumila requires a very small quantity of material in which to root, and if properly furnished in this respect, they will when growth commences require a considerable quantity of water. Frequently examine each plant for white-scale, as these insects multiply very rapidly. Sophronites grandiflora and its variety rosea are inmates of the cool-house; but some cultivators afford these plants a rather higher temperature when growth begins, although my experience is that they do equally well, if they always remain in the cool-house. In every house one part is sure to be warmer than the rest of the house, and it is here that the Sophronites should be arranged, observing that the maximum of light is obtained, and the position being such that air may be freely admitted without causing draughts. This applies also to the treatment of Epidendrum vitellinum at this season. I have recently had plants of this species hung close up to the roof in this house, air being freely admitted at all times, with the result that the leaves became spotted and black at their points, whereas those plants that were raised by being placed on inverted pots on the stage, out of the line of cold currents of air have fresh-looking, vigorous foliage. In common with other Orchids when growing, the last two species need to be frequently supplied with water up to the flowering season and till it is past and the pseudobulbs made up; and afterwards the amount should be gradually lessened. Anguloa Ruckeri, A. uniflora, A. Clowesii, and A. eburnea should, now that the new pseudobulbs are approaching maturity, receive all possible light and as much air as may safely be admitted. When the foliage begins to change colour, water must be withheld somewhat, but not so as to cause excessive shrivelling of the pseudobulbs, or the next season's growth will be weak and wanting in substance, although a slight shrivelling will have no ill-effects. Maxillaria Sanderiana, the finest species, is one which grows well under cool treatment, but care should be taken to place it in a dry position amongst the cool Odontoglossums during the winter. It is a plant that requires plenty of water at the root at all times, but its immediate surrounding should be comparatively dry. Baskets are to be preferred to pots, the flower-spikes frequently pushing out at the sides after the manner of Stanhopeas. Trichocentrum albo-purpureum is a pretty species, now in flower—a plant of small growth, admirably adapted for planting in baskets in an intermediate temperature.

PLEIONES.—The pseudobulbs being now made up, as soon as the leaves turn yellow and fall off, the amount of water afforded them must be lessened, the soil being kept moist, and no more. Immediately the foliage drops, and the flower-buds appear, also during flowering, less moisture ought to be afforded, otherwise the delicate blooms soon lose their colour, and fall off. The flowers of this Orchid keep long in good condition when used for room-decoration, neither dry air or lack of light affecting them or the plants; in fact, they always seem to break away stronger after their short rest in the dwelling.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

STRAWBERRIES FOR EARLY FORCING.—These plants should now be well rooted, the leaf-stalks strong and short, leaves stout, dark green, and the crowns prominent and well-developed. Do not allow them to get dry at the root. By the middle of October protection from severe frosts will be required for the roots, and if cold pits or frames are available, the pots should be plunged deeply therein in finely-sifted coal-ashes, and the lights taken off the pits, except whilst sharp frosts prevail. Failing glass protection, they will stand the winter very well plunged in coal-ash beds, being protected with stable litter in severe weather. The frost must be kept from the pots, or many will be broken. Always remove the litter in mild weather. Late-potted plants, owing to the recent sunless weather, are not so forward as is desirable, and must be exposed as much as possible to sunshine, and stood wide apart, so that the air may circulate freely about them. By moving the pots frequently, the roots will be prevented from entering the coal-ashes or other material they may be standing on. Battens nailed together to form platforms, and simple planks, are excellent for standing the plants upon.

CUCUMBERS.—The plants will require a night temperature of 70° to 75°, and a bottom-heat of about 80°; the day temperature being 80° to 85°; and although a genial growing atmosphere is still required, it must be less moist than in summer weather, inattention to this point being the cause of mildew. Should mildew appear, dust the affected plants with flowers-of-sulphur. The foliage should be syringed early in the afternoon, the houses being closed then. To plants in bearing tepid liquid manure should be occasionally afforded. Young plants for winter fruiting should be acquiring strength, air being afforded them early in the day but not very liberally, the shoots trained out and not crowded, but letting every leaf have exposure to the light. When the plants begin to bear, stop the bearing shoots frequently, but allow others to grow freely, so as to maintain root activity. Do not crop heavily at this season.

MELONS with swelling fruits must have a night temperature of 70°, a rather dry atmosphere at all times, and scarcely any root waterings as regards those that may be nearly ripe, plenty of air being afforded, but maintaining the day temperature at about 80°, or the fruits will have indifferent flavour. Keep the foliage fresh and healthy till all the fruit is ripe.

RIPE GRAPES.—The vineries should be slightly warmed occasionally during the day, the ventilators being opened somewhat to permit of the escape of moisture. The removal of decaying berries should have almost daily attention, great carefulness being exercised to prevent injury to the appearance of the bunches, Madresfield Court is a variety requiring very careful watching for cracked berries, one of which, if not removed betimes will spoil a large bunch.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

EARLY CAULIFLOWERS.—The autumn-sown plants will now be sufficiently advanced to transplant into frames and hand-glasses. The frames should not be deep ones, as it is important that the plants be near the glass. The soil should be adhesive loam, without any addition of manure, and should be made firm before planting. Where cultivation in pots is adopted, large 60's are large enough at this time, a small quantity of spent Mushroom-bed manure being added to the soil, and, as in frames, it should be made firm. For hand-glass culture, a place should be afforded the plants on a south border, digging the land deeply after manuring it if poor, and a dressing of soot and lime will be useful. Level the ground, tread it over evenly, and rake it smoothly. The glasses may be placed in single lines on beds 3 feet wide with alleys 2 feet wide between. In very wet soil the beds may be raised by throwing the soil from the alleys on to them. The plants, to the number of five or more should be put out under each handlight or *cloche* according to its size, the surplus being removed in March or April. The plants will need no covering so long as the weather remains mild, and no heavy rains occur.

CELERY.—Continue to earth up the plants as may be necessary, and be sure that the soil is not in need of water. During the past week I have afforded a large quantity of water to all the Celery, the soil being very dry.

FRENCH BEANS.—A sowing may now be made in pots or hot-water pits; many gardeners will ere this date have made a start, but unless it is imperative to keep up the succession, it is better to let a short time elapse between the end of the autumn crop and that of the forced one, the latter being then more appreciated. The pots used may be 9 inches in diameter, half filling them with rich soil at sowing time, and filling them by degrees as the plants grow.

BRUSSELS SPROUTS, ETC.—Remove decaying leaves, so as to admit light and air, the leaves being put into a heap, together with trimmings from Celery, Cauliflowers, &c., and covered with soil, to prevent the escape of the offensive odour of decay.

EDITORIAL NOTICES.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

FRIDAY,	Oct. 5	Dundee Horticultural Association.

SHOW.

SATURDAY,	Sept. 29	Opening Day of the Great Fruit Show, by the Royal Horticultural Society, at the Crystal Palace (three days).

SALES.

MONDAY,	Oct. 1	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants, Roses, Ferns, &c., at Protherce & Morris' Rooms.
TUESDAY,	Oct. 2	Dutch Bulbs, at Protheroe & Morris' Rooms. Sale of Freehold Properties, known as Mason's Nurseries, Windlesham, Surrey, *re* Richard Mason, dec., by Protheroe & Morris. Important Sale of Nursery Stock, at the Windlesham Nurseries, Bagshot, *re* Richard Mason, dec., by Protheroe & Morris (three days). Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	Oct. 3	Dutch Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	Oct. 4	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, Roses, Ferns, &c., at Protheroe & Morris' Rooms.
FRIDAY,	Oct. 5	Orchids and Dutch Bulbs, at Protheroe & Morris' Room .
SATURDAY,	Oct. 6	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—54°.5.

The Tree and Shrub Conference.

THE Exhibition and Conference on Hardy Trees and Shrubs, and their utilisation, were held under most depressing conditions at Chiswick, on Tuesday last. For these, the Society is to be commiserated. For the varied and most interesting exhibition it is to be congratulated. As to the arrangements, especially those in connection with the Conference, it is to be hoped it will do better next time. As it was, only two of the items on the programme were carried out, and those not at the times fixed, so that people who were specially interested in the Larch disease, and some of whom, as we know, came on purpose to hear what was said, were sent empty away; whilst not one word was said as to the nature of the splendid exhibition that was got together, or to connect that display with the Conference. The extent of the exhibition, we expect, came as a surprise, for the arrangements made for its due display were by no means adequate.

By some an opinion was expressed to the effect that the exhibition should have been held in the Drill Hall as usual, but it is certain that the Drill Hall could not have contained the exhibits, and equally certain that under the atmospheric conditions that prevailed, they could not have been seen in that gloomy building. The principal exhibitors were Her Majesty the QUEEN, the Royal Gardens Kew, the Dukes of BUCCLEUCH, NORTHUMBERLAND, and WELLINGTON, the Marquis of HUNTLY, Viscount POWERSCOURT, Mr. MAXWELL of Munches, Sir P. K. MURRAY, A. WATERHOUSE, Esq., Captain HOLFORD, M. MAX CORNU (the Director of the Jardin des Plantes, Paris), Colonel TREMAYNE, as well as many of the leading nurserymen. For further particulars of this remarkable exhibition we refer the reader to another column. The Conference, such as it was, was devoted solely to matters of forestry, two excellent papers being read; for the rest we must await the publication of the *Journal* of the Society. Mr. THISELTON DYER, the Director of the Royal Gardens, Kew, and Sir ALEXANDER ARBUTHNOT acted as chairmen at the two meetings of the Conference. Cheering news as to the health of the Secretary were received in the course of the meeting, and we may now add are confirmed in a letter received as this page is passing through the press.

British Fruit and its Price.

A LETTER in the *Times* from our valued friend and colleague, Mr. R. D. BLACKMORE, has re-opened a matter unfortunately too familiar to our fruit-growing readers. The blame for the low prices obtained in the markets is very generally laid at the door of the middlemen. On the other hand, under existing circumstances, we cannot do without their assistance, and there are many things which lead to the conclusion that it is unfair to attribute the whole of the disappointment and loss to them. They are men of business, acting strictly on commercial principles, and if they prove to be better business men than the growers, that fact is not to be set down to their discredit. We are pre-supposing honest dealing, of course, for, speaking generally, it is not to be supposed that firms with a reputation to lose will be anything but honest. It may be that the standard of the market is not quite on a level with the standard of the moralist, but, on the other hand, they that go down to the market do not do wisely unless they know something of market ways, and specially of market conditions.

The would-be seller may be an excellent cultivator, with a good knowledge of fruit or flowers, but unless he is also a graduate in market knowledge, it is to be feared his returns will be small. He must not only know what to grow and how to grow it, but he must know how to select, classify, and pack his goods; he must send them to market at the right time, that is, when they are wanted, and in the right quantities, more or less, according to circumstances; and he must know how to utilise and preserve his surplus produce. The middleman or the dealer soon finds out upon whom he can rely for as regular, uniform, and opportune a supply, as seasons and circumstances permit; and a grower who understands these conditions and acts accordingly, finds his reward greater than the shiftless cultivator who sends to market quantities of inferior or mixed products when the market is overstocked already. We do not know whether the consumer is not the most to be pitied. It seems to make little difference to him whether crops are good or bad, whether there is plenty or scarcity, whether the grower gets a fair price or otherwise for his skill, labour and capital, or whether the middleman's balance is on the right side or the wrong. The remedy prescribed by the doctors is something which shall bring producer and consumer immediately together for their common advantage. Apparently the remedy possesses no advantage over the disease, for it is certainly not generally adopted. Multiplication of markets is another remedy that has been proposed, but here again from various causes success has not been secured. The Columbia Market, the Eastern Counties Market, the Farringdon Market, have all been established with a view to remove the evils which all admit, but we believe not one of those mentioned has been successful. Let us hope that the new market recently established at Kew Bridge may be more fortunate.

In view of the forthcoming exhibition at the Crystal Palace, which opens to-day, and the discussions that may be expected on that occasion, it may be well to print Mr. BLACKMORE'S letter, together with extracts from some of the correspondence elicited by it.

"I trust that in the coming exhibition of British fruit, and lectures upon the subject, the most important point of all—that of price—will be considered. During the present season, the wholesale figures have been, and some still are, as follows, in Covent Garden Market:—

Grapes, 9*d.* to 2*s.* per lb., the latter price only being reached by the most magnificent fruit. Peaches, 1*s.* to 3*s.* per dozen, 2*s.* being the average for fine specimens. Plums, 1*s.* 6*d.* to 3*s.* per sieve. Pears, 2*s.* 6*d.* to 4*s.* per bushel, and scarcely saleable at any price. Apples, 5*s.* to 7*s.* per bushel, being remarkably scarce this year. Small fruits have sold rather better, especially Strawberries, because most of the crop in the 'home counties' was destroyed by frost on May 21.

Now, let any man of common-sense consider whether he could grow fruit with profit at such prices. Apples alone would give a fair return, if he only had them. When the Apple crop is good, the price is utterly contemptible. One year I sold 600 bushels at 1*s.* apiece, and lost the baskets.

In face of these facts, which can only become more adverse each succeeding year, I say that it is a cruel deception to talk of profitable fruit-growing in this part of the country. Either you have none, as may generally be expected, or, if you have a crop, it fetches next to nothing after heavy outlay. In the forty years of my experience, only twice have I made both ends meet. My books are at the service of any one menaced with symptoms of this fatal fad. Obediently yours, R. D. BLACKMORE.

P.S.—I may add that prices have been quite as bad at Manchester. I have now hundreds of bushels of large Pears lying on the ground because they will not pay for basketing and carriage. R. D. B."

Mr. W. N. WHITE comments on the subject from the point of view of the broker, and corrects some of the errors into which previous correspondents had fallen, he roams over subjects which have been over and over discussed at conferences, in books, and in journals, and then imputes to Mr. BLACKMORE the possession of maggots in his fruit! This is not unlikely, but unfortunately he is not likely to be exceptional in this particular. But there is no reason to insinuate, as Mr. WHITE appears to do, that Mr. BLACKMORE is a bad cultivator. Perhaps Mr. WHITE had no such intention. In any case, those who know the circumstances will not think that Mr. BLACKMORE needs any instruction in this direction, nor is he likely to benefit from the physiological information vouchsafed by Mr. WHITE, that "the moment the maggot attacks the core of the fruit the power to take the sap from the tree is no longer in force, consequently, the fruit drops, &c." This is a roundabout and not wholly accurate way of expressing a truth that we hope the next generation of technically-educated cultivators may be able to express more in accordance with the actual course of events.

Mr. HARRISON WEIR endorses Mr. BLACKMORE, and Mr. ACWORTH has something to say about retail distribution and chartered monopolies; other correspondents write about land tenure, differential railway rates, turning Strawberries into jam, co-operation, &c.

How threadbare the whole thing is, and yet how fresh it seems to be to the writers in the *Times* in the silly season! For these gentlemen the Royal Horticultural Society, its Fruit Conferences at Chiswick, its Fruit Committees in Victoria Street, and the horticultural press of this country, might just as well not have existed.

Abutilon vitifolium (fig. 49).—There are two distinct varieties of this most beautiful free-blooming and almost perfectly hardy shrub: the type form, whose flowers are of a pale porcelain blue, as figured on plate 379 of the *Garden*, appearing in the number of that paper for March 10, 1883; it is also figured under the name of Sida vitifolia in the seventy-second volume of the *Botanical Magazine*, on plate 4227. The other variety has large flowers of the purest white, which never vary in colour, and are produced in the greatest profusion on fully-matured plants, which, however, are unfortunately apt to die suddenly after one of these abundant flowerings, without any apparent cause. This white form must, I think, have originally been a sport from the blue, as a small number of the seedlings sometimes turn out to have blue flowers, thus seeming to indicate reversion to the type. This, however, I have no personal experience of, as all the seedlings I have ever raised have come perfectly true. I remember, however, that when seed was first sent to me, by a correspondent in Devonshire, he at same time also kindly sent me a rooted cutting from his old plant lest, as he said, the seedlings that came up for me might not prove true, which, however, they all did. This white form is figured in vol. 119 of the *Botanical Magazine*, on plate 7328, where it is stated in the letterpress, by the learned editor, that the flowers open white, changing to pale azure as they fade, which is quite contrary to my experience of the plant for many years. I have, unfortunately, lost the blue form, and should be grateful to any reader of these lines for a rooted cutting of it, if they have one to spare. This plant is, I may say, perfectly hardy here, having been quite uninjured by the 29° of frost which on January 4 and 5 killed so many of my shrubs, and severely injured so many more. *W. E. Gumbleton, Belgrove, Queenstown, Ireland.* [Our figure was taken in April from a plant growing in the open air in the garden of Mr. Hartland, near Cork. Ed.]



Fig. 49.—Abutilon vitifolium—hardy shrub: flowers white. Grown at Abd Cairn, Cork.

Royal Horticultural Society. — The great Fruit Show, to be held by the Society at the Crystal Palace on September 29, and October 1 and 2, promises to be a very large one. The Assistant-Secretary writes:—"It may be as well to remind exhibitors that they may begin staging their fruit at 6 A.M. on the 29th inst., and must have completed by 11 A.M., at which hour the judges will meet the Assistant-Secretary, Mr. J. Weathers, at the Royal Horticultural Society's temporary offices, opposite the Egyptian Court, to receive instructions. The gardeners' luncheon will take place in the garden hall, on the left-hand side of the great clock at 1.30 P.M. punctually, and a large attendance is anticipated. At 3.30 P.M. a paper on 'Fruit Growing in Small Gardens,' prepared by the Rev. W. Wilks and Mr. Geo. Bunyard, will be read in the Garden Hall, and discussion thereon invited. On Monday and Tuesday, at the same time and place, Mr. Chas. Wise and Mr. Geo. Monro will lecture respectively on 'Fruit Growing on a Large Scale,' and on 'Packing, Grading, and Marketing Fruit.'"

United Horticultural Benefit and Provident Society. — Our readers will be interested in learning that the annual dinner of the above will take place on Tuesday, October 9, at the Cannon Street Hotel, at 6 P.M., on which occasion Arnold Moss, Esq., has kindly consented to preside, Tickets 5*s*. each.

Lindley Library.—Our excellent contemporary, the *Gardeners' Magazine*, complains with some reason, that on the very day of all others when the library would be most used, access to it is rendered impracticable, from the fact that council and other meetings are held in the room. The proposal that the meeting of the Scientific Committee should be held elsewhere than in the library is, however, not tenable, as it is precisely the members of the scientific committee who make the most use of the library, which has to be consulted during the meetings.

CHRYSANTHEMUMS AT BATTERSEA PARK.—We are requested by Mr. F. J. COPPIN, the superintendent of the above park, to inform our readers that the annual show of Chrysanthemums will be open to the public on Saturday, October 6, from 10 A.M. until dusk every day, Sundays included, in the Frame Ground, which is near to the west-gate entrance, Albert Bridge Road.

"PRACTICAL FORESTRY."—The first edition of *Practical Forestry*, by A. D. WEBSTER, has run out in less than a year, and a second and enlarged illustrated edition is now passing through the press, and will be ready by the end of October. The first edition will, likewise, be republished in its present form, and still retained in RIDER'S Technical Series of Handbooks.

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL ASSOCIATION.—The annual general meeting of the members of this association was held in the Christian Institute, Aberdeen, on the 20th inst. Mr. J. MUNRO, Bonnymuir, President, in the chair. The secretary's and treasurer's reports were submitted. Both reports were considered satisfactory and approved. The secretary then read the report of a sub-committee appointed to deal with the arrangements for the winter programme. The first question was—should the association be carried on for another year? and, also, if it were to be carried on, what should the nature of the programme be? The committee recommended, in the event of the association being carried on, that an endeavour should be made to get up a course of lectures bearing on the subject of horticulture. It was agreed at the meeting of the committee to remit the question to the annual general meeting, whether the association should be carried on. The chairman said that, although the membership was small, still he believed that if a course of attractive lectures were arranged the association would improve its status, and more interest would be shown to the work that it did. They did not care for an increase of the general public; they wanted more gardeners to take a share in the work. He believed that if Professor TRAIL (Botany Chair, Aberdeen University) and Professor NICHOLSON (Natural History Chair, Aberdeen University) were approached, each would be willing to give a lecture on subjects pertaining to their work. He strongly protested against the idea of breaking up the association, even for a single year, because at the end of that time it would be extremely difficult to resuscitate the association. The president was supported in his views by several of the members, and it was agreed to keep the association going for another year. Office-bearers were appointed as follows:—President, Mr. J. MUNRO, Bonnymuir; Vice-President, Mr. A. MORTIMER, Tullos; Secretaries, Mr. WILLIAM REID and Mr. MINTY; Treasurer, Mr. WILLIAM WYLLIE.

BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—The meeting of the above association, held at 116, Colmore Row, on Wednesday evening, September 19, was well attended. Mr. WHITE, Worcester, sent a fine collection of fruit, containing those kinds most suitable for growing near smoky towns. Messrs. W. H. PEAKE, HENRY BEECH, T. P. COPE, and W. B. CHILD exhibited very choice collections of cut flowers.

THE NEW AMERICAN TARIFF.—As there is so large a trade between this country and the United States in garden stock, we deem it well to repeat what has been said before. Plants, trees, shrubs, and Vines of all kinds, commonly known as nursery stock, n. e. s., are admitted henceforth free of duty. The former duty was 20 per cent. *ad valorem*. A duty of 10 per cent. is placed upon Orchids, Lily of the Valley, Azaleas, Palms, and other plants used for forcing under glass for cut flowers or decorative purposes." Garden seeds, agricultural seeds, and other seeds, n. e. s., are reduced from 20 to 10 per cent.; while all flower and grass seeds, bulbs, and bulbous roots, not edible, n. e. s., are free as heretofore.

HELIANTHUS RIGIDUS VAR. "MISS MELLISH."—All the forms of H. rigidus, *alias* Harpalium rigidum, are good, though they have a tendency to "run at the root," and come up where they are not expected. One form, known as "Miss Mellish," is particularly desirable. It is a robust variety, growing to nearly twice the height of the ordinary form, and bearing larger flower-heads, of a rich clear yellow, often semi-double. Moreover, it flowers three or four weeks after the ordinary varieties, and so prolongs the flowering period.

M. P. H. DOUCET.—Belgian papers record the death of this gentleman in his seventy-first year, on September 1. He was President of the Consultative Committee of the Botanic Garden, Brussels, and of the State School of Horticulture at Vilvorde. He was a familiar figure at the great horticultural gatherings in Belgium, and foreign guests will remember the refined courtesy he extended to them on these occasions.

NATURAL GRAFTS OF THE WYCH ELM.—Mr. A. O. WATKINS kindly furnishes us with a sketch of some remarkable Wych Elms, forming a row, at Powis Castle. The branches have interlaced in various directions, and ended in becoming united by natural grafting, producing a peculiar appearance.

DICTIONARY OF ENGLISH PLANT NAMES.—The English Dialect Society is anxious to include the supplement to the *Dictionary of English Plant Names* among its publications for 1894. Those who have any additional names or notes are invited to send them as soon as possible to Mr. BRITTEN, 18, West Square, Southwark, S.E.

NEPENTHES AT MESSRS. VEITCH'S.—The two houses devoted to the cultivation of these interesting and singular-looking plants, are well worthy of a visit at the present season, the plants being admirably furnished with pitchers of all sizes and shades of colouring and various shapes; the long brown-green ones of Dicksoniana contrasting with the rotund greenish ones of Rafflesiana, and the small reddish Madagascarensis with those of N. mixta, 12 inches long, and N. mixta sanguinea nearly as long. We noted N. Chelsoni, Curtisii superba, the American Amesiana, a fine thing; Burkei, Morganiæ, Mastersii, a variety very prolific of pitchers; Northiana, and cincta.

KNIPHOFIAS.—Anything more gorgeous than these plants can scarcely be conceived. The species are not particularly difficult to make out, but now that the hybridists have got at them the difficulty of distinguishing the varieties has increased. Among the more showy forms that we saw at Messrs. VEITCH'S Langley Nursery lately were K. Burchelli, very robust and tall, with obovate spindle-shaped flower-spikes, 11 to 12 inches long by 4 inches broad, the greatest breadth being between the middle and the tip. The flowers are about 1½ inch long, the lowermost yellowish, the upper pale orange-red. K. Saundersi is another tall form, with large cylindrical flower-spikes, 12 to 13 inches long, 3½ inches wide. The flowers are nearly 2 inches in length, deep orange-red. H. Cannell is a smaller form, with cylindrical spikes, 6 to 8 inches long, 2½ inches wide, and orange-crimson flowers, each about 1¾ inch long; K. corallina has spikes about 5 inches long, 2½ inches wide above the middle, oblong spindle-shaped; the flowers rich orange-red, each about 1¼ inch long. Owing to the brilliancy of their colour, and the copious production of nectar, the flowers are frequented by insects, and hence one cause of their ready intercrossing and variability. The flowers are proterogynous; in other words, the stigma of any one flower protrudes before the stamens, and hence is necessitated the contact with pollen from another flower. The Kniphofias are all natives of southern and tropical Africa and of Madagascar, hence the way in which they flower in this country; and the manner in which they survive our winters affords another illustration of the fact, that a plant native of subtropical regions may, nevertheless, be hardy enough to endure our winters. Similar instances are afforded by the common blue Passiflora, a native of south Brazil; by Jasminum officinale, a native of northern India; Solanum jasminoides, and others. Some of the Kniphofias have the peculiarity of producing from their flower-spike, below their flowers, tufts of leaves. These may be removed for propagating purposes, so that not only is the occurrence interesting from a physiological point of view, but it is important practically. The fullest account of the Kniphofias is that by Mr. Grant in our columns, October 3, 1891, p. 391.

CHECKING FOREIGN FRUIT FRAUDS.—Complaint having been made to the Board of Agriculture that foreign fruit and horticultural produce are frequently marketed and sold as English grown, the Board has decided to undertake prosecutions in such cases under the Merchandise Marks Acts. It is alleged that a practice of transferring imported goods to English baskets, in order to deceive purchasers, extensively prevails at certain London and provincial markets. The following is a copy of the draft regulations which are proposed to be made by the Board of Agriculture, with the concurrence of the Lord Chancellor:—"The Board of Agriculture shall, where it appears to them from the statements hereinafter mentioned that there is a reasonable prospect of a conviction being obtained, and subject to the other conditions in the next following regulation prescribed, undertake the prosecution of offence under the Merchandise Marks Act, 1887, in cases which appear to the Board to relate to agricultural or horticultural produce, and to effect the general interests of the country or of a section of the community or of a trade. Every application to the Board to undertake a prosecution shall be accompanied by a statement showing the nature and circumstances of the case, and a statement of the facts capable of proof, with the names and addresses of the witnesses. The Board may require these statements to be supplemented, or additional evidence to be furnished. For the purpose of carrying the foregoing regulations into effect, the Board may, from time to time prescribe the use of such forms and give such directions as they may deem expedient." It is believed that these regulations, which will shortly be issued to Chambers of Agriculture and other persons interested, will suffice to check the fraudulent practices complained of. *Daily Chronicle*, *Sept.* 6, 1894.

PRINCIPLES OF HORTICULTURE.—Professor BOULGER will give a course of twelve lectures at Bruce Castle, Tottenham, on the "Principles of Horticulture," on Tuesday evenings at 8 P.M. Admission will be free. The lectures will be given under the auspices of the Technical Education Committee of the Middlesex County Council.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the Floral Committee took place at the Royal Aquarium, Westminster, on the 26th inst. Mr. G. GORDON in the chair. The only exhibitor was Mr. WELLS, Earlswood Nurseries, Redhill, who had several stands of cut blooms of Japanese varieties, well developed for so early in the season. The following were submitted for Certificates:—Miss Dorothy Frankland, a yellow Japanese in the way of W. H. Lincoln, but deeper in colour, the petals having plumed points, giving the flower an attractive appearance (Certificate of Merit); Sir Trevor Lawrence, a large ivory-white Japanese, a naturally late-flowering variety, the blooms shown on this occasion being from crown buds; Golden Beauty, pale yellow, with drooping florets; Frank Wells, ivory-white; Ruth Amsden, bright yellow, drooping florets; and Rose Wells, a very pretty silvery-pink early-flowering Pompon, having a very dwarf wiry growth, very persistent in flowering—several plants were staged (Highly Commended). In addition, Mr. WELLS had blooms of Japanese, E. Beckett, Tom Thumb's Mate, Alice Seward, very

fine; La Chirene, Golden Yellow, Souvenir de M. Monier, W. H. Lincoln, and several more. A Bronze Medal was awarded to the collection.

People's Palace and East London Horticultural Society.—At this place of recreation there will be given, on Monday, Oct. 1, at 8.30 P.M., by Mr. C. W. Moorman, the Superintendent of Victoria Park, a lecture on "Chrysanthemums, and How to Prepare and Stage Them." Mr. Richard Dean will be the chairman. Admission is without charge. Schedules of the Chrysanthemum show to be held on November 1, 2, and 3, may be obtained on application to the Hon. Secretaries at the Palace.

Pollination of Pear Flowers. By Merton B. Waite, United States Department of Agriculture.—The *Amateurs' Handbook on Gardening*, and *How to Grow Vegetables* (Blake & Mackenzie).

Home Correspondence.

Deciduous trees in autumn.—The Conference just concluded at Chiswick was valuable for many reasons, and as a lover of deciduous trees I wish it could have been held where more visitors could have appreciated the objects staged. The beauty of these trees at this season, with their rich colouring in our often sunless autumn, is a relief and change the eye is glad of. Personally, I wish the objects staged could have been shown in their classes in groups. I am aware there are difficulties, such as late exhibitors, others fail to send notice of the quantity of exhibits, and each one likes to arrange according to his own taste; but perhaps the Council, seeing how well their call for exhibits has been responded to, may some day look favourably upon my suggestion, and have classes or divisions for Quercus, Acers, Alders, Pyrus, and such-like, staging the species in groups, according to each one's fancy. I feel sure, if the groups were not wide, they could be made effective, and if earlier in the year, could be in the open. I have a pleasing recollection of the lecture on "Autumn Tints" two or three years ago, and the beautiful things there at the time, showing the wealth of colour we have at our command, and their value for effect in gardens of any size. Not only are they beautiful now, but early in the year their various shades of green and grey are wonderful, and at midsummer they are valuable for shade. I am aware, by staging in groups, the colours would not be so taking; but if arranged earlier, there would be less colour, and anyone interested in the subject could see at a glance how certain trees succeed in the different localities. It is seen at a glance how well certain trees thrive by the growth. Of course, in this locality we are handicapped, having much moisture during the autumn and winter; surrounding buildings in the way of gas, soap, and other works, the vapours from which are injurious to tree life; with fog and smoke, indeed, so much so that to secure a few evergreen twigs soils the hands like sweeping a chimney. Herein is the value of deciduous trees, as they cast their leaves at a season when these vapours, fumes, and fog are most dense, and have their branches cleansed by winter rains. I am inclined to advise more attention to this class of tree, as the choice is so wide, and there is less fear of failure, as they thrive in soils not suitable to Conifers and such-like. Anyone who beheld the grand colours in Vitis, Dogwoods, Maples, Berberis, Viburnum, Pavias, Cratægus, Quercus, and others could not but appreciate the wealth of form and colour we have in deciduous trees. *G. Wythes, Sion House Gardens, Brentford.*



Fig. 50.—Ptelea trifoliata in fruit. (Shown at the Chiswick Conference.)

Publications Received.—*The Russian Thistle* (United States Department of Agriculture). By Lyster H. Dewey. A variety of Salsola Kali spreading widely in the north-western States of the Union. —*Insect Life.*—*Bulletin of the Louisiana State Experiment Station*, n. 27. Devoted to records of trials of fruit and vegetables.—*Contributions from the United States National Herbarium.* (Contains the conclusion of the Flora of Western Texas, by Mr. J. M. Coulter).—*General Abstracts showing the acreage under crops, &c. in Ireland*, 1893. (A general increase in land under cultivation; decrease in cereals; increase in green crops. Increase in horses and asses; large decrease in sheep.)—*The Yorkshire College Department of Agriculture: Third Report.*—*Fungi and Fungicides* (a practical manual). By Clarence Weed, D.Sc. New York Orange Judd Co.— *The*

A large Magnolia.—In your issue of September 8, Mr. W. Hills, East Cowes Castle, writes respecting a large Magnolia grandiflora. I think every gardener is pleased to hear of a fine plant of any sort. I have a plant of Magnolia here with hundreds of flowers upon it, which is nearly 50 feet high, and 5 feet in circumference at the base, and

40 feet spread. Here, therefore, is a rival to Mr. Hill's plant. *T. Sharman, Rozel Bay, Jersey.*

ERYNGIUM AMETHYSTINUM.—I was glad to see this plant noticed by Mr. Wolley Dod on p. 289, as it is a very attractive plant, with its pretty blue stems and flower-heads. I find it comes of a much better colour if planted in the full sunshine. At first I found it difficult to divide or propagate, but in February three years ago I managed, with a strong knife, to split off three small crowns with about 2 inches of thick root. These were placed separately in small pots, well drained, the soil consisting of half loam, and half silver-sand. These were stood in a cool greenhouse in the shade of some other plants, and water given as required. In about two months from the time of insertion, two out of the three had filled the pot with roots, and were planted out, the other cutting died. One of the plants that were put out grew strongly, and the following spring it was dug up and planted where an extension of rockery was being formed. It was taken up, as I thought, with every bit of root, but it evidently was not so, for the following summer up came a splendid crown of shoots that has flowered well this year. It seems to form leaf-buds from the fleshy root, much in the same way as Seakale or Horseradish. The Sea Holly, Eryngium maritimum, planted in a corner of a gravel walk, was accidentally cut off with a Dutch hoe last autumn 2 inches below the surface, has shot up again this year, and is now in flower. *A. Harding, Orton, Peterborough.*

LARGE OAKS AND OTHER TREES IN ENGLAND.—The following dimensions of three famous old English Oaks may be of interest to some of your readers:—The Beggar's Oak, Bagot's Park, near Lichfield, March, 1893: Girth at ground-level, 80 feet; at 4 feet above same, 25 feet; height, 60 feet; spread of branches, 113 feet. Cowthorpe Oak, near Witherby, Yorkshire, June, 1893: Girth at ground-level, 54 feet 3 inches; at 3 feet above same, 44 feet. In a note by Sir W. Jardine to *White's Selborne*, 1878 ed., p. 18, the measurements of the same tree were as follows: girth at ground-level, 26 yards = 78 feet; at 3 feet from same, 16 yards = 48 feet; height, 80 feet. Winfarthing Oak, near Diss, Norfolk, September, 1894: Girth at 4 feet from the ground, 38 feet 6 inches. This tree was measured by the same gentleman in 1873, at the same height from the ground, and was then found to be 40 feet (the same girth at which it stood in 1820, as recorded by a plate of that date on the tree). It must, therefore, have shrunk 1 foot 6 inches during the last eleven years; while the Cowthorpe Oak (assuming the accuracy of the above measurements) shrank 4 feet in fifteen years, and lost more than half of its height. I should be grateful to any of your readers who would supply me with particulars or measurements of any other English trees of exceptional size. I have noted the following, and should like to hear which of these still exist, and if so in what state of preservation:—Woburn Ash, Bedfordshire; Woolton Oak, Bucks; King's Oak, Windsor, Berks; Marton Oak, Congleton, Cheshire; Flitton Oak, near South Molton, Devonshire; Fairlop Oak, Essex; Tortworth Chestnut, near Wootton-under-Edge, Gloucester; Knight's Wood Oak, New Forest, Hants; Maple, Boldre Churchyard, Hants; Panshanger Oak, Herts; Four Sisters' Chestnut, Cobham, Kent; Fredville Oak, near Adisham, Kent; Bound's Park Oak, near Tunbridge, Kent; Chaucer Oak, near Donington, Leicestershire; Ankerwyke Yew, near Staines, Middlesex; Southgate Oak, near Southgate, Middlesex; Thelton Oak, near Shrewsbury; Walnut tree, near Cottelstone, Somersetshire; Black Poplar, near Bury St. Edmunds, Suffolk; Salcey Forest Oak, Northamptonshire; Yew at Fountains Abbey, Yorks. I believe that the great Elm near Crawley, Sussex, and the Yew at Brabourne in Kent, no longer exist. *M. J. G., St. Margarets, Thurlow Park Road, Dulwich, S.E.*

BLUE AND YELLOW PLUMS ON SAME BRANCH.—When recently at Southampton, Major Douglas, of Shirley, brought to me four Plums, roundish-oval in form, two of which were of the usual dark-purple colour, and two were clear yellow, like Coe's Golden Drop. These he said he had himself gathered from the same branch of a tree growing in Dr. Stewart's garden at Alton, Hants. The matter seemed to be of so unusual a kind that I obtained leave to bring them to London, and submitted the fruits to the members of the Fruit Committee at Chiswick the following day. The general opinion was that the purple fruits were Mitchelson's Plum, also that when tasted there was no apparent identity in flesh or flavour between the two varieties, although alike in shape. Major Douglas stated that a similar sport was found on the trees last year, and he averred most strongly that the fruits were gathered from the same branch. The sport, if it be so, seems so unusual that I am tempted to ask whether anyone else has had similar experience.—*A. D.* [This is a case, probably, of reversion to a progenitor of Mitchelson's Plum, whose name has not come down to us. ED.]

HARDINESS OF NICOTIANA AFFINIS.—Can any of my fellow gardeners inform me if Nicotiana affinis will propagate itself by means of its roots? I have here a rather broad border, the middle of which last year was filled with this plant and Tritomas. Last autumn, after the plants were killed down to the ground by frost, they were cleared away, the land manured and roughly dug, and about the month of April the border was lightly forked over, and left tidy. In June plants of Nicotiana began to appear, especially in the upper part, very thickly, and I had some of the plants lifted, and replanted in other parts of the border, taking them to be seedlings, when I discovered pieces of old roots attached to them. These roots had been chopped about with the spade in digging the ground, and had remained alive; and at the present time, that part of the border is one sheet of white flowers; whilst in the other part of the border, planted with spring-raised seedlings, only one here and there is in bloom. No one to whom I have mentioned these facts can call to mind a similar instance. [The plant is not a true annual, although it is usual to treat it as such. When first brought out (see *Gardeners' Chronicle*, September 15, vol. xvi., new series), it is stated that plants kept in pots, and stopped once or twice, made very floriferous objects the next season. ED.] *John Page, Monteviot, Jedburgh.*

VEITCH'S CLIMBING FRENCH BEAN.—This variety has proved quite an acquisition with me, and when it is better known will be extensively grown. I used it as a forcing Bean, also sowed it in the open ground, putting three Beans triangle-fashion, and placing stakes to them when required. The clumps were 4 feet apart, so as to allow the plants plenty of light, and they are now 6 feet high. The pod is long and straight, and is profusely produced. I am told it has a history, and is catalogued by some firms as Tender-and-True. No doubt those who have grown it once will grow it again. *T. H. Slade, Lea Park.*

SOCIETIES.

ROYAL HORTICULTURAL.

SEPTEMBER 24.—Tuesday last will be a memorable day in the annals of the Society. An exceedingly varied and interesting display of cut specimens of trees and shrubs, mostly deciduous, was got together. A Conference on Forestry matters was held; but the whole took place under the most dismal weather conditions possible. In consequence of this, the attendance was limited to the members of the several committees, who braved the weather in considerable numbers. We must say they were well rewarded, for a more interesting exhibition has rarely been got together within the precincts of the old garden. The great conservatory was filled from end to end with specimens of trees and shrubs, intermingled with brightly coloured Dahlias, Gladioli, and a few Orchids. In addition, three or four very long stages were erected—well, in the clouds, exposed to all the mist and rain. This, no doubt, kept the specimens nice and fresh, but it was depressing work for the judges, and betokened no little enthusiasm on behalf of those visitors who inspected the collections. Ireland, Scotland, and many of the English counties were well represented, and though there was much ordinary "stuff," yet, mingled with it was a vast amount of most interesting material, so good, in fact, that we earnestly hope the Council will see its way to repeat the experiment next year under different conditions, and with a little more forethought and attention to the classification and grouping of the exhibits. It is impossible even to attempt a detailed account of this remarkable exhibition. We can only allude to a few features.

Floral Committee.

Present: W. Marshall, Esq., chairman; and Messrs. H. Herbst, J. H. Fitt, Geo. Paul, J. T. Bennett-Poë, E. F. Bause, Geo. Stevens, C. Jefferies, R. B. Lowe, J. Walker, H. Turner, J. Fraser, C. T. Druery, Geo. Gordon, and R. Dean.

A group of hardy flowers was staged by Miss Debenham, St. Peters, St. Albans, amongst which were a number of Chrysanthemum blooms of the smaller-flowered varieties (Bronze Banksian Medal).

A number of sprays of the Exmouth variety of Magnolia grandiflora was sent by Earl Cowper, Panshanger Park, Hertford (gr., Mr. J. Fitt).

Zephyranthes carinata, a very free-blooming rose-coloured species exhibited by the same nobleman, was awarded a First-class Certificate.

Messrs. Geo. Paul & Sons, Cheshunt, exhibited their Tea Rose, Maman Cochet, which has been before the committee previously, when it was requested that it should be submitted again. It now received an Award of Merit.

Messrs. F. Sander & Co, St. Albans, received an Award of Merit for a very fine pair of Eriocnema Sanderæ, an ornamental dwarf-growing plant with leaves of mossy-green, and wide veins of a silvery tint; E. marmorata was shown for comparison, the leaves being less fine, and the veining much less conspicuous. Begonia Rajah was also again exhibited.

Messrs. R. Wallace & Co., Colchester, had a fine lot of varieties of Lilium in sprays, including the pretty little orange-flowered L. Henryii, several Montbretias, and some spikes of Watsonia Meriana, a red variety, were included. Also a plant of Colochortus Bonplandianus in bloom, remarkable for the clusters of little bulbels in the axils of the leaves (Silver Banksian Medal).

A display of Chrysanthemum blooms was made by the Earlswood Nurseries Co., Ltd. (W. Wells), 8, High Street, Redhill, for which a Bronze Banksian Medal was awarded. Many varieties, and a number of seedlings were included, and the blooms were very fine. An Award of Merit was given to Rose Wells, a summer flowering variety that had been lifted from the open ground. It is very free blooming, and bears moderately-sized rose-coloured flowers. An Award was also secured by a Japanese variety named Miss Dorothy Frankland, a yellow bloom with narrow petals, but rather thin as shown, the petals slightly recurved at extremities.

An extensive exhibit was staged by Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge. This included hardy flowers, such as Helianthus, Anemones, Asters, Eryngium Oliverianum, Hieracium aurantiacum, Gaillardias, Liliums, Montbretias, &c. A number of Roses in bunches were also included (Silver-gilt Flora Medal).

A wonderful collection of some one hundred spikes of Gladioli came from Messrs. J. Burrell & Co., grown in their Howe End Nurseries at Cambridge. These were all the more remarkable because they were from the small spawn planted in the spring of 1893, in which season they put forth a few blades of foliage, and were allowed to remain in the ground all the winter. They bloomed this season in the fine form seen on Tuesday, thus succeeding the planted bulbs which flowered in August. Awards of Merit were made to three new varieties of Messrs. Burrell & Co.'s own raising, viz., Little Dorrit, blush, with purple arch-like markings in the throat, a very pleasing variety; Cygnet, white, delicately suffused with cream, a beautiful form; and Muriel, crimson-red with a stripe of white along each segment and a bold white flame in the throat. Other fine varieties of Messrs. Burrell & Co.'s raising were Delicata, very fine; Cassandra, Magnet, and Florence. Some of the leading continental raised varieties, forming a select collection, were Rayon d'Or, pale yellow; Formosa, Cassandra, Baroness Burdett-Coutts, Amitié, very fine, Conquérant, Horace Vernet, Grande Rouge, Delila, and Atlas. In addition, the same exhibitors set up very fine stands of bunches of Cactus and Decorative and Pompon Dahlias, the quality wonderfully good for the advanced season. Prominent among the Cactus types were Matchless, unrivalled as a dark variety; Delicata, very beautiful; Robert Cannell, Mrs. Peart (white), May Hellier, Ernest Cannell, Purple Prince, Countess of Gosford, Lady Penzance, as beautiful now as earlier in the season, Kaiserin, Professor Baldwin, and Baron Schroder. There were bunches of the following Pompon Dahlias: Sunset, Karl Goldenberg, Phœbe, Irene, and Arthur West, one of the very best, &c.

Messrs. Keynes & Co., Salisbury, had a striking collection of new Cactus Dahlias, in remarkably good condition, and Awards of Merit were made to the following: Harmony, pale reddish salmon, with yellow centre; Earl of Pembroke, a half Cactus variety, crimson shaded with purple, and maroon centre;

and The Bishop, a true Cactus type, pale orange-red in colour, distinct. Other fine varieties of this firm's raising were Mayor Haskins, brilliant scarlet crimson, a little flat petalled in the centre, owing to the lateness of the season; Mrs. Barnes, pale scarlet, almost orange-scarlet, a large Cactus variety. They also had Model, a pretty pale Pompon variety (Silver Banksian Medal).

Mr. George Humphries, florist, Kington Langley, Chippenham, had bunches of new Cactus varieties, florets somewhat quilled; and several stands of show Dahlias, fancy varieties, and decorative varieties (Silver Banksian Medal).

Messrs. J. Cheal & Sons, nurserymen, Crawley, had Mrs. Horniman, an exceedingly attractive deco-



Fig. 51.—QUERCUS GLABRA: AN EVERGREEN SPECIES. (SHOWN AT THE CHISWICK CONFERENCE.)

deep sulphur yellow, the basal florets tipped with pink; Marquis, dark maroon flushed with crimson, not so fine as Matchless, but less brilliant and finished now than earlier in the season; and Salisbury White, a very fine blooming pure white decorative Dahlia, with two others raised elsewhere, viz., Delicata and Mrs. Bennett, an Australian flower, viz, John Welch (Award of Merit), bright scarlet, very fine and effective; and two others of great promise, viz., Bennett Goldney, buff flushed with pale red; and Frances Humphries, orange slightly suffused with red; very distinct. Also the following Pompon varieties, Iona, clear bright yellow, very good indeed; and Nora Bailey, white and flush, the

rative variety in the way of old Picta formosissima, the ground colour yellow deepening to pale salmon, with side-margins of rose; very distinct (Award of Merit).

From Mr. John Walker, nurseryman, Thame, came a large and fine collection of show and Cactus Dahlias of rare quality at this season of the year.

Of show varieties, there were capital examples of Arthur Ocock, J. Standish, Majestic, James Cocker, Mrs. Langtry, and J. T. West. Of fancy varieties, the Rev. J. B. M. Camm, John Cooper, Matthew Campbell, Mrs. J. Downie, and Edmund Boston; with boards of Cactus and decorative varieties also (Silver Flora Medal).

From Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, came one of those pictorial effects with Dahlias he is in the habit of making. Of new varieties were two of the Cactus character, viz., Mrs. Francis Fell, white, with slight yellow centre (Award of Merit), a variety which seems to improve as the season advances; and John H. Roach, a yellow flower in the way of Lady Penzance. Single Dahlia Cissie, pinkish-lilac, with a crimson ring round the eye (Award of Merit), is very pretty; and the Rev. Geo. Boggis, deep scarlet, with a broad edging of yellow, is lacking in shape. Of new Pompon varieties there were Crimson King, Gladys Valentine, blush; Mary Durie, cerise-crimson; and Louise Matthews, yellow; and Sallinger (Silver-gilt Banksian Medal).

From Mr. S. Mortimer, Swiss Nursery, Farnham, came a large collection of show Dahlias, showing the finest quality. Fancy Dahlia Novelty (new), pale ground flaked with purple and pink, very delicate, received an Award of Merit. He also had a delicate flower named Mrs. Stephen Walker, of a very promising character. Of show varieties Mr. Mortimer had Kathleen, W. Rawlings, E. Boston (selfs), Glowworm, and quite a large number of others (Silver Flora Medal).

From Mr. Charles Turner came several new show Dahlias, to one of which—Shottesham Hero—an Award of Merit was made; it is a lovely edged flower, with pale ground, in the way of Lady Gladys Herbert, but much more refined—petal and centre alike being very fine, and it is heavily tipped with bright purple; Barbara, a primrose self; Osmond, orange-red; Esmond, a large pale yellow self; Cyril, bright deep lilac; Rosamond, pale ground, edged with bright deep purple; and Adèle, a full deep yellow self, were all new. A new yellow decorative variety, pure, and without any tinge of colour, named Mrs. Turner, had an Award of Merit. Pompon Matchbox, deep crimson, is decidedly promising. A box of blooms of Cactus Edith Turner, yellow, suffused with orange-crimson and purple, one of the small-flowered Cactus type, was much admired.

From Mr. J. R. Tranter, florist, Henley-on-Thames, came two new Show Dahlias, not in condition, however, to be dealt with on this occasion.

From Mr. J. Hudson, The Gardens, Gunnersbury Park, Acton, came bunches of Cactus and Pompon Dahlias, prettily arranged with Ferns and grasses, and neatly set up (Bronze Banksian Medal).

One of the most unique exhibits, and the only one to which was awarded the Society's Gold Medal, was a collection of specimen plants of the scented species of Pelargonium from Mr. Jas. Hudson, gr. to Messrs. de Rothschild, Gunnersbury House, Acton, W. The plants represented a large number of species and varieties, and were an exhibition of very great skill, most of them being of unusual size, and trained on fan trellises or as bushes, in each case the training had been carefully and skilfully accomplished. The plants bore the healthiest appearance possible, and were staged on the grass outside the large vinery, where it was unfortunately unpleasant to inspect them minutely, the air and grass being very wet. The well-known P. radula and P. r. major were on fan trellises, being half a circles of 7 feet in diameter or more, which were exceedingly well clothed, and no doubt are intended to be used as screens or for a similar purpose. P. quercifolia and P. q. minor were noticeable and are amongst those most easy to grow. P. fragrans, the Nutmeg-scented one; P. capitatum, the Rose-scented species; P. filicifolium odoratum, P. crispum (Lemon-scented), P. tomentosum, and many other species and varieties are grown by Mr. Hudson into large specimens, and very unusual success. We understand Mr. Hudson's method is to keep them growing gently at all times, never drying them off, or shaking them out in the autumn, but keeping them moderately moist at all times.

Orchid Committee.

Present:—Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Sec.), Jas. Douglas, Thos. Statter, J. W. Bond, H. J. Chapman, and Walter Cobb.

The Orchid exhibits at Chiswick are never numerous, but on the present occasion they were very choice. Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, showed the interesting new bigeneric hybrid Sophro-Cattleya × eximia (C. Bowringiana ♀, S. grandiflora ♂). Although the tall-growing Bowringiana bore the seed, the plant shown was exactly like a strong piece of Sophronitis grandiflora, and the flower was similar in form to that species, but age will no doubt develop larger proportions both in growth and flower, and the inflorescence will probably bear several blooms. The sepals and petals were of a warm rose-purple; the lip yellow at the base, with rose-purple indentations in front, the purple lines also showing through the folded side-lobes on the outside. The front of the lip was of a rich rose purple with darker veining—a very charming novelty (First-class Certificate). Messrs. Veitch also showed three forms of their beautiful Lælio-Cattleya × Nysa (L. crispa × Warscewiczii), viz., L.-C. × Nysa superba, a great improvement in the original, but with the same yellow base to the lip (Award of Merit). L.-C. × N. picta, a lighter form with the tips of the petals and side lobes of the lip blotched with purple (Award of Merit), and L.-C. × N. purpurea, in which the yellow of the type was wanting, and the front lobe of the lip was rounded as in C. Warscewiczii, the whole flower suffused with a warm purple hue, the broad labellum being specially showy (Award of Merit). The same exhibitors sent Cypripedium × Astræa (philippinense ♂, Spicerianum ♀).

Messrs. F. Sander & Co., St. Albans, exhibited a fine addition to the dwarf, large-flowered section of hybrid Cypripediums, in their new C. × Arnoldiæ (bellatulum × superciliare). In form it resembles C. × conco-Lawre, but the broad petals are longer. The whole flower is creamy-white, thickly spotted with purple (First-class Certificate).

Messrs. Sander also showed the natural hybrid Lælio-Cattleya × albanensis and L.-C. × a rosea, Aërides Lawrenceæ, Cycnoches chlorochilon, their magnificent form of Cattleya dolosa, Lælia × Oweniana, Cypripedium × Batalinii (purpuratum × Argus), and the very singular greenish-white and bright red Dendrobium cruentum (Botanical Certificate).

Thomas Statter, Esq., Staud Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the singular and pretty Cattleya bicolor cœrulea, with greenish sepals and petals and blue lip (First-class Certificate); two fine forms of Cattleya granulosa, C. Leopoldi, Statter's variety, and a fine form of C. aurea.

M. Wells, Esq., Broomfield House, Sale, Manchester (gr., Mr. Hind), sent the fine hybrid Lælio-Cattleya × Wellsiæ (C. labiata, autumn flowering × L. purpurata). In form it most nearly resembled L.-C. × Canhamiæ (purpurata × Mossiæ), and also in the perfect shape of its bold large flowers, which in the plant shown were four on a spike. The sepals and petals were pinkish blush-white, the lip dark purplish-crimson changing to rosy-crimson at the edges. Flowering after L.-C. × Arnoldiana, and the rest of its class, it will be a valuable addition (Award of Merit).

Mr. J. Prewett, Swiss Nursery, Hammersmith, had a very tastefully-arranged group of fine specimens of Dendrobium formosum giganteum, set up with Maidenhair Ferns, Pancratiums, &c. (Vote of Thanks); and C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), sent a fine spike of a grand form of Lælio-Cattleya × elegans, with pure white tube to the lip, and very broad deep purple front lobe to the same; also a bright-looking hybrid of the Selenipedium × Calurum section.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. P. C. M Veitch, G. Norman, G. H Sage, James Hudson, W. Bates, J. Willard, J. Wright, Jas. H. Veitch, F. Q. Lane, A. Dean, C. Herrin, G. W. Cummins, H. Balderson, J. Smith, Geo. Bunyard, Geo. Reynolds, Geo. Wythes, and A. Sutton.

A remarkably creditable exhibit of vegetables and fruit was made from the Borough of Richmond allotments, including a great variety of vegetables, as well as King Pippin and Wellington Apples. Potatos, Onions, Beet, Savoys, Carrots, Celery, Turnips, Leeks, &c., were very good (Silver Knightian Medal).

Mr. Charles Herrin, Dropmore Gardens, Maidenhead, showed a Melon called Supreme, a green-flesh from La Favourite and an unnamed seedling.

Four fruits of seedling Cucumbers named Blendworth Perfection, were shown by Mrs. Lang, Blendworth Lodge, Horndean, Hants (gr., Mr. John Bexley). This is a fine variety, of medium size and intense green colour (First-class Certificate).

Mr. Chas. Turner, Royal Nurseries, Slough, exhibited some fruits of Turner's Prolific Tomato, and a dish of Apples called A. F. Barron.

Mr. A. Young, Abberley Hall Gardens, Stourport, showed a dish of Apple Standard Bearer.

Mr. R. Dean showed two Apples (Bismarck) from his seed ground at Bedfont, where they had been frosted on the morning of Wednesday, September 19. Only Apples and Pears had suffered from the cold wave.

A dish of good Rivers' Monarch Plums was shown by Messrs. H. Lane & Sons (First-class certificate).

Several fruits of a rather highly-coloured Peach, called Late Devonian, and said to be of good flavour, were shown by Messrs. Robert Veitch & Sons, Exeter (Award of Merit). The same firm exhibited bine and fruits of Veitch's Climbing French Bean, which has already become very popular, having the climbing character of the Runner Bean, and bearing pods like the French variety (First-class Certificate).

An Apple, called Bealing's Pippin, came from General R. T. Farren, K.C.B., Bealing's House, near Woodbridge. A rather large collection of fruits was shown by Lord Foley, Ruxley Lodge, Claygate, Esher (gr., Mr. J. W. Miller), including twenty-three dishes of Pears. Barrington Peaches from the open air were good, and Pitmaston Orange Nectarine. There were also Figs, Imperial Plums, Melons, and Filbert Nuts (Silver Banksian Medal).

Mr. C. Penford, Leigh Park, exhibited some extra large Spring-sown Onions, which he has been selecting for some years.

Mr. A. Basile, St. George's College Gardens, Woburn Park, Weybridge, had a large collection of Vegetables, including Cauliflowers, Carrots, and Potatos. This exhibitor also showed a huge fruit of Curcubita maxima weighing 196 lb.

Several New Potatos of much excellence were shown, and most of them received First-class Certificates. These were the following, Hillside Supreme, shown by Mr. Stoke, Hipperton Marsh, Trowbridge. The Field King, from Mr. C. W. Howard, Bridge. The Poor Man's Friend, exhibited by Mr. J. S. Eaton, New Radford, Notts. Daniells' Special, from Messrs. Daniells, Bros, Norwich; and Boston Bountiful, shown by Messrs. W. W. Johnson & Sons, Boston.

Mrs. Jones, Greenford Place, Sudbury, Harrow (gr., Mr. G. Jones), had a collection of fruit and vegetables, including a dozen varieties of Apples, and several dishes of Plums, Cauliflowers, Potatos, Leeks, Beet, Celery, Onions, Carrots, &c.

Exhibition of Hardy Trees and Shrubs.

As we have said, the exhibition was very large and very interesting. Part of the display was held in the large vinery and part out-of-doors. Taking first those shown under cover, we may note the following:—

Her Majesty the Queen sent, through Mr. Owen Thomas, of the Royal Gardens, Frogmore, seven diverse species of tree-bearing Mistleto. It grows on the Hawthorn freely, and frequently on the knotty formations, also on the Lime, Carya alba (Hickory), Mountain Ash, Robinia Pseudo-acacia, Apple, and the Maple. Specimens of Sophora japonica, Taxodium distichum, and several other trees were also included.

From the Director of the Royal Gardens, Kew, came another collection, in which was a large and handsome branch of Hippophae rhamnoides, literally covered with its round, orange-coloured berries. Viburnum molle, with berries of blue-purple, was a great contrast. Vitis vinifera purpurea was handsome, and had particularly dark foliage. Indigofera Gerardiana was shown in bloom; Rhus semialata var. Osbeckii has a capital, bold, handsome leaf, which acquires good colours. Rosa microphylla has a good flower, and besides being very distinct in appearance, has a Pine apple scent; it is a rare Japanese species. Hypericum Moserianum, a garden hybrid, bears a capital flower. Cotoneaster horizontalis, in berry, looked very pretty; it has a very flat growth. The exhibit also included—

- Amorpha canescens (flowers)
- Carya microcarpa and C. sulcata (two large-leaved Hickories)
- Castanopsis chrysophylla
- Clematis brevicaudata (flowers)
- Cornus brachypoda variegata
- ,, Gouchaultii (fruit)
- ,, sibirica variegata
- Cytisus supinus (flowers)
- ,, nigricans (flowers)
- Desmodium penduliflorum (flowers)
- Genista elatior (flowers)
- Hypericum nepalense
- ,, oblongifolium
- ,, patulum
- Ligustrum Quihoui (flowers)
- Ptelea trifoliata (fruits)
- Quercus densiflora (a rare Californian Oak)
- ,, rubra var. palustrifolia (the largest-leaved of the American Red Oaks)
- Rhus vernicifera
- Rosa Wichuriana (a new trailing species from Japan)
- Rubus biflorus (white-stemmed)
- ,, sorbiflorus (a new species from Japan with yellow fruits)
- Ulex Gallii (flowers)
- Vitis Coignetiæ

Messrs. Paul & Sons, Cheshunt, in a very choice collection of hardy plants in pots, obtained a First-Class Certificate for a Holly Lawsoniana, a tolerably broad-leaved variety, well marked with a yellow variegation, and two shades of green; also for Veronica cupressoides, shown about 9 inches high, and distinctly Cupressus-like in growth, Veronica salicornioides, a brighter-coloured one, being almost yellow, and V. Lycopodioides, a dark-coloured one, resembling in habit of growth that of the lycopodioides, were granted similar awards. These Veronicas are natives of New Zealand. Acer purpurascens Nizelli, a leaf with a large amount of bronze colour, was granted an Award of Merit. The collection was very rich in rare and beautiful species: Garrya elliptica in fruit, Althæas, Pernettyas, Heaths, a pretty variegated Elder, Phillyrea decora, bearing a large quantity of blue-purple coloured fruits, similar to Sloes, and many others. A Silver-gilt Flora Medal was awarded to the group.

Messrs. C. Lee & Sons, Hammersmith, staged a fairly large collection of sprays of shrubs. Acer platanoides elegantissima is a pretty variety. Pyrus Sorbus aria carried a fine lot of berries; Acer laciniatum, A. colchicum rubrum, Fagus sylvatica asplenifolia, and Quercus Cerris variegata were included in the exhibit.

Dr. Masters showed on behalf of Professor Max Cornu, Director of the Jardin des Plantes, Paris, leaves of Vitis Coignetiæ, similar to those shown by Mr. Anthony Waterer, but differing from those shown elsewhere in the exhibition by Messrs. Veitch & Sons, so that here is a botanical problem to be solved (Silver Knightian Medal).

Another collection of hardy plants was from Messrs. G. Bunyard & Co., Maidstone, who obtained for it a Silver Flora Medal. This included Berberis Thunbergii, well known for its brilliant scarlet foliage in autumn; Cornus sibirica elegantissima, a good silver variety, growing 4 to 5 feet high; C. s. albo marginatus, Alnus glutinosa incisa (cut-leaved Alder), an elegant tall shrub, recommended for damp spots; Betula Maximowiczii, a Japanese Birch; Arundo Donax variegata, Gymnocladus canadensis, Eulalia japonica gracillima, E. j. zebrina, Ulmus montana var. monumentalis, a distinct-looking tree for the park; Euonymus europæus fructu albo, Aralia sinensis (?), various Spiræas, Elms, Oaks, &c.

The Marquis of Huntly, Orton, Longueville, Peterborough (gr., Mr. A. Harding), sent a collection of Conifers in cone, comprising fine specimens of Torreya myristica, Abies amabilis, cephalonica, concolor, nobilis, Pinsapo, grandis, &c. (Bronze Banksian Medal); and Colonel Tremayne, a collection of hardy shrubs and Conifers. In this collection were the Golden Larch, Azara microphylla, Desfontainea spinosa, Embothrium coccineum, Benthamia fragifera, &c. (Silver Banksian Medal).

Messrs. R. Veitch & Sons, Exeter, in a collection, included Choisya ternata, Rosa rugosa, Sorbus macrophyllus rotundifolius, Hippophae rhamnoides, nicely berried; Leycesteria formosa, Erythrina Crista-galli, Magnolia conspicua, &c., besides a fine collection shown in the garden.

The report on the collections shown out of doors, is of necessity affected by the fact that noting had to be done under an umbrella, and that a rain-drop on the page makes sad havoc with the names of the plants. The first collection we have to note is that from the Duke of Wellington, Strathfieldsaye (gr., Mr. McHattie). This consisted of 200 varieties, as varied in interest as in number. A specimen from the Turkey Oak which overshadows the grave of Copenhagen, the horse that carried the Duke at Waterloo, was among them. Nyssa biflora is a tree rarely seen (a Silver-gilt Banksian Medal was awarded to the collection). The collection from Sir P. K. Murray, Bart. (gr., Mr. Croucher), was rich in Hollies, Oaks, Ivies, Elms, Beeches, and comprised also specimens in cone of Abies nobilis, Nordmanniana, Veitchii, grandis, and cephalonica, Picea Smithiana, Menziesii, P. orientalis, and other Conifers (a Silver Flora Medal was awarded). A. Waterhouse, Esq., Yattenden Court, Newbury (gr., Mr. Walker), had a small but good collection, comprising Dimorphanthus mandschuricus in bloom, Cassinia fulvida, Oaks, Cornels, &c. (to this collection a Silver Banksian Medal was adjudged).

From the Duke of Northumberland's park at Syon, a classical spot as regards trees, came a very extensive collection, which did credit to the gardener, Mr. Wythes, but which, owing to the unfortunate weather, could not be displayed to advantage. In consideration of the special interest attaching to Syon and its trees, we append a detailed list of the principal subjects exhibited:—

Quercus Brantii
" ambigu
" castaneiæfolia
" Cerris, Turkey Oak
" " argentea
" " fulhamensis
" " pendula
" coccinea
" Daimio
" discolor
" laurifolia
" macrocarpa
" palustris
" pedunculata
" " argenteo variegata
" " asplenifolia
" " concordia
" " latifolia
" " Louetteii
" " purpurea
" rubra, Champion Oak
" Tauzin
" splendens
" pannonica
" nigra
" coccinea macrophylla
" serrata
" lutea
" stellata
" pubescens
" laciniata
" regia
" " glaucescens
" " spicata
" " sessiliflora
" sessiliflora purpurea
" " heterophylla
" alba
" rubra
" glauca
" Suber
" reticulata
" falcata
" bambusifolia
" nobilis
" Ægilops
Acer saccharinum, Sugar Maple
" tartaricum
" platanoides Reitenbachii
" rubrum
" macrophyllum
" palmatum atropurpureum
" platanoides aureo-variegatum
" creticum
" pseudo atro-purpureum
Abelia serrata
" triflora
Æsculus hippocastanum
" Pavia flava
" sinensis
Alnus tinctoria
" glutinosa monstrosa
" " laciniata
Ailantus flavescens
" glandulosa
Aralia spinosa
" japonica
Aralia hybrida
" pentaphylla variegata
Calycanthus floridus
Carpinus Betulus
Carya alba
Castanea vesca
" sativa aureo variegata
Catalpa Bungei
" Kæmpferii
" bignonioides
Cerasus japonica flore roseo-pleno
" " multiplex
Cercis siliquastrum
Chimonanthus fragrans
Cornus stolonifera Spathii
Corylus Avellana laciniata
" " pendula
Cratægus coccinea
Diospyros Lotus
" virginiana
Cydonia japonica
Fraxinus excelsior Wentworthi
" " pendula
" " argenteo variegata
Ginkgo biloba macrophylla
Gleditschia sinensis and sinensis pendula
Halesia hispida
" tetraptera
Taxodium distichum
Hippophae rhamnoides
Hydrangea paniculata
Koireuteria paniculata
Liquidambar styraciflua
Juglans fraxinifolia
" nigra
Pterocarya caucasica
Liriodendron tulipiferum
" " aureum
Magnolia conspicua
" " acuminata
" " Soulangeana
" " speciosa
" " stellata
" " obovata
Morus (alba) (nigra)
Negundo fraxinifolia albo variegata
" " cissifolia
Platanus orientalis
" californica
Pyrus prunifolia
" sinensis
" Sorbus
" Aria
" americana
Robinia pseud-angustifolia elegans
" " monophylla
" " tortuosa
" " Bessoniana
Sophora japonica
" " pendula
Tamarix gallica
Sambucus nigra argenteo variegata
" " heterophylla
Stuartia virginica

A Silver Knightian Medal showed what the opinion of the judges was as to this collection.

From Mr. F. Riddell, Pakenhill Nursery, near Stroud, came a remarkable specimen of twisted Hazel (see fig. 52 p. 380). A quantity of the excellent variety of Spiræa Bumalda, known as "Anthony Waterer," was exhibited as a pot plant, and was carrying plenty of bloom in quite small pots, and the plants were very dwarf. A variety of Diervilla (Weigela) named Eva Rathke was exhibited by Mr. Waterer also; the flowers are a good dark colour, and the extremities of the essential organs pure white.

Lord Powerscourt's collection, sent by Mr. Crombie, from Powerscourt, Ireland, was rich in Conifers. It was interesting to see, side by side, Abies Webbiana and A. Pindrow in cone, showing well the differences between the two. In addition there were cones of A. cephalonica, A. Nordmanniana, A. magnifica (fine cones), A. Pinsapo, Cupressus torulosa, C. Corneyana, and many others (a Silver Banksian Medal was awarded this collection).

Mr. Malcolm Dunn, to whose energy the society once more is indebted, sent from the Duke of Buccleuch's estate at Dalkeith a large and varied collection, including Styrax japonica, Spiræas, Magnolias, Rhododendrons, Cratægus in berry, &c. (a Silver Flora Medal was awarded).

Messrs. J. Veitch & Sons, Chelsea, showed a collection of choice kinds, including gorgeously-tinted species of Rhus and Vitis, a Parottia persica, Olearia macrodonta, Ptelea trifoliata aurea, Japanese Oaks, Maples, cut-leaved Walnut, and a large number of others (a Silver-gilt Flora Medal was awarded).

Captain Holford, Westonbirt (gr., Mr. Rattray), sent a very rich collection of specimens, including numerous species of Cratægus in fruit, splendid cones of Pinus, Ayacuite, Cornels, Maples, Oaks, Viburnum, Birches, Hippophae rhamnoides, finely berried (to this exhibit a Silver Knightian Medal was awarded). Messrs. Veitch of Exeter showed Acer ginnala, finely-coloured, and a variety of other plants, which won for them a Silver Flora Medal. Earl Cowper showed a small collection, for which a Bronze Medal was awarded.

Two fine specimens in tubs of Picea pungens, so beautiful in the glaucous hue of the needles; and the glauca variety of Cedrus atlantica, together with a basket of Pernettya mucronata in berry, were shown by Mr. Anthony Waterer, Knap Hill Nurseries. He also showed in the conservatory a fine specimen of large bronzy leaves of what we take to be the true form of Vitis Coignetiæ

W. H. Maxwell, Esq., Munches, Dalbeatie, sent a select collection, including Pyrus Maulei in fruit, Cratægus americana, various Maples, including A. Reitenbachii, a variety of A. platanoides, Elms, Alnus aurea in flower, showing that the coloration extends to the catkins (a Silver Banksian Medal was given to this collection).

And now, if there are omissions and mistakes, we plead in extenuation not only the want of space, which is a permanent difficulty, but also — the weather!

Conference on Hardy Trees and Shrubs.

The Society held a Conference on hardy trees and shrubs in connection with the exhibition. The attendance was relatively small, owing, no doubt, to the abominable weather. The Council of the Society being anxious to direct greater attention to the ornament and utility of the trees and shrubs which are to be found growing in the British Isles, and of which many were originally introduced by the Society's collectors, decided to hold a Conference with that end in view. At the morning proceedings Mr. W. T. Thiselton-Dyer, C.M.G., Director of the Royal Gardens, Kew, occupied the chair. It was originally arranged that at this sitting two papers should be read—one by Mr. J. B. Carruthers, F.L.S., on "The Larch Disease," and the other by Mr. E. J. Baillie, F.L.S., on "Forest Trees for Commercial Purposes." Owing, however, to the absence of both the writers, the papers were not read, but will duly appear *in extenso* in the Society's *Journal*. Owing to the consequent re-arrangement several who had put off visiting the Conference till the afternoon, for the purpose of hearing Mr. J. Simpson's paper on "The Utilisation of Waste Ground Unsuitable for Agriculture," were disappointed, as that paper was read at the morning sitting; and many who were interested in the Larch disease were equally disappointed. Mr. Carruthers in his paper, we understand, suggested mixed plantations as one remedy for the Larch disease, and for individual trees he recommended that incisions should be made into the affected parts. The places should then be covered with grafting-wax and sacking.

Mr. Baillie, we believe, treated his subject with reference to soil and aspect.

The Utilisation of Waste Ground unsuitable for Agriculture.

Mr. J. Simpson, of Wortley, in his paper on this subject, said there need be no doubt about the present condition of our British woods. Our native timber was going down at a rate that few suspected, and nothing like an equivalent was being planted. In many districts Larch, probably the most profitable of all British trees, was practically done.

Spruce for mining purposes, which could be produced in thirty or forty years, was even scarcer, although the demand was so great. Ash was almost everywhere scarce, and big Oak, for which the demand was enormous for railway carriages and waggons, would soon be a thing of the past. Other timbers were being used up at a proportionate rate, and our woods were either disappearing altogether, or getting so thin as hardly to be worth calling woods. When speaking of land unsuitable for agriculture, but suitable for the production of timber, he meant poor, sandy, and gravelly soils, mountain sides, glens, and ravines inaccessible to the plough, sand-hills near the coast—perhaps the most worthless of any, poor peaty waste and such like. That there were vast tracts of land of this description in the British islands that would grow timber well, he thought there was no question, but still such tracts were worth a small rent per acre for some purposes, and to turn them to better account in the production of timber could, he believed, be generally done under certain conditions. Those who

were the most likely to most benefit from planting timber were those who could afford to plant on the most extensive scale, and the State and large landed proprietors were the parties who could do that best. Many British plantations were unprofitably managed. The almost universal custom was to sell home-grown timber in the rough, either standing or felled, and in this state it was removed by the middleman or the consumer, but in either case to the loss of the vendor, because the bark, with the exception of peeled Oak, and all the waste and refuse, had to be removed with it, and its removal paid for, which payment came out of the price of the wood. The removal of timber in the rough to the consumer often cost half, or more than half, of the delivery price. Very often it cost from 2*d*. to 4*d*. per cubic foot to haul and remove the timber to the nearest railway station, and perhaps as much again had to be paid for railway transit after that. The foreign timber that came to this country was all sized and sorted. It was therefore in much less bulk, and could be handled far more conveniently than home-grown timber, which after hauling to the railway-wharf might have to lie for weeks before the travelling crane could be sent to hoist it on to the waggons, or the waggons could be got—always expensive work. It was from greater economy in management, as much as from other sources, that the margin of profit must be sought in the future.

A good deal of misconception, Mr. Simpson went on to say, existed with regard to the timber productive power of our poor or waste lands unsuitable for agricultural purposes. One might often judge pretty safely from the vegetation and trees in a neighbourhood, whether the soil was capable of producing timber, but it was not safe to conclude from the poor surface crop, it was unfit for that purpose. Trees, and especially the broad-leaved species like the Oak, Beech, and Chestnut, for example, responded to good soil and good root-culture, as did farm crops, but not to the same extent as the latter. Given a root-hold in a healthy soil, however poor, a tree would grow and produce timber to surprising dimensions. The plea so often advanced, that we should plant tracts for profit in the expectation that the foreign supply of timber would at no distant date fall off, was one about which he had grave doubts. Hitherto, foreign countries had exercised more foresight in the management of their forests than Britain had done. We had great leeway to make up even to overtake other countries which were not likely to be more shortsighted in the future than in the past. It was not altogether excessive foreign competition which hurt our home timber trade, as we had not always had the timber to offer. He perceived that there seemed to be generally a wish to start somewhere about John O'Groats, or the Land's End, the west coast of Ireland, or the mountain tops of the Isle of Man, and to neglect far more suitable and likely tracts of useless land at our own doors. It should always be remembered that every mile they went further from a railway station they reduced the profits.

It was a great mistake to suppose that because Oak was now less used for ships, the demand had fallen off. It had been simply transferred to the waggon-builder, and the quantity used for such purposes alone threatened to exterminate all the Oaks in England in a short time. Whilst railways existed, Yorkshire and Lancashire mills continued to run, mines to be worked, agricultural implements and appliances to be used, houses to be built and furnished, and all the multifarious needs of the community supplied, the demand for home-grown timber such as Oak, Ash, Sycamore, Beech, Larch, and other Firs, Elm, Birch, &c., would continue to be great, and the prices fairly remunerative—that was to say, if past experience went for anything. He should fear bad management far more than insect pests and tree diseases.

The wants of forest trees were few and simple, and the operations of practical forestry were also so easy that any intelligent labourer might carry them out with no more training or instruction than could be given him by a competent head forester from time to time. The chief obstacle to planting now-a-days was that owners of estates were very reluctant to engage to any extent in planting as an investment, because past experience had been far from encouraging. He had always felt that no amount of persuasion could ever get over such considerations as these with private estates. Whether it would be wise for the State to venture on a large scale where private enterprise might be said to have failed, was a subject which did not come within the scope of his paper. It might be granted, however, that past forestry in this country was hardly a safe criterion to go by for the future. Owners of estates had spent money freely in planting, and with the best intentions, but they had also sacrificed much to game, by careless management, and through want of foresight in growing the wrong species of trees.

Professor Marshall Ward, Instructor at the Cooper's Hill School of Forestry, said he was very pleased to hear one truth driven home, to the effect that we in this country had long been in the habit of wrongly estimating the capabilities of the soil in these operations. We had for many years been in the proud position of being authorities on the subject of soil; but the paper emphasised the fact that our notions of the value of the soil had been taken from

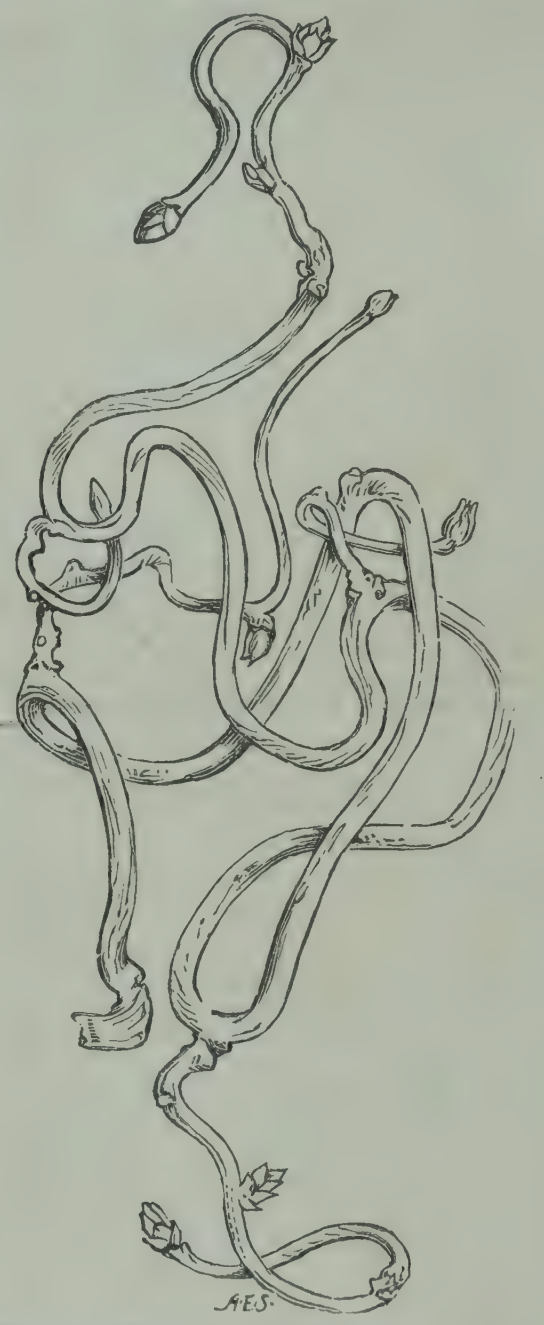


FIG. 52.—TORTUOUS HAZEL. (SHOWN AT THE CHISWICK CONFERENCE.)

the point of view of the farmer and agriculturist, and it was really a difficult matter to get it considered from the point of view of forestry. One thing he would like to say, if any one contemplated any action in the matter, they must make up their minds not to be deterred at the outset if their expectations did not come up to results which had been based upon analyses of the chemistry of farm crops and fruit. That was a point in danger of being overlooked, and the writer of the paper did quite right in laying stress upon it.

A gentleman, residing in Cornwall, said that he had had considerable experience in forestry. He explained how he had been most successful. He said in the plantations in which he had been interested he had followed Nature's order as closely as he could. Openings were made by great gales, and he had followed this course for thirty-eight years, and was very well satisfied with the result. His plan had been to ventilate the wood by making roads, and cutting away the undergrowth where the trees wanted air. He had always thinned in May or June, and he never did the whole plantation at once. He had taken away two out of every ten trees, or one-fifth. After about twenty-five years other cuts were made parallel to the roads, leaving twelve trees and taking three. By that time the first cuts had nearly grown together, so that the side branches were being filled in as they would be in an ordinary plantation. Since then he had only taken out dead and suppressed trees. By proceeding in this method, he believed a leaf canopy could be sufficiently preserved.

The Chairman, Mr. Thiselton-Dyer, said that when a body like the Royal Horticultural Society initiated a discussion like that, it undoubtedly assumed a certain responsibility. It was of course desirable to make use of every occasion to ventilate a subject, but they must be careful as a body with an established reputation, that they did not lead the public to believe that they had any distinct views upon the subject, because it was one fraught with enormous difficulty. He must say that he was much struck with the fact that the writer of the paper really answered, with almost destructive criticism, many of the suggestions raised in his own paper. There seemed to be some confusion in the matter. A landowner with an attractive estate planted trees for various purposes—for shelter, or to a very large extent from considerations of landscape effect. Of course, in so doing, he had his reward in the pleasure he derived. Such actions ought not to be regarded from a commercial point of view. There was, in point of fact, very little in this country of what could be called forestry. That arose from various considerations, and he would not then trouble them with details. On the continent, however, forests to a large extent belonged to permanent bodies, such as the Communes in Switzerland, and other great corporate bodies. Therefore such bodies could, if they liked, project the expenditure and the expected profit into the next century. That was impossible for the private landowner in this country, therefore he did not himself see how they could ever seriously tell the private landowner that planting in the present state of things could be regarded as a profitable, or even a possibly profitable, investment. This matter was very carefully discussed some time ago before a Committee of the House of Commons. He among others gave evidence, and he heard one landowner who had been himself engaged in forest management in India, state that there was a time when he could use his own timber for purposes of his estate, but that there came a time when he found that Norwegian timber could be delivered cut at his own door at a cheaper rate than he could supply from his own woods. When they heard that, it seemed perfectly useless to try to impress people with the statement that it would be a good thing to invest money in this particular industry. He had heard it said that the timber supply of the world would give out before that of the coal. In that case the condition of things would be very much changed, and timber would be of greater value than at present, but as long as there were inexhaustive tracts of soft wood, especially in the northern hemisphere of the new world, he did not see how it was possible in this country to produce timber which would compete with that brought to our shores. At the same time, the discussion of the subject could not fail to be of use, although he did not think any general principle could be laid down as regards wood cultivation in this country; yet astute persons in different localities might, even under present conditions get good results. For example, Elm wood—and he could speak from experience—was practically unsaleable in the neighbourhood of London, but in Gloucestershire it commanded a good price, because locally Elm wood was found to make the best boxes for packing South Wales tin plates. It was the only wood which did not deteriorate the polish of the tin plates. He could mention other instances of local industries which were still profitable. He did not agree with the writer of the paper that English landowners were less astute than foreigners, although it was the fashion to say so; as only the other day in Sussex he saw Oak wood being converted by a portable sawmill driven by steam, and although the Oak wood was not what would strike the ordinary person as any good, he held it was quite a profitable operation. It was difficult to see what inducement could be held out to get a man to plant for posterity as a duty incumbent upon him. The Dean and Chapter of Durham were planting some of their

own estates, but they were a land-owning body, and not subject to the vicissitudes of the private owner. Anyhow, instructive experiments might be made, and a discussion of a paper so ably and impartially written could not fail to be of use.

The General Management of Woods.

Sir A. J. Arbuthnot presided at the afternoon Conference, at which Mr. A. C. Forbes read a paper on "The General Management of Woods, Planting, Thinning, Nurse Trees, Coppices, Hedgerows, &c." He said Mr. Simpson's paper covered a great deal of that written by himself, which would make it unnecessary for him now to go over the same ground. He impressed upon his hearers the lesson, that it must not be supposed that the trees which became prominent early would fulfil expectations; they should, therefore, give great attention to all, as "the survival of the fittest," held good in plant as in all other life. Indigenous or European plants would be the most suitable, as they would be less liable to climatic risks. From 10,000 to 12,000 plants might be put to the acre, and for the first two years weeds must be kept down, and ground game exterminated. Owing to the immutable law to which he had alluded, there would be a constant process of weeding out going on; but the greater the number of plants, the greater number would there be to find a congenial home.

Mr. Webster said he was very pleased with Mr. Forbes' paper. He condemned the "fallacy" of the "mixed plantation" system.

Mr. Geo. Paul said he could not help thinking that the Society was fulfilling one of its best functions in endeavouring to improve forestry. The question of leaf-canopy was a novelty to him, and seemed to carry great weight with it. The only statement on which he differed from the writer of the paper was that which said that we ought to confine ourselves to native trees because in certain parts of England there might be climatic risks. He thought the papers they had heard that day were of such practical value that all the Fellows of the Society would be glad to read them. He would therefore propose a hearty vote of thanks on behalf of the members of that Society to the writers.

Mr. Geo. Bunyard seconded the motion. He said he would not trouble them on that occasion with the way in which they in Kent managed their woods, as he proposed to write a short history, to be published at the end of these papers in the Society's *Journal*, because their practice differed entirely from the suggestions made that day. To a very large extent the woodlands of Kent owed their very existence to the value they gave to an estate for sporting purposes. He would not go so far as to say he was against all kinds of sport; but it was a source of grief to him to see the way in which these trees were eaten up by rabbits. There was another point which struck him as a Kentish man. They very seldom planted trees for timber purposes. The greatest result was often to be obtained where trees were planted as underwood, and cut down in periodical cycles of from ten to fourteen years. He had known Chestnut wood to fetch £80 an acre. He could remember the time when Hops were poled with British poles; but then came the Norwegian Fir, and now the Hops were strung on string suspended from end supports.

Sir Alexander Arbuthnot, in responding to a vote of thanks to the Chairmen of the two meetings, read a telegram conveying greetings from their Secretary, the Rev. W. Wilks, who is progressing favourably after the severe operation which he has undergone. He thought it was really a matter which our statesmen and political leaders ought to consider, whether they ought not to do something to applying capital to the renewal and increase of our forests.

The Conference then terminated.

New Invention.

A NEW SHOW CARD.

The article known as the "Strong Strut Back" Show-card certainly deserves the adjectives with which the patentees describe it. It is composed of an oblong piece of exceedingly stout card, which can be hung by the ring at the back of it, or made to stand at any angle by means of the wide strut, which still further increases its power and adaptiveness. The whole of the back-strut, support, and suspension ring, are ingeniously stamped out of one piece of card, while the front is intended to bear advertisements—as for instance if the "Strut Back" were used as a name-card at horticultural exhibitions—or small articles, such as pencils, labels, or knives could be displayed upon it. For simplicity, durability, and appropriateness this show card has much to recommend it. It is sent out by Messrs. Strong & Co., of 8, Leonard Street, E.C.

CONCERNING ROOT SUCKERS OF STONE FRUITS, &c.

We have plenty of experience of the troublesome suckers which spring direct from the roots of the Plum, Cherry, and Damson, whether these be used as stocks for the ennobled varieties of their genus, or are themselves the fruit-bearers. The outgrowths lessen the vitality and growth of the tree, and if not pulled up, they cause its early death.

The general belief is, that a tree producing suckers is itself the product of a sucker; but, as a fact, it is the deep cultivation of the soil over the roots by a spade, fork, or hoe that is the cause of their appearance. As is well known, stone fruits must not be so deeply planted as Apples, Pears, and the like, or they will not succeed and bear large crops. By shallow planting, the roots are easily injured by the spade or hoe, and wherever an injury is made, there comes first a swelling, and later an outgrowth. It is, therefore, advisable to hoe or dig the land over the roots very lightly.

Manure-water for Winter Green Crops.

At this season, as well as earlier, the application of liquid manure during rainy weather works wonders on growth in Cabbages, Savoys, Coleworts, &c.

Tomatos.

To preserve Tomatos till late in the autumn, secure the fruits by their stalks to straw-bands like ropes of Onions, and hang them in a cool dry room. Half-ripe fruits should be wrapped in or placed under cotton-wool, and kept in a warm room. *Obstbau Vereins' Organ for Steyermark, September*, 1894.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.		Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending September 22.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.			Ins.		
0	1 +	69	0	+ 311	— 53	11 —	165	37·8	26	33
1	0 aver	67	0	— 50	+ 5	7 —	149	26·6	16	34
2	0 aver	81	0	+ 31	— 54	6 —	150	18·5	9	33
3	0 aver	91	0	+ 40	— 100	5 —	144	18·2	15	36
4	0 aver	85	0	+ 49	— 81	5 —	139	17·6	4	32
5	1 +	104	0	+ 85	— 119	2 —	140	20·8	15	36
6	0 aver	76	0	+ 40	— 69	9 —	155	34·6	20	33
7	0 aver	85	0	+ 162	— 120	7 —	153	24·	11	33
8	1 +	99	0	+ 86	— 81	2 —	153	28·0	30	38
9	1 +	81	0	+ 30	— 33	8 —	172	27·3	15	30
10	1 +	93	0	+ 67	— 67	5 —	158	29·5	17	32
*	1 +	125	0	+ 216	— 18	3 —	160	25·8	41	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N. 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 22, is furnished from the Meteorological Office:—

"The *weather* continued dry over the United Kingdom as a whole, but some rain was experienced over the more southern and south-western districts, mostly towards the end of the week. The sky was, however, extremely cloudy generally, the only exceptions being over the Channel Islands and some of the northern Scotch stations. Some thunder and lightning occurred in the south-west during the night of Thursday.

"The *temperature* either just equalled the normal, or was 1° above it. The highest of the maxima were registered on the 18th or 19th, when they ranged from 72° in 'England, E.,' 71° in 'England, S.W.,' and 70° in 'Ireland, N.,' to 63° in 'England, N.E.' The lowest of the minima were recorded on somewhat irregular dates, and varied from 34° in 'Scotland, E.,' and 36° in 'Scotland, N. and Ireland, N.,' to 43° in the 'Midland Counties and England, N.W.,' to 49° in the 'Channel Islands.'

"The *rainfall* was again less than the mean in all districts, especially in the northern parts of the Kingdom, where the fall was extremely slight.

"The *bright sunshine* exceeded the mean in the 'Channel Islands,' but was deficient elsewhere. The percentage of the possible duration ranged from 4 to 20 over 'England,' from 15 to 17 in 'Ireland,' and from 16 to 26 in 'Scotland,' while in the 'Channel Islands' the percentage was as high as 41. The lowest percentage of the possible duration recorded at any individual station was that at 'Oxford,' where it was only 1 per cent., in 'London' and at several stations in the 'Midland Counties' there was only 3 per cent., at 'Edinburgh' 5 per cent., and at 'Dublin' 8 per cent."

MARKETS.

COVENT GARDEN, September 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Foliage plants, doz.	9 0	24 0
Aspidistra, per doz.	12 0	30 0	Fuchsias, per dozen	4 0	6 0
— specimen, each	7 6	21 0	Heliotropes, per doz.	3 0	6 0
Asters, per dozen	3 0	6 0	Hydrangeas, per doz.	9 0	18 0
Campanulas, p. doz.	6 0	12 0	Lilium Harrisii, per dozen	12 0	24 0
Chrysanthemums, p. dozen	6 0	15 0	— lancifolium, pr. dozen	9 0	12 0
Cyperus, per dozen	4 0	10 0	Marguerites, p. doz.	6 0	12 0
Dracæna, each	1 0	5 0	Mignonette, per doz.	3 0	6 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	Palms, various, each	2 0	10 0
Ferns, various, doz.	4 0	12 0	— specimens, each	10 6	84 0
— small, per 100	4 0	6 0	Pelargoniums, scarlets, per doz.	3 0	6 0
Ficus elastica, each	1 0	7 6			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	2 0	4 0	Mignonette, 12 bun.	1 0	3 0
Asters, doz. bun.	2 0	6 0	Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Bouvardias, per bun.	0 6	1 0	Pansies, 12 bun.	1 0	2 0
Carnations, 12 blms.	1 0	1 6	Orchids:—		
— doz. bun.	2 0	6 0	Cattleya, 12 blms.	6 0	12 0
Chrysanthemums, p. 12 blooms	1 0	1 6	Odontoglossum crispum, 12 blms.	2 0	4 0
— p. 12 bunches	4 0	8 0	Pelargoniums, scarlet, p. 12 bun.	4 0	6 0
Cornflowers, 12 bun.	1 0	2 0	— 12 sprays	0 4	0 6
Eucharis, per dozen	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
Gaillardias dz. bun.	1 6	2 6	Roses, Tea, per dozen	0 6	2 0
Gardenias, per dozen	1 6	3 0	— coloured, p. doz.	2 0	4 0
Gladiolus, doz. bun.	4 0	12 0	— yellow (Maréchals), per doz.	1 6	4 0
Lapageria, 12 blooms	1 0	2 0	— red, per dozen	0 6	1 0
Lavender, 12 bunches	4 0	6 0	— outdoor, per doz. bunches	2 0	6 0
Lilium Harrisii, doz.	2 0	4 0	Stephanotis, dozen sprays	2 0	4 0
— lancifolium, p. bunch	1 0	2 0	Tuberoses, 12 blms.	0 4	0 6
— — p. 12 blooms	0 9	1 6			
Maidenhair Fern, per 12 bunches	4 0	6 0			
Marguerites, 12 bun.	1 0	3 0			

Orchid-bloom in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, per sieve ...	4 0	6 0	Grapes, Muscat, 2nd quality, per lb. ...	0 9	1 0
,, Dessert, half-sieve	3 0	5 0	,, Guernsey, per lb....	0 5	0 9
Cobs, per 100 lb. ...	25 0	30 0	Melons, each ...	1 0	2 0
Damsons, half-sieve	1 6	2 0	Peaches, large, per doz.	4 0	8 0
Figs, per dozen ...	1 6	3 0	,, small, per doz. ...	1 0	2 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	Pears, p. sieve, small	1 6	2 0
,, English, 2nd quality, p. lb.	0 6	1 0	,, (Dessert), half-sieve	2 0	4 0
Grapes, Muscat, per lb.	1 6	2 0	Pine-apples, St. Michael, each ...	2 0	5 0
			Plums, half-sieve ...	2 0	5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, half-sieve	2 0	2 6	Cucumbers, per doz.	1 6	2 6
,, Runners, sieve	1 0	1 6	Marrows, per doz. ...	1 3	2 0
Cauliflowers, p. doz.	1 0	1 6	Mushrooms, per lb.	0 9	1 3
			Tomatos, per lb. ...	0 3	0 4

POTATOS.

Trade slow except for best samples. Prices:—Snowdrops and Main Crops, 80s. to 90s.; Hebrons, 70s.; Giants, 50s. to 60s.; Blacklands, 50s. per ton.

SEEDS.

LONDON: *September* 26.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the sale for Trifolium now naturally diminishes. Fine new English winter Tares are now obtainable at very tempting figures. Sowing Rye also continues exceedingly cheap. Samples of new white Mustard have now begun to come forward. Rapeseed is steady. The new French Buckwheat just landed meets with favour. Canary seed is featureless. Hemp seed firm. Linseed quiet. Haricots improving. Peas unchanged.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *Sept.* 25.—Quotations:—Cabbages, 1s. 6d. to 3s. per tally; Turnips, 1s. to 2s. 3d. Carrots, 1s. to 2s. 3d.; Parsley, 9d. to 1s. 6d. per dozen bunches; Beans, Scarlet, 1s. to 1s. 6d. per bushel; Horseradish, 1s. to 1s. 6d. per bundle; Onions, foreign, 3s. to 3s. 6d. per bag; do., English, 4s. to 5s. per cwt.; Apples, 1s. to 1s. 6d. per bushel; Pears, 9d. to 2s. 6d.; Plums, 1s. to 2s. 3d. per half bushel.

STRATFORD: *Sept.* 25.—The supply to this market during the past week has been excellent, and with a large attendance of buyers a brisk trade was done at the undermentioned prices:—Cabbages, 1s. 9d. to 4s. per tally; Collards, 1s. 9d. to 3s. per tally; Cauliflowers, 1s. to 2s. 6d. per dozen; do., 4s. to 10s. per tally; Turnips, 1s. 6d. to 2s. per doz. bunches; Carrots, household, 40s. to 45s. per ton; do., cattle feeding, 25s. to 28s. do.; Mangolds, 16s. to 21s. per ton; Swedes, 16s. to 18s. do.; Onions, English, 80s. to 90s. per ton; do., Belgian, 2s. 6d. to 3s. 6d. per bag; do., Oporto, 5s. to 6s. 6d. per case; Apples, English, 2s. to 7s. per bushel; Pears, 2s. to 4s. per barrel; Watercress, 6d. per dozen; Beans, 1s. 6d. to 1s. 9d. per sack; Cucumbers, frame, 1s. to 3s. per dozen; do., field, 4d. to 8d. do.; Celery, 9d. to 1s. 2d. per roll; Horseradish, 1s. to 1s. 3d. per bundle.

FARRINGDON: *Sept.* 27.—Quotations: Apples, 3s. to 6s. per bushel; Pears, 1s. 6d. to 4s. do.; Plums, 3s. per half-bushel; Mushrooms, 4s. per half-bushel; Blackberries, 5s. per half-bushel; Tomatos, English, 3s. per 12 lb.; Walnuts, bag, 24s. of 75 kilos.; Cob-nuts, 3½d. per lb.; Cucumbers, 1s. 6d. to 1s. 9d. per dozen; Grapes, English, 1s. per lb.; do., Almeira, 3d. do.; Onions, 4s. to 4s. 6d. per bag; do., picklers, 5s. to 6s. do.; Carrots, 50s. per ton; Turnips, 45s. do.

POTATOS.

BOROUGH AND SPITALFIELDS: *Sept.* 25.—Quotations ranged from 45s. to 80s. per ton.

STRATFORD: *Sept.* 25.—Quotations:—Main Crop Kidneys, 60s. to 70s.; Bruces, 55s. to 70s.; Imperators, 50s. to 75s.; Dark-soil Magnums, 45s. to 50s. per ton.

FARRINGDON: *Sept.* 27.—Quotations:—White Hebrons, 70s. to 80s.; Sutton's Abundance, 70s. to 80s.; Maincrop, 70s. to 80s.; Bruces, 60s. to 70s.; Magnums, 55s. to 65s. per ton.

LONDON AVERAGES: *Sept.* 26.—Hebrons, 6s. to 80s.; Magnums, 50s. to 65s.; kidneys, 50s. to 70s.; Snowdrops, 70s. to 85s.; Black-lands, 45s. to 55s.; rounds, 50s. per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75s. to 135s.; do., inferior, 45s. to 120s.; hay, best, 10s. to 130s.; do., specially picked, 138s.; do., inferior, 60s. to 100s.; do., new, 70s. to 90s.; Mixture, 90s. to 120s.; and Straw, 30s. to 42s. per load.

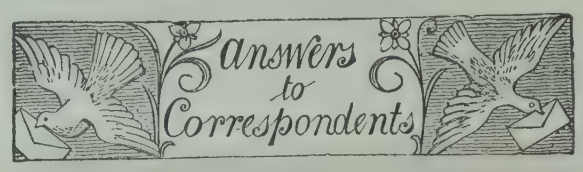
CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending September 22, and for the corresponding period last year:—1894: Wheat, 19s. 8d.; Barley, 23s. 5d.; Oats, 15s. 2d. 1893: Wheat, 26s. 9d.; Barley, 27s. 10d.; Oats, 17s. 9d.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

IRRIGATION IN TROPICAL COUNTRIES.—Will some reader of these pages kindly inform "West Indian" the titles of some standard works on the above subject?



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BOOKS: *T. S.* A manual on *Violet Culture* by Mr. Heath, is published by Mr. Birket, Kendal.—*A. A. M. My Gardener*, by H. W. Ward, price 2s. 9d., published by Messrs. Eyre & Spottiswoode, East Harding Street, London, E.C.—*W. A. M. Hardy Flowers*, by W. Robinson, is a more portable volume than the *Flower Garden*, by the same author. Published by Macmillan & Co., Bedford Street, Covent Garden, W.C.—*Les Cultures sur le littoral de la Mediterranée*, by Dr. E. Sauvaigo, published by MM. J. B. Ballière et Fils, 19, Rue Hautefeuille, Paris. A handy and useful book for the pocket. *The Gentlewoman's Book of Gardening*, by Mrs. Chamberlain and Mrs. Douglas. Published by Henry & Co., Bouverie Street, London, E.C.

CINERARIAS AND CALCEOLARIAS: *X. Y. Z.* There must have been some point in their cultivation omitted or not understood, but what that is we cannot say. Have you been using manures, artificial or other?

DISQUALIFICATION AT FLOWER SHOW: *Excelsior.* Supposing the facts to be as you state them:—1. You were quite justified in disqualifying the exhibitor; 2. The exhibitor is certainly bound by the rules; 3. We do not know, but we are of opinion that the County Court Judge would have no jurisdiction, provided the rules were fairly acted on; 4. Is more than we can answer, in view of the glorious uncertainty of the law.

FUNGUS: *J. P.* Stink Horn (Phallus impudicus). Gas-lime may destroy the spawn if heavily applied to the soil on which it grows; but it is a very erratic species, springing up in all sorts of places on poor soils.

GRAFTING ROSES: *C. W. F.* It is not the usual time to graft Roses, but we see no reason why grafts should not "take" on roots, if these be potted, or the mass of mould and roots secured by wrapping it round with moss, and tying this fast with matting. They might be stood close together over bottom-heat of 70°; and when new growth is apparent, or even before, grafted with short scions of the Roses it is desired to increase. They would have to be kept rather close till taken. The difficulty would be to keep them going after they had "taken," as that would be at the beginning of the winter, when any growth that would be made would be weak from want of light and ventilation. January is a much better month, potting the stocks in November, keeping them in a cool house, and not exciting them till about fourteen days before grafting. Such stocks may be mere roots, or dwarfs, half standards, and standards; the first two either Briars, Manettis, and La Grifferaie; and the last two Briars only. All stocks require soil about them to be kept moist. Grafting-wax, Homme le Fort, or other similar, should be used; wax preventing the ingress of moisture at the point of union better than clay.

HORSE-MUSHROOM: *J. P.* Agaricus arvensis.

HOUSE 100 BY 12 FEET, SPAN-ROOFED: *Gaucho* Either Cucumbers or Tomatos would give good returns, if you plant out at once strong plants, but the crops would not turn in at an early date. Tomatos for winter should at this season be of good size, with fruits already set in some quantity.

HYDRANGEAS: *Enquirer.*—These may be struck in bottom-heat of 85°, in a frame or propagating-case, from strong young shoots, with a heel of old wood. The heads of bloom are generally larger than from plants struck in the early spring from shoots taken from plants forced into growth. Strike them singly in thumbs or small 60's, and keep them after rooting gently moving, shifting them once or twice. Hydrangeas must be root-bound to cause them to throw up flowers readily. Spring-struck plants are grown in greenhouse pits, without much shade, throughout the months of May, June, and July, and then stood out in the open air in full sunshine till the end of August. These plants will force readily after they have lost their foliage, and rested for a month or two, with but little water afforded at the root during that period.

LAW RELATING TO MARKET GARDENERS' BUILDINGS: *J. Jonsin.* We think that you cannot do better than obtain copies of the Acts relating to the matter. There have been alterations made recently, but we cannot say precisely of what these consist. Messrs. Eyre & Spottiswoode, Queen's Printers, East Harding Street, E.C., supply copies at small cost.

MEALY-BUG ON VINES: *A. A. M.* It is difficult of eradication if it has been allowed to increase much. When the leaves have fallen, sweep up and burn them; then proceed to strip the rods of the loose rough bark, and only this should be removed, being careful to clear out the angles at the base of the fruit-spurs. Having done this, make a mixture of dry clay and gas-tar, about one pint of the latter to a bucketful of the former, kneading it well together, and afterwards adding water, till it is of the consistency of paint, and with this paint every part of the Vines, especially paying attention to likely hiding-places. Throw the vinery open to the frost if convenient to do so; wash the woodwork with water, petroleum, and soft-soap, 1 pint of the oil to 3 gallons of water, not using more soap than will assist the incorporation of the oil, or much of the paint will be removed from the wood; lime-wash the walls, adding some salt and sulphur to the wash. See that the brickwork is properly pointed; and finally, remove carefully with shovels the upper-crust of the borders to a depth of 3 inches, and replace with fresh soil. It will be necessary to examine the Vines during the summer, touching any bugs that may be found with a camel-hair pencil dipped in methylated spirits. A band covered with moist gas-tar may be put round the Vine stems near the ground level; but the tar must not touch the bark, or the Vines will die.

NAMES OF FRUITS: *G. S.* 1, Manks' Codlin; 2 and 3, most probably Keswick Codlin; 4, Jargonelle; 5, Williams' Bon Chrétien.—*W. Newton.* 1, Cox's Orange Pippin; 2, Cox's Pomona; 3, Margil; 4, Alfriston; 5, Warner's King; 6, Sturmer.—*T. E.* Pear Souvenir du Congrès.—*A. A.* 1 and 3, Marie Louise; 2, Duchesse d'Angoulême; 4, Williams' Bon Chrétien; 6, Easter Beurré Pear; 5 and the Peach were too much damaged.—*Dartnall & Co.* 92, Dutch Codlin; 87, Emperor Alexender; 147, Frogmore Prolific; 76, Lane's Prince Albert; 152, Baxter's Pearmain × Waltham Abbey Seedling.—*G. S.* Apple Col. Vaughan; 4, Pears, Josephine de Malines; the others such small miserable scrubs that we cannot recognize. *Amy R.* Pear, Fondante d'Automne.—*G. W. F.* Pears, 1, Beurré Clairgeau; 2, Bishop's Thumb; 3, Beurré Bachelier; 4, General Todtleben; 5, Beurré d'Amanlis; 6, Doyenné du Comice; 7, Duchesse d'Angoulême; 9, Fondante d'Automne; 10, Beurré Bosc; 11, Triomphe de Jodoigne; 12, Williams' Bon Chrétien; 13, Barrone de Mello; 14, Hampden's Bergamot; 15, Hessle; 16, Beurré Hardy; 17 Beurré Sterckmans. Six is the largest number you should send.—*A. H.* Apple Dutch Codlin.—*Oakfield.* 1, not recognised; 2, New Hawthornden; 3, Cox's Pomona.—*John Kingland.* Pears: 1, Van Mon's Leon Leclerc; Doyenné Boussoch; 3, Beurré Rance; 4, B. Diel, 5, B. de Capiaumont; 6, Marie Louise.

NAMES OF PLANTS: *L. C., Rugby.* Staphylea trifoliata. S. pinnata is smaller in all its parts, also seeds.—*D. & D.* 1 and 2, we are quite unable to name single leaves, such as you send.—*A. J. P.* Melilotus officinalis (common Melilot).—*F. C. P.* 1, Viburnum Lantana; 2, Berberis vulgaris; 3, Corydalis lutea.—*J. K.* Helianthus rigidus and Centaurea moschata.—*W. H. Y.* Solidago Virgaaurea, Golden Rod.—*W. J. W.* Polygonum persicaria.—*X. Y. Z.* 1, an Escallonia, send flowers; 2, Cephalotaxus drupacea; 3, Thuia orientalis var. Sieboldi; 4, Retinospora plumosa, variegated, a form of Cupressus pisifera; 5, a variety of Cupressus Lawsoniana; 6, Cupressus Nootkatensis, *alias* Thuiopsis borealis.—*W. D.* 1, Phygelius capensis; 2, Aspidium Filix-mas.—*G. S.* sends 2*s.* 6*d.* for the Gardeners' Orphan Fund, for which many thanks; 1, the cut-leaved Alder, Alnus glutinosa; 2 the Hornbeam, Carpinus betulus; 3, Spiræa Fortunei; 4, Salix caprea, probably; 5, Populus alba.—*A. W. M.* Should address such communications to the Editor, not to the Publisher. 1, Calamintha acinos; 2, Pedicularis sylvatica; 3, Euphrasia officinalis; 4, Samolus Valerandi; 5, Bartsia odontites; 6, Echium vulgare.—*W. L.* 1, perhaps the Deodar, Cedrus Deodara; 2, perhaps the Cedar of Lebanon, Cedrus Libani; 3, Cupressus (Retinospora) pisifera; 4, Picea Morinda; 5, Retinospora plumosa of gardens, a form of Cupressus pisifera; 6, Cedrus Libani or atlantica, we cannot say which from the scrap sent. —*W. P.* Echinops ruthenicus, Cardiospermum Halicacabum.—*B. C., Liverpool.* Yours is a very brightly-coloured form of Vallota purpurea major. The specimen of Lapageria rosea is producing its flowers in an unusual manner, at the ends of the shoots. We do not remember having seen a similar specimen.—*P. W., Magdeburg.* Stanhopea saccata.—*C. B.* The plant is known to us as Pleroma macranthum (syn., Lasiandra).—*W. P.* A very fine form of Cattleya maxima.—*T. M.* 1, Lygodium scandens; 2, Polypodium subauriculatum; 3, Trachelium cœruleum; 4, Leycesteria formosa; 5, Asplenium bulbiferum; 6, Pteris serrulata.—*Label Missing.* ? *A. W. M.* Polygonum orientale.—*J. H. B.* 1 and 2, both species of Verbascum, which we cannot name from such material; 3, Melilotus officinalis; 4, Hibiscus Trionum; 5, Sedum Telephium; 6, Euphorbia Cyparissias.—*Burghley.* Cratægus tanacetifolia (Tansy-leaved Thorn).

PEARS ATTACKED BY FUNGUS: *A. Reid.* A fungus (Fusicladium dendriticum, Fckl.) is the cause of the disease. This fungus first appears on the leaves, and afterwards, in damp seasons, passes on to the fruit. The trees should be sprayed when the fungus first shows as minute, velvety, olive patches on the leaves, or, as a preventive, before the fungus appears. Bordeaux Mixture has been proved effective. *G. H, Massee.*

TOMATO: *Colchester.* The insect attacking your Tomatos is Aleyrodes Vaporarium. Fumigation or the use of Richards' XL Liquid Insecticide will prove serviceable. We do not, however, think the insect does much mischief.

COMMUNICATIONS RECEIVED.—E. J. L.—C. J. H., next week.—W. W.—W. M.—Sutton & Sons.—A. M. W.—Professor Max Cornu, Paris.—T. B.—J. V.—A.—W. S.—W. B.—D. C.—T. H. M.—A. W.—G., Springthorpe.—W. P.—J. W. T.—H. M —C. E. L.—E. C.—R. D.—J. J. W.

PHOTOGRAPHS RECEIVED WITH THANKS.—W. S.

SPECIMENS RECEIVED WITH THANKS.—L. L., Brussels.—C. W. D.—E. J. L.—J. B. S.—D. E.—J. E. N.—A. E. C.—W. H —Nomenclature.—A. E. F.—H. W. H.—J. R. S.—P. C. H.—Cherry Ripe.—J. W. T.—W. B. V.

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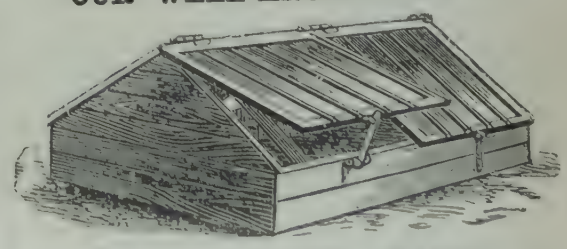
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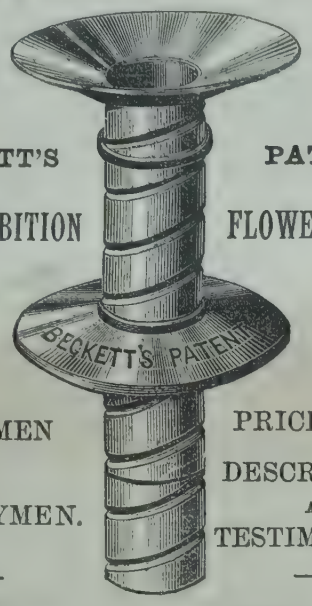
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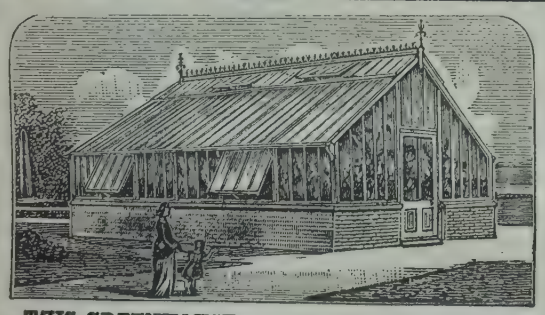
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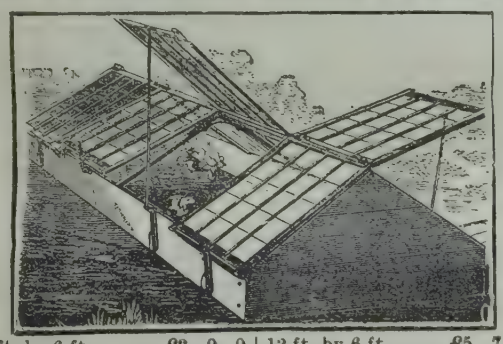
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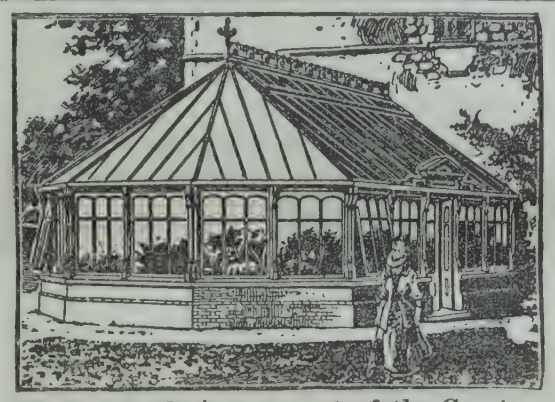
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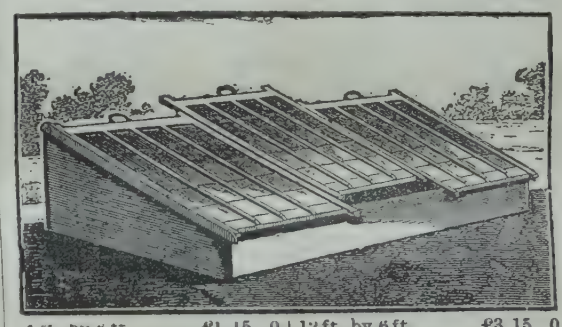
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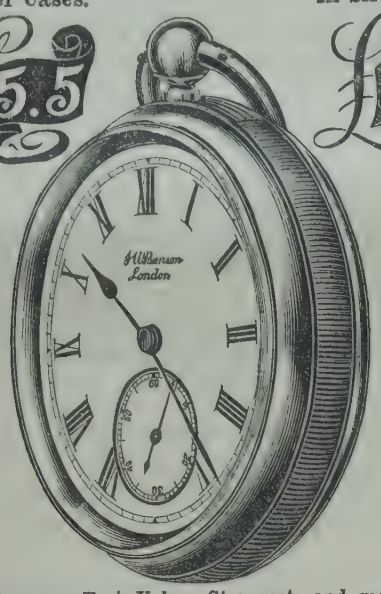
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GARDENER (SINGLE-HANDED).—Married, two children; good reference. Flower and Kitchen Garden, Lawn; no Glass. Cows or Poultry.—T. PALIN, Common, Bletchingley, Surrey.

GARDENER (SINGLE or SECOND).—Age 22, single. Six years' good experience Inside and Out; good character.—G. L., Watlington, Oxon.

GARDENER (SINGLE-HANDED).—Young man, six and a half years in present place. Can be well recommended by the GARDENER, Coolhurst, Horsham, Sussex.

GARDENER (Good SINGLE-HANDED).—R. GEORGE, Gardener to Earl Sondes, is anxious to obtain situation as above for Charles Salvidge. Excellent references from present and last places.—Lees Court, Faversham.

GARDENER (SINGLE-HANDED).—Age 34, married. Eight years last situation; left through a death.—W. S., 19, Stanhope Gardens, South Kensington, S.W.

GARDENER (SECOND); age 24.—Mr. DICKENSON, Ratcliffe Hall, Leicester, wishes to recommend his Foreman, F. Simpson, as above, who is well up in Vines, Peaches, Melons, Cucumbers, Tomatos, and Plant Houses, Table and House Decoration. Good character from present and previous employers.—F. SIMPSON, The Gardens, Ratcliffe Hall, Leicester.

GARDENER (SECOND).—Age 31, married; experienced Inside and Out. Good references.—D. J. V., 19, Stanmer Street, Battersea, London, S.W.

GARDENER (SECOND).—Age 23; well up in Fruit, Plants, House and Table Decorations. First-class references.—P. STEARN, 16, Stamford Road, Fulham, S.W.

GARDENER (SECOND, where three or four are kept).—Age 27; twelve years' experience; the last eighteen months at Cusworth Park, Doncaster. Good references.—H. RUMSAY, Wootton Lodge, Ulceby.

GARDENER (UNDER).—Single; understands the general routine of Gardening, inside and out; excellent reference.—G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London.

GARDENER (UNDER), and generally useful.—Youth, age 17; four and a half years' experience. Strongly recommended by RECTOR, Barrowden, Stamford.

GARDENER (UNDER).—Age 18; four years' good character.—V. EDGERTON, High Street, Burnham, Bucks.

GARDENER (UNDER).—Strong, active young man (age 19), five years' good character.—A. HANNELL, 13, Queen's Cottages, Sandycomb Road, Richmond, Surrey.

GARDENER (UNDER), age 20, requires a situation; has had six and a half years' experience Inside and Out; Flower and Kitchen Garden. Good references. Gardener's son. Disengaged.—J. GODDARD, Bishopsgate, Englefield Green, Surrey.

GARDENER.—Age 39, married. Understands the management of Vines, Cucumbers, Melons, Tomatos, the cultivation of all kinds of Flowering Plants; also the work of the Kitchen Garden, and Hardy Fruit Trees. Wages, with cottage, 30s. per week. Testimonials good.—W. LUCAS, Warnford, Bishop's Waltham, Hants.

GARDENER.—Vicar leaving his parish, wishes to recommend his Gardener, age 24, single; abstainer, honest and industrious; or in Nursery as Improver.—VICAR, Stratton St. Margaret, Swindon.

ROSE GROWER, Inside or Out, or PROPAGATOR and GROWER of General Nursery Stuff.—Age 30, married; fourteen years' experience.—T. NASH, 16, Stanley Terrace, Lower Weston, Bath.

To Nurserymen.

GROWER of Plants and Cut Flowers, age 40, can be well recommended from one of the largest Trade Nurseries; also Wreath-work.—GROWER, 4, Beaconsfield Cottages, Hillingdon Heath, Uxbridge.

PROPAGATOR and GROWER.—Age 31; fifteen years' good experience in all kinds of Market Stuff, Wreaths, Bouquets, &c.—W., John Woods, Hartford, Huntingdon.

FOREMAN, PROPAGATOR and GROWER.—Age 27, married; well up in Roses, Clematis, and General Hard and Softwooded Flowering and Market Stuff; also Cut Blooms, Tomatos, and Ferns. Fifteen years' experience.—W. G. PERRY, Glencarse, Perth, N.B.

FOREMAN (Herbaceous and Carnations).—Age 30; seeks position in Nursery, where energy and business ability are required. Can take entire charge. Thoroughly reliable.—B. T., 41, Wellington Street, Strand, W.C.

FOREMAN, in the Houses.—Age 23; eight years' experience. Disengaged. Good references.—F. BISHOP, Steeple Aston, Oxford.

FOREMAN.—Age 27; abstainer, Dissenter. Four good characters. Two years as First Journeyman in last place, large establishment, nobleman's. Well up in Fruit growing, Stove Plants, and Horticultural Work in general. Can be thoroughly recommended for the above by W. Wilson, Gardener, Milburn. Wages, 18s. to 20s., bothy, &c.—WILLSHER, Esher, Surrey.

FOREMAN (Inside or General), in a good Establishment; age 28.—Mr. G. R. GEORGE, Gardener to Earl Sondes, wishes to recommend G. W. Rayment as above. Three years as Foreman previously. House and Table Decorations.—Lees Court, Faversham, Kent.

FOREMAN.—Twelve years' experience in Plant and Fruit Houses. Good references from such as Eastwell Grange Park, Eastwood Park, and others.—THOMPSON, Gatehouse, Westwell, Ashford, Kent.

FOREMAN, or SECOND, in good establishment.—Fifteen months in last situation, four years previous. Experienced in all branches. Reliable and energetic. Total abstainer. Good character.—A. H., 14A, Speke Road, Garston, Liverpool.

FOREMAN, in a good establishment.—Age 27; thirteen years' experience in Fruit and Plant Culture. Good references.—A. BENNETT, Poplar Cottage, Balcombe, Sussex.

FOREMAN; age 25.—G. FENNELL, The Gardens, Fairlawn, Tonbridge, Kent, can thoroughly recommend a good practical, industrious, and reliable man.

FOREMAN, Inside or General.—Age 25; eleven years' good all-round experience with Fruit, Vegetables, and Flowers, both Inside and Out. Disengaged. Good character.—DUNKLEY, Blatherwycke, Wansford.

FOREMAN, or JOURNEYMAN (FIRST), Inside.—G. PARKS, Berry Hill Gardens, Mansfield, would be pleased to recommend a young man as above. Twelve years' experience.

To Nurserymen and Florists.

FOREMAN, or FIRST HAND.—Age 26; well up in Plants, Fruit, Cut Blooms, Forcing, &c. Used to London Trade. First-class references. Life abstainer.—F. SMITH, Rockmount, St. Lawrence, near Ventnor, I. of W.

FOREMAN (where five or six are kept).—Age 24. Wanted a situation as above, well recommended by present and previous employers. Used to Houses; understands Bees. Abstainer—W. LEECH, Yattendon Court, Newbury, Berks.

FOREMAN, or SECOND, in a good Establishment.—Age 27; twelve years' practical experience, Inside and Out, in large places. Excellent characters and testimonials from present and previous Gardeners.—G. L., The Gardens, Mousehill Manor, near Godalming, Surrey.

FOREMAN.—Age 25; twelve years' experience in Fruit and Plant Houses. Can be well recommended.—S. WOODS, 38, Stamford Road, Fulham, S.W.

NURSERY FOREMAN, Outside.—Age 38, married; good Budder and Grafter, Roses, Fruits, Conifers. Twenty years' practical experience. Good references.—W. REEVES, The Armoury, Wenlock Road, Salop.

JOURNEYMAN (SECOND), Inside, or Inside and Out.—Age 19; excellent references. Bothy preferred.—W. COOMBES, Waterloo Cottage, Katesgrove Kiln, Reading, Berks.

JOURNEYMAN, in the Houses.—Age 19; well up in Potting and Watering. Five years' good character. Leaving through death.—ARTHUR BROWN, The Gardens, Wray Park, Reigate.

JOURNEYMAN (FIRST); Inside.—A years' experience Inside, and two years' character from last place.—B., Colney Park, St. Albans.

JOURNEYMAN, in a good establishment.—Age 24; good references from present and previous places.—J. CROFTS, Southgate House, Eckington, Rotherham.

JOURNEYMAN, in the Houses.—G. BEST, Gardener, the Vyne, wishes to highly recommend a young man (age 20) as above. Seven years' experience. Sober and willing. Good character.—G. BEST, The Vyne Gardens, Basingstoke.

JOURNEYMAN, in a large place, or SECOND where two or three are kept.—Age 23; highest references from present and previous places.—G. R., Beechwood Lodge, Reigate.

JOURNEYMAN, or SECOND in a good establishment.—Mr. BASKETT, The Gardens, Eashing Park, Godalming, would be pleased to recommend A. Elcock, as above. Four and a-half years in present situation.

JOURNEYMAN.—Age 20; seeks a situation in a good establishment. Good references. Steady, willing, and obliging.—Mr. D. G., Delbury Hall, Craven Arms, Salop.

JOURNEYMAN (SECOND).—G. R. GEORGE, Gardener to Earl Sondes, is desirous of obtaining a situation as above for William Tuppin, who is leaving here through breaking up of establishment.—Lees Court, Faversham.

JOURNEYMAN, Inside.—Age 19; five years' experience. Two years' at Belvoir Castle. Excellent references from last and previous employers.—F. LANSDELL, Ivy Cottage, Barkby, near Leicester.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience; eighteen months in last situation. Excellent character.—A. H. ALFORD, Lower Wyke, Worcester.

JOURNEYMAN.—MR. FRIEND, Rooksnest Gardens, Godstone, Surrey, can highly recommend a young man as above.

IMPROVER.—I can thoroughly recommend A. GREASON as above, where four or more are kept, in a Gentleman's Garden, Inside and Out; age 18.—HEAD GARDENER, Leighton, Westbury, Wilts.

IMPROVER.—Situation wanted for a Youth, about 19, in a Gentleman's Garden. About four years' experience Inside and Out. Total abstainer. Premium offered.—F. BEAUMONT, Central Schools, Bournemouth.

IMPROVER (INSIDE); age 17.—W. R. GEORGE, Gardener to Earl Sondes, is desirous of obtaining a situation as above for Sidney Marsh. Six years' good reference.—Lees Court, Faversham.

HINDMAN.—Any Gentleman desiring a willing and experienced Hindman, A. WHITEWAY, Gloddaeth, Llandudno, is open for such, well experienced in Sheep, Cattle, and Land.

A RESIDENT OF LEICESTER, who is about terminating his present engagement, is open to accept AGENCY to represent, throughout the Midland District, a first-class firm, in one or each of the following trades: WHOLESALE SEED, FLORIST, and NURSERY STOCK, and HORTICULTURAL SUNDRIES.—CONFIDENTIAL, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

A. INGRAM having for the past few years represented some leading firms in indoor plants and general nursery stock, is open to an engagement as NURSERY MANAGER or SALESMAN, or would travel, but would like to meet with a firm who does not send other representatives unnecessarily over the same ground during the interim between journeys.—221, Northwold Road, Clapton, N.E.

£4 will be given to Head Gardener who will procure a situation for a Youth, age 19, in the Gardens; excellent character.—T. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS, &c.—A young man, age 19 last August, wishes for a situation under a Head Gardener, or at a Florist's. Has been gardener's boy in a gentleman's house, and with a nursery gardener. Very good references.—C. BULL, 4, Claremont Terrace, Lewisham, S.E.

TO GARDENERS.—LEWIS JORDAN, The Gardens, Holdenby House, Northampton, wishes to recommend a strong, active young man as IMPROVER. Premium given.

TO GARDENERS.—A young Man (age 21) seeks a situation in a Gentleman's Garden. Six years' experience and character.—JOHN ANDERSON, 1, Evelyn Terrace, Ham Street, Richmond, Surrey.

TO GARDENERS.—Situation wanted in Gardens for a Youth, age 18; four years' experience.—Apply, stating wages, &c., The GARDENER, Tynley Hall, Rotherwick, Winchfield, Hants.

TO GARDENERS.—Young Man, age 20, seeks Situation in a Garden. Would not object to looking after Pony and Trap.—A. TAYLOR, Arch Lane, Hersham, Surrey.

TO NURSERYMEN.—A Florist's Son wishes to take charge of a small Market Nursery, or as SALESMAN (Market or otherwise); Wreaths and Bouquets. Life experience; good testimonial.—FERN, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN, &c.—Wanted to place a youth, age 17, with a good Nurseryman and Florist, to acquire a practical knowledge of all branches; has had some training. If with prospect of purchasing business, or share of same, preferred.—S. W., Smith, 25, Hue Road, Wimbledon.

CLERK.—Requires a Situation. Good Bookkeeper, and well up in all Nursery and Seed Office Work. Excellent references.—Particulars, F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SHOPMAN.—Age 29; twelve years' experience in the Nursery, Seed, and Bulb Trade, also the make-up of a First-class Florist.—T. R., "Cliff Side," South Cliff Road, Pokesdown, Bournemouth.

SHOPMAN.—Age 30; thorough knowledge of Seed, Bulb, and Nursery Trade; also a good knowledge of Cut Flower Work.—S. M., 41, Wellington St., Strand, W.C.

NURSERY PACKER and Order Checker.—S. SOMERS, 54, Tomkinson Street, Chester.

TO FLORISTS, &c.—A young Lady, age 20, having some experience in the Business, seeks an engagement as Assistant. Country preferred.—L., Mr. J. Carpenter, Hill Street, Clapton, N.M.

TO FLORISTS.—Wanted by a young Man (age 21), situation as SHOPMAN. Five years' experience in a London Shop. Used to Covent Garden and good make up.—Apply B. B., 14, Stamford Terrace, Stamford Hill, N.

FOREIGN COMPETITION is often declared to be the cause of much of the suffering in this country, and we are told that the number of foreigners in England make it very difficult for the Englishman to get a living. However this may be, it is certainly true that the presence of foreign matter in the blood endangers the health of the whole system. To purify the blood and to correct disorders of the liver and stomach, the only certain, safe, and agreeable medicine is Holloway's Pills. If you suffer from gout, rheumatism, or lumbago, scalds, burns, or similar evils, you must use with the least possible delay Holloway's Ointment. For over half-a-century these famous remedies have been the faithful friend of man.

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No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from **300 to 300,000 gallons per day.** Will force to a height of 800 feet.



Fig. A.
This Ram raises a portion of the same water that works it.



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 295 feet and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.

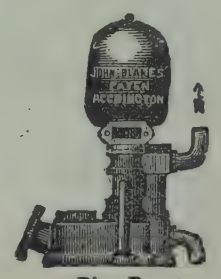


Fig. B.
This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to The Right Hon. LORD HINDLIP.

Bradley, Ashbourse, Derby, March 17, 1894.

DEAR SIR,—Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than **63 times that of the working fall.** The Rams are worked by water from the River Dove with the small working **fall of 8 feet 3 inches,** and issuing from the rocky bank close by is a copious stream of pure spring-water, **8000** gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of **532½** feet above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.

Yours faithfully, T. FERNYHOUGH.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon., April 24, 1891.

USK WATERWORKS.

DEAR SIR,—In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 feet, with a working fall of driving water of 27 feet, and on your guaranteeing that performance I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests with the following results: Working fall of driving water, 30 feet; vertical height raised, 127 feet; length of rising main, 850 feet, from Ram to outflow; length of supply pipe, 200 feet; gallons per hour raised, 1612; driving water used per hour, 8186 gallons, showing the remarkable and gratifying result of **83 per cent. of efficiency.** The tests were carefully made and repeated, the water measured, and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject, facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe in order to reduce friction, with excellent effect. Yours faithfully, T. DYNE STEEL.

From the Hon. The Earl of HARROWBY, 44, Grosvenor Square, London, February 21, 1893.

SIR,—I have pleasure in stating that the two Hydraulic Rams, which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 feet from a previously existing mill-pool, the Rams supply reservoirs 168 feet above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.

I am, Sir, your very obedient servant, HARROWBY.

From CHARLES HART, Esq., A.M.I.C.E., 3, Avenue Road, Leamington, March 13, 1893.

BRIXWORTH UNION RURAL SANITARY AUTHORITY, EAST HADDON WATER SUPPLY.

DEAR SIR,—Since the opening of these works in May, 1891, the two double-acting "B" Rams supplied and fixed by you have done their work with a minimum of attention, uninterruptedly and satisfactorily. Pure spring water obtained from a gathering-ground on the side of a hill is carried along iron pipes a distance of 548 yards, down to a cistern fixed in the Ram-house. From this cistern it flows to the Rams, which are driven by impure water—drawn from an adjacent brook, with an available fall of 12 feet—and thence by them forced along an ascending delivery pipe, a distance of 1520 yards, to an iron reservoir, at an elevation of 204 feet. From this reservoir mains are laid which supply the hall with its stabling, the rectory, six farm-houses, two dairies, and twenty-four wall-fountains for the villagers' use.

The average daily consumption exceeds 4000 gallons, which one Ram easily delivers, thus exceeding your guaranteed quantity by more than 1000 gallons per Ram per 24 hours. Generally the two Rams are regulated to divide the work between them, but occasionally it devolves upon one only.

If more widely known, this means of supplying villages and small towns with a limited quantity of spring water, forced to a suitable elevation by means of your Rams driven by impure water, would most certainly be more generally adopted.

Yours faithfully, CHARLES HART.

From C. PAGE WOOD, Esq., Wakes Hall, Wakes Colne, Essex, January 11, 1889.

SIR,—In reply to your inquiry, the Hydraulic Ram you put down for me in 1884 has cost me only 6*d.* in repairs (for a new stud my blacksmith made); the second Ram you put down to supply an off-hand farm has been running three years, and has cost not a penny for repairs; the third and largest Ram you put down two months ago, which is for the supply of water to my neighbours, is running satisfactorily. All three Rams throw up more water than you guaranteed. From inquiries I have made from friends who have Rams of other makers, I am convinced of the superiority of yours, and my third order is a proof of my good opinion. My abundant water-supply is the greatest possible comfort to me. Yours faithfully, C. PAGE WOOD.

From Sir S. M. MARYON WILSON, Bart., London, Nov. 17, 1891.

SIR,—I have much pleasure in stating that the two "A" Rams you supplied and fixed for me at Searles, on my Sussex estate, have proved a great success, especially when the small supply of driving water is considered, as with a supply of 7 gallons per minute only, they have daily thrown 3000 gallons to a height of 96 feet, and through a service of pipes over a mile in length; and testing them recently (with plenty of driving power) found they lifted 7000 gallons per day.

The economy effected by their use is considerable, as they have entirely superseded a steam pump.

S. M. MARYON WILSON

From MATTHIAS SMITH, Esq., Hill Top Hall, Pannal, near Leeds, January 14, 1889.

DEAR SIR,—I have great pleasure in bearing testimony to the marvellous efficiency of the Ram you fixed here in January, 1888. It is worked by spring water of irregular volume, the dry weather flow being six pints per minute, with which quantity you promised to work the Ram, forcing through 330 yards of delivery pipe to an elevation of fully 144 feet, but out of 5¾ pints per minute, 166 gallons per day are sent up, and out of 2 gallons per minute now flowing through the Ram, 540 gallons per day are delivered at the same height. Considering the extremely small quantity of driving water, I certainly did not expect so grand a result. With every wish that you may get the reward you deserve,

I am, dear Sir, yours faithfully, MATTHIAS SMITH.

JOHN BLAKE, RAM WORKS, ACCRINGTON, LANCASHIRE.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

H. CANNELL AND SONS' CATALOGUE of everything that will be wanted for the Garden during the Autumn will be sent post-free. It will be found immensely advantageous to all, making the Garden and Greenhouse far more productive and interesting than hitherto.
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STRAWBERRIES.—The best that money can buy. Grand rooted runners of Noble, Sir Joseph Paxton, President, and Prince Teck, 15s. per 1000; La Grosse Sucrée and Scarlet Queen, 30s. per 1000, for cash with order.
THOS. TILBROOK, Fruit Grower, Houghton, Huntingdon.

WANTED, LIFTED PLANTS of H. Jacoby and good Bronze. State price and quantity to J. E. MARSLAND, Harlow Hill, Harrogate, Yorks.

WANTED, Hybrid SEEDLING ORCHIDS, such as Cattleyas, Lælias, and Cypripediums. State crosses, size, and full particulars to HYBRIDUS, Mr. James Ross, 34, Pyrland Road, Highbury New Park, N.

To Fruit Growers and Nurserymen.
WANTED, 2000 PREPARED CUTTINGS each of Black Naples and Red Dutch Currants, and Crown Bob Gooseberries.—Apply to LLOYD, Gunville, Blandford.

WANTED, a quantity of BOX-EDGING. Sample and price to—
J. CHEAL AND SONS, Lowfield Nurseries, Crawley, Sussex.

WANTED, BOARDS and BOXES for Chrysanthemum exhibiting, for say, 8 dozen Blooms.
Apply J. R. PEARSON AND SONS, Chilwell, Notts.

WANTED.—VERONICA ANDERSONII VARIEGATA CUTTINGS. State lowest cash price per 100 or 1000.—KENT & BRYDON, Darlington.

WANTED, COPIES of the *GARDENERS' CHRONICLE* of the following dates:—December 30, 1882; February 10, 1883; October 17, 1885.
The PUBLISHER, 41, Wellington Street, Strand, W.C.

WANTED, CUTTINGS of Henri Jacoby, Mrs. Pollock, Vesuvius, 1000 of each.—State price to A. HERBERT, Yateley, Hants.

WANTED, APPLES, large Cooking and good Dessert sorts. Price per ton or bushel, cash.
HUDSON'S Floral Depôt, Kilburn, London, N.W.

ROSES in POTS.—Extra-sized plants, in 8-inch pots, for Forcing and Greenhouse Culture, all leading H.P. and Tea-scented kinds (including Climbing kinds, with shoots 6 to 15 feet long), the finest stock in the country, 30s. to 42s. per dozen; extra fine, 60s. per dozen. Smaller plants 10s. 6d. to 24s. per dozen. Descriptive List free.
WM. PAUL AND SON, Waltham Cross, Herts.

LILIES, IRIS, CALOCHORTI, HARDY BULBOUS and other plants. Write for our new Illustrated Catalogue, with full cultural directions. Should be in the hands of all Lily Growers.
WALLACE AND CO., Colchester.

Just Published.
THE ORCHID-GROWER'S MANUAL.—Seventh Edition: Enlarged and Revised up to the present time, containing 800 pages, and 311 Illustrations, making the most complete, up-to-date work on Orchids yet published. Super-royal 8vo. Price, 25s.; Free by Parcel Post, in the United Kingdom, 25s. 10d.
B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

GERANIUM CUTTINGS and CARNATIONS.—F. V. Raspail, well-rooted, 3s. per 100, 25s. per 1000; Rothschild's New Pink Malmaison, Mrs. F. Watt's Germania, R. Hole, all in 48-pots, flower early. 6s. doz. Cash with order.—JAMES GREEN, Reliance Nurseries, March.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

CUTHBERT'S BULBS for EARLY FORCING.
ROMAN HYACINTHS, NARCISSUS, TULIPS, &c.
R. AND G. CUTHBERT'S CATALOGUE is now ready, and may be had post-free on application.
Bulb Importers, Seed Merchants, &c., Southgate, N.
Established 1797.

GREENHOUSES for the MILLION.—Complete from 50s. Fourteen Prize Medals awarded. Quality sure test of cheapness. Beware of worthless imitations. Send for CATALOGUE, free, to the Original Inventors of Portable Greenhouses,
ALFRED PEEL AND SON, Horticultural Works, Wood Green, London. Established 20 years.

By Special Appointment
To H.R.H. THE PRINCE OF WALES.
MACKENZIE AND MONCUR, HOTHOUSE BUILDERS & HEATING ENGINEERS, Edinburgh, London, and Glasgow. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus free. Splendid Illustrated Catalogue.
LONDON OFFICE:—50, CAMDEN ROAD, N.W.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

HORTICULTURAL SHEET GLASS.
Stock Lists and Prices on application.
GEORGE FARMILOE AND SONS, Lead, Glass, Oil, and Colour Merchants, 34, St. John St., West Smithfield, London.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers,

CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Friday Next, October 12.

ENORMOUS and UNRESERVED SALE

10,000 DENDROBIUMS,

Comprising

8000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, AND 2000 OTHER KINDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION,

WITHOUT THE LEAST RESERVE,

at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on

FRIDAY NEXT, OCTOBER 12,

at half-past 12 o'Clock, the entire Consignment of

8000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

In the best possible condition, and Without any Reserve.

Also 2000 OTHER DENDROBES, in wonderful variety and extraordinary types,

A splendid lot of the large flowered type of the lovely

CATTLEYA REX,

all vigorous-growing plants.

Choice plants of the New Hybrid SOBRALIA VEITCHII, New Hybrid CYPRIPEDIUMS, NOBILIOR, and T. W. BOND.

SPATHOGLOTTIS AUREA, KIMBALLIANA, LOBBI, and PLICATA.

SOBRALIAS LEUCOXANTHA, and XANTHOLEUCA.

CATTLEYA AUREA STATTERIANA,

CATTLEYA VIDASTII SUPERBA.

PHAIUS HYBRIDUS OWENIANUS, P. H. AMABILIS.

PHAIO-CALANTHE ARNOLDIÆ

CATTLEYA LABIATA AUTUMNALIS IN SHEATH, &c.

On view morning of Sale, and Catalogues had.

Tunbridge Wells.

About ten minutes' walk from either of the Tunbridge Wells Railway Stations.

THREE DAYS' UNRESERVED SALE of well-rooted NURSERY STOCK, by order of Messrs. Thomas Cripps & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Tunbridge Wells Nurseries, Tunbridge Wells, on TUESDAY NEXT, October 9, and two following days, at 12 o'Clock precisely each day, a portion of the exceedingly

WELL-GROWN NURSERY STOCK,

which is in capital condition for removal, and consisting of 2300 Specimen BORDER SHRUBS, adapted for effective planting, and arranged in suitable lots; 500 Araucaria imbricata, 5 to 7 feet; 400 Cedrus Deodara, 3 to 4 feet; 400 Abies Douglasii, Parryana, and others, 8 to 14 feet; 450 Thuiopsis dolabrata, 3 to 4 ft.; 1700 Retinospora plumosa, R. p. aurea, and R. p. pisifera, 3 to 5 ft.; 1000 Cupressus Lawsoniana, lutea, and erecta viridis; specimen Portugal Laurels; 10 0 English Yews, 1½ to 2 feet; 400 Picea nobilis, 2 to 4 feet; 1000 named RHODODENDRONS, including about 600 Standards and Half-standards of the best sorts, 600 Hybrid Seedling Rhododendrons; 300 Azalea mollis and pontica; Kalmias, Laurels; 1000 named Dwarf ROSES of the leading varieties; 450 Scotch Firs; Pinus austriaca; specimen Variegated Hollies, 8 to 10 feet; 400 Standard and Pyramid Pears, 1300 Currants and Gooseberries, a quantity of Standard ORNAMENTAL TREES, 300 Greenhouse Rhododendrons, Solanums, Jasminums, 50 specimen Lapagerias, 2000 hardy Ornamental Trees and Shrubs, comprising 900 Escallonias of sorts, Benthamias, Ceanothus, and others.

May now be viewed. Catalogues may be had on the Premises; at the Seed Shop, 49, High Street, Tunbridge Wells; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Isleworth.—Special Trade Sale.

ANNUAL SALE of thousands of beautifully-grown YOUNG CONIFERS and GOLDEN EUONYMUS for immediate Potting, Window-boxes, or for Growing-on. By order of Messrs. Chas. Lee & Son.

IMPORTANT to NURSERYMEN, FLORISTS, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Wood Lane Nurseries, Isleworth, five minutes' walk from the Isleworth Station, L. & S.W. Railway, and twenty minutes' walk from Osterley Park Station, District Railway, on TUESDAY NEXT, October 9, at 12 o'Clock to the minute, in consequence of the large number of lots—

5000 BEST GOLDEN EUONYMUS,

in splendid condition and colour, from 9 to 15 inches.

THOUSANDS of SMALL SHRUBS for BOXES,

including Golden Privet, Aucubas, Tree Ivies, Osmanthus, Golden Box, Euonymus radicans variegata, and small standard Golden Euonymus, and standard Tree Ivies in pots.

5000 CONIFERS, from 9 to 18 inches, including 1000 Cupressus erecta viridis, 12 to 18 inches.

250 EURYA LATIFOLIA VARIEGATA, from 1 to 7 feet.

Hundreds of specimens from their famous

COLLECTION of ORNAMENTAL TREES,

including the beautiful Tricolor, Cornus elegantissima, Planes, large-leaf Purple Beech, Poplars, Chestnuts, and standard Weeping Ash and Kilmarnock Willows, Birch, Spanish Chestnuts, Maples of sorts, Rhus coccinea, &c.

500 PALMS, KENTIAS, various sizes; COCOS PLUMOSA, 4½ to 6 feet; LATANIAS, 1½ to 5 feet, and many others 300 YUCCA RECURVA, 1½ to 2 feet, perfect plants.

A quantity of CLIMBING ROSES in pots, Maréchal Niel, Wm. Allen Richardson, Devoniensis, Gloire de Dijon, &c., 6 to 8 feet; CLEMATIS JACKMANI SUPERBA, in pots; AMPELOPSIS VEITCHI, in 32's, 4 to 5 feet; ARAUCARIA EXCELSA, from cuttings, 9 to 12 inches, in 48-pots; 100 CLIVIAS, very strong, including some good dark varieties.

May be viewed. Catalogues may be had on the Premises; at the Royal Vineyard Nursery, 36, Hammersmith Road, W.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

HIGHLY IMPORTANT SALE

Of the Remaining Portion of the Famous

PICKERING LODGE COLLECTION

OF

ESTABLISHED ORCHIDS,

Together with the

GARDEN TOOLS, GREENHOUSE PLANTS, CARRIAGES,

and a portion of the

WELL-KNOWN CELLAR of CHOICE WINES

formed by the late George Hardy, Esq. The Orchids are reputed to be the Grandest Lot of Plants in the North of England, having won the Highest Honours at Manchester and other leading Shows.

By Order of the Executors, without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS, are favoured with instructions to SELL by AUCTION on the Premises, Pickering Lodge, Timperley, near Manchester, on TUESDAY, October 16 and following days, at half-past 12 o'Clock precisely each day, the Remaining Portion of this far-famed COLLECTION of ORCHIDS.

The whole of the plants are in the best possible health, and are remarkable alike for their size and the grandeur of the varieties. For upwards of twenty years the late Mr. Hardy was an enthusiastic buyer and a keen judge, and made a practice of discarding from his collection all varieties that did not reach the highest standard of excellence. In order that intending buyers may judge for themselves of the beauty of the varieties, an effort will be made as far as practicable to offer everything in flower.

Amongst the numerous items to be offered will be found the following:

Cypripedum cœnanthum superbum
" Statterianum
" Swinburnii
" Leeanum gigantum
" Lathomianum giganteum
" Io Grande
" Arthurianum
" insigne Studleyana
" " giganteum
" Godseffiana superbum
" insigne aureum
" Amesiana
" insigne Sanderæ
" javanico superbiens
" Leeanum giganteum
" Morganiæ
" insigne Ernestii
" Bartetii
" insigne Wiottii
" " albens
" Patersonii
" Sallierii
Lælio-Cattleya calystoglossa
" bella
Lælia anceps Schroderii
" Schroderiana
" Tressideriana superba
" anceps Dawsoni
" " Schroderæ
" " Schroderiana
" Gouldeana
" anceps Prothercæana
" elegans Turnerii
Cœlogyne cristata alba
" Lemoniana
Eulophiella Elisabethæ
Dendrobium Dominianum Stand Hall var., two plants
Dendrobium splendidissimum Leeanum, three plants
" Schroderianum, three plants
" nobile nobilius, several
" " giganteum, Stand Hall var., three plants
" nobile Cooksonii, several
" Wardianum album
" Dominianum
" nobile Backhouseana
" " Wallichianum
" crassinode alba
" nobile nivalis
" splendida grandis
" nobile, Hardy's var.
Odontoglossum Edwardi
" Wilckeanum
" Halli
" Ruckeriana
" Hebraicum
" Andersonianum, Stand Hall var.
Cattleya Hardyana
" Massiana
" Bluntii
" Claesianum
" Reichenbaniana
" Trianæ alba
" Schroderæ alba
" exoniensis
" aurea
" Dowiana
Cymbidium eburneum
Lycaste Skinneri alba
Sobralia, pure white
Vanda Sanderiana
Dendrochilum glumaceum

150 PHALÆNOPSIS SCHILLERIANA, AMABILIS, SANDERIANA, P. GLORIOSA, amongst which are extra fine plants, numerous Cattleyas, Odontoglossums, Oncidiums, Dendrobiums, Vandas, Aërides, Masdevallias, Lælias, Sophronites, &c.

STOVE AND GREENHOUSE PLANTS.

PALMS, FERNS, CROTONS, AMARYLLIS.

Garden Implements, Tools, Frames, Hand-barrows, Mowing Machines, Grindstone, capital Barouche, and a Mail Phaeton.

Together with a portion of the late Mr. Hardy's

WELL-KNOWN CELLAR OF CHOICE WINES,

comprising 22 doz. Claret Château Kerwen, vintage 1884; 11 doz. Claret Château Leoville; 7 doz. Port. Sandeman's; 24 doz. Port, 1 doz. Bots.; 20 doz. Champagne, Deutz and Gueloerman Gowlac; 34 doz. Do., Veuve Clicquot; 3 doz Magnums; 11 doz. Bots. Hennessey's old Brown Brandy, 1875; 17 doz. Bots. Geo. Roe's old Irish Whisky.

May be viewed. Catalogues may be obtained of Mr. HOLMES, the Head Gardener, on the Premises, and of the Auctioneers, 67 and 68, Cheapside London, E.C.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

Woodford Green.

By order of the Executors of the late R. Letchford, Esq.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Prospect House, High Road, Woodford Green, 15 minutes' walk from Woodford Station, G.E.R., on MONDAY NEXT, October 8, at 1 o'Clock, without reserve, the whole of the well-grown

GREENHOUSE PLANTS,

specimen Camellias and Azaleas, Orange Trees, Palms in variety, specimen Cycas revoluta. ESTABLISHED ORCHIDS, comprising Vandas, Cattleyas, Oncidiums, Odontoglossums, Cypripediums, and others; 150 GREENHOUSE FERNS, 120 CHRYSANTHEMUMS, also BEGONIAS, GLOXINIAS, and many other Plants, LOOSE LIGHTS and IRON FRAME, Iron GARDEN SEATS, capital VICTORIA, for Single or Pair; sundry MUSICAL INSTRUMENTS, &c.

Also about 450 named CHRYSANTHEMUMS, and 80 ROSES in pots, to name (another property).

May be viewed. Catalogues had on the Premises; at the Castle Hotel, Woodford; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

High Beech Nurseries, near Loughton, Essex.

ATTRACTIVE SALE of SPECIMEN HOLLIES and CONIFERS, by order of Messrs. Paul & Son, affording an opportunity seldom met with of acquiring some of the finest specimens of these plants to be obtained in Europe.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, High Beech, Epping Forest, 2 miles from Loughton Station, 2¼ from Chingford, and 4 from Waltham, on WEDNESDAY NEXT, Oct. 10, at 12 o'Clock, 400 of the finest SPECIMEN GOLDEN and SILVER HOLLIES, 6 to 10 feet, of perfect shape; 250 Golden Queen Hollies, 4 to 6 feet, exceptional specimens; 100 large Bushy Green Hollies, 400 Araucaria imbricata, 2 to 7 feet, probably the finest Stock in the kingdom; 200 Specimen Cedrus deodara, 12 to 14 feet; 400 Half-specimen Rhododendrons of the choicest named kinds, well set with bloom, bushy plants 3 to 4 feet; 50 splendid Specimen Standard Rhododendrons of the best named kinds, &c.

May be viewed. Catalogues may be had on the Premises, at the "Old" Nurseries, Cheshunt, and of the Auctioneers, 67 and 68 Cheapside, London, E.C.

The Auctioneers desire to call special attention to this most important Sale. It has never been their privilege to offer to the Public by Auction a grander lot of Specimen Plants of this character, and they particularly invite intending purchasers to make an inspection previous to the Sale.

Walton Grange Gardens, Stone, Staffs.

IMPORTANT SALE of SURPLUS ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from William Thompson, Esq., to SELL by AUCTION, on the Premises, the Walton Grange Gardens, Stone, Staffs., about 15 minutes' walk from Stone Railway Station, on THURSDAY NEXT, Oct. 11, at 11 for 12 o'Clock precisely, a fine stock of particularly well-grown

ESTABLISHED ORCHIDS,

Comprising a fine healthy lot of ODONTOGLOSSUMS, for the successful cultivation of which this collection has been noted. Amongst these will be found Odontoglosum elegans (Pollett's variety) Allumianum, part of the only known plant; also the rare O. elegantinus, and other grand varieties of crispum; Lælia tenebrosa, Walton Grange variety; Cypripedium Leeanum giganteum, Dendrobium splendidissimum grandiflorum, D. Venus, fine piece; D. Cooksonii, and D. Casiope; Lælia Perrinii alba, L. Guildiana, grand variety; Cattleya intermedia alba, C. aurea, Maxillaria Sanderiana, a large number of unflowered Odontoglossum crispum, in 5 and 6 inch pots; Cattleya labiata in sheath, &c.

May be viewed one week prior to the Sale. Catalogues may be had of Mr. STEVENS, Head Gardener, on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Barking Side.

IMPORTANT to GENTLEMEN, FLORISTS, and Others.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Carlton House, Red Bridge Lane, Barking Side, two miles from Leytonstone, Ilford, and Snaresbrook Stations, on MONDAY, October 15, at 12 o'Clock, by order of Mr. Baylis, who is leaving the neighbourhood, a quantity of STOVE and GREENHOUSE PLANTS, 1 00 Cinerarias in pots, 100 Pelargoniums, Callas, &c. Also 20 Specimen Palms, a few Orchids, Azalea indica, Camellias, 3 0 choice Chrysanthemums, best sorts, in large pots; 850 Echeveria secunda glauca, and other Plants. Also 50 Cast Flower-pots, Mowing-machine, Water-barrow, &c.

May be viewed. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Sunningdale, Berks.

Close to the Railway Station.

THREE DAYS' ABSOLUTE CLEARANCE SALE of beautifully grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries Sunningdale, on TUESDAY, October 23, and TWO FOLLOWING DAYS, at 12 o'Clock each day, by order of Mr. Charles Noble, a splendid lot of best named kinds of RHODODENDRONS, for which these Nurseries are noted, AZALEAS, KALMIAS, thousands of flowering Shrubs in great variety, a large quantity of Mahonia aquifolia, useful for October planting; many thousands of Conifers for Ornamental Planting, Evergreens for Hedges, &c., from 3 to 9 feet in height; several thousands of oval-leaved Privet, 2 to 4 feet; a fine Collection of Standard and Pyramid Apples, Pears, and other Fruit Trees, Gooseberries, Currants, Ornamental Trees for Street, Avenue, or Park Planting, and other Stock, the whole in capital condition for removal.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

ENORMOUS SALE—WITHOUT RESERVE, by order of

F. SANDER & CO., ST. ALBANS.

10,000 DENDROBIUMS—8,000 OF WHICH COMPRISE THE KING OF THE GENUS,

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM.

Plants of all sizes—some enormous specimens, and all in the most perfect condition for establishing. The plants will probably be a blaze of bloom at Christmas. This is the finest Orchid ever introduced.

THE ORCHID SENSATION OF THE CENTURY,

THE GRANDEST IMPORTATION AND that HAS EVER REACHED EUROPE.

Also other DENDROBES in wonderful variety and extraordinary types.

CATTLEYA AUREA STATTERIANA, GRAND SPECIMEN.

SOBRALIA VEITCHII,
NEW HYBRID. F.C.C., R.H.S.

CYPRIPEDIUM T. W. BOND,
HIRSUTISSIMUM × SUPERCILIARE.

CYPRIPEDIUM NOBILIOR,
NEW HYBRID. HAYNALDIANUM × LATHAMIANUM.

CATTLEYA REX,
SANDER'S BIG-FLOWERED TYPE.

8,000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM !!!

For full description of Sale, see Catalogue. The whole of the consignment is offered, and

EVERY PLANT IS WITHOUT THE LEAST RESERVE, at

PROTHEROE & MORRIS' CENTRAL SALE ROOMS

67 and 68, CHEAPSIDE, LONDON, E.C., on FRIDAY NEXT, October 12, 1894.

Monday and Thursday Next.

50 CAMELLIAS, DRACÆNAS of kinds, LAURESTINUS, PALMS in variety, ASPIDISTRAS, FICUS, CANNAS, from Belgium; 50 Lots choice GREENHOUSE FERNS, TEA ROSES, TREE CARNATIONS, CYCLAMEN, SPIRÆAS, in assorted variety; English-grown LILIES, comprising all the best varieties; Hardy Border PLANTS and BULBS in variety, and a choice assortment of Ornamental STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY and THURSDAY NEXT, October 8 and 11, at 12 o'Clock each day.

On view mornings of Sale, and Catalogues had.

Westerham, Kent.—Wednesday Next.

ABSOLUTE CLEARANCE SALE of NURSERY STOCK, PLANTS, SEEDS, TOOLS, &c., by order of Mr. Arthur Jeffkins, who is relinquishing the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Hosey and Darenth Nurseries, Westerham, on WEDNESDAY and THURSDAY, October 17 and 18, at 12 o'Clock each day, a large quantity of well-grown EVERGREENS and CONIFERS, in great variety; 1000 Privet, 2000 Standard, Dwarf, and Climbing ROSES of the best-named Teas and Hybrid Perpetuals; 1200 Black and Red CURRANTS, FRUIT TREES, FLOWERING SHRUBS, 3000 QUICK, 1000 bushy Portugal and other LAURELS, LIMES, HORSE CHESTNUTS, THORNS, POPLARS, IVIES in pots, CLEMATIS, GREENHOUSE PLANTS, 60 LIGHTS and FRAMES, TOOLS, and SUNDRIES. Vegetable and Flower SEEDS lotted in collections. FLOWER SHOW BOXES, &c.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Loughton, Essex.

Three-quarters of a mile from Loughton Station, G.E Ry.

TWO DAYS' SALE of exceptionally well-rooted NURSERY STOCK, grown to the greatest perfection, and now in splendid condition for removal, by order of Messrs. Wm Paul & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the premises, the Sale Nurseries, Loughton, on THURSDAY and FRIDAY, October 18 and 19, at Twelve o'Clock each day, large quantities of green and variegated HOLLIES, fine specimens; LAURELS, thousands of CONIFERS in great variety, Golden and other Yews, specimen Aucubas, hundreds of Rhododendrons, including Ponticums, hybrid Seedlings and named sorts, Standard Ornamental Trees, Limes, Elms, Poplars, &c.; also Standard and Dwarf Fruit Trees, consisting of Apples, Pears, Cherries, and Plums; Standard Dwarf and Climbing Roses of the best named sorts, and other Stock.

May now be viewed, catalogues had on the premises; of Messrs. Wm. Paul & Son, the Nurseries, Waltham Cross, Herts; and of the Auctioneers, 67 & 68, Cheapside, E.C., and Leytonstone.

Friday Next, October 12.

DENDRODIUM PHALÆNOPSIS SCHRODERÆ,

A grand variety of Albo.

Sepals, petals, and lip snow-white, centre of throat very slight shade of mauve, veins slightly darker; 5 old Bulbs 1 strong new bulb with a fine spike of 10 flowers.

MESSRS. PROTHEROE AND MORRIS will INCLUDE the above plant in their ORCHID SALE on FRIDAY NEXT, October 12, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Feltham, Middlesex.

CLEARANCE SALE of the unusually well-grown NURSERY STOCK, by order of Messrs. Charles Lee & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Lee's Nursery, Feltham, Middlesex, ten minutes' walk from Feltham Station, on TUESDAY, October 16, at 12 o'Clock, thousands of splendid specimen CONIFERS and EVERGREENS, all beautifully grown and recently transplanted—Golden Yews, Silver and Golden Hollies, Cupressus, Retinosporas of sorts, Green and Variegated Aucubas, 2 to 4 feet; Oval-leaf Privet, 2 to 3 feet; Green Hollies, 15 inches to 10 feet; 600 Cupressus erecta viridis, Argentea variegata, their splendid new silver variegated Cypress; RHODODENDRONS, best named sorts, from 2 to 5 feet. Also hundreds of Standard and Pyramid APPLES and PEARS, best Dessert and Kitchen kinds; and a quantity of NUTS and FILBERTS of the best sorts.

May be viewed any day prior to the Sale. Catalogues had on the Premises; at the Royal Vineyard Nursery, 34, Hammersmith Road, W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Groombridge, Tunbridge Wells.

Hollamby's Nursery.

GREAT ANNUAL SALE of first-class NURSERY STOCK, 400,000 Coniferæ, Ornamental and Forest Trees, &c. Preliminary Notice.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, on the Premises, by order of the Executors of the late Mr. Edwin Hollamby, on THURSDAY and FRIDAY, October 25 and 26, at 12 o'Clock.

The Stock may be viewed any day prior to the Sale. Catalogues at the Nurseries, or of the Auctioneers, 67 and 68, Cheapside, E.C.

Hounslow, Middlesex—Preliminary Notice.

EXPIRATION OF TENANCY.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, to SELL by AUCTION, on the Premises, early in November, the GREATER PORTION of the STOCK now growing on their Nursery adjoining the Hounslow Station (S. W. R.), including about 20,000 Fruit Trees. Date and further particulars will shortly appear.

Friday Next.

A YELLOW CYPRIPEDIUM INSIGNE in flower. Fine specimen plant with fourteen growths in perfect health.

MESSRS. PROTHEROE AND MORRIS will include the above Plant in their ORCHID SALE on FRIDAY NEXT, October 12, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

A splendid consignment of PLANTS and SHRUBS from Holland, including Forcing and other RHODODENDRONS to name, AZALEAS, HYDRANGEAS, 750 choice named DWARF ROSES, &c,

An importation of STOVE and GREENHOUSE PLANTS, sent direct from Ghent, comprising 50 Latania borbonica, 50 Coryphas, Kentias, Arecas, Phœnix tenuis, Dracænas, Ficus elastica, Aspleniums, Azalea indica, Aucubas, &c.

80,000 best Berlin LILY OF THE VALLEY CROWNS, 10,000 African TUBEROSES, LILIUM HARRISII, GLADIOLI, 30,000 forcing HYACINTHS and NARCISSUS from France, LILIUM CANDIDUM, SNOWDROPS, SCILLAS, Italian HYACINTHS, 20,000 FREESIA REFRACTA ALBA, rare NARCISSUS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 10.

On view morning of Sale, and Catalogues had.

Bishop's Stortford, Herts.

To MARKET GARDENERS, NURSERYMEN, and OTHERS.

Re JOSHUA MILLER AND SONS.

MESSRS. G. E. SWORDER AND SONS have received instructions to SELL by AUCTION, at "The Chequers" Hotel, Bishop's Stortford, on TUESDAY, October 23, 1894, at 3 o'Clock precisely; the Valuable FREEHOLD NURSERY PROPERTY, situated within easy reach of the Railway Station, consisting of a well-enclosed MARKET GARDEN, in a high state of cultivation, with several ranges of Vineries, Forcing-houses, and Pits; also Gardener's Cottage Residence, and other erections, the whole containing 1a. 3r., more or less. Immediate possession can be had.

Particulars and Conditions of Sale, and Plan, may be obtained of Messrs. W. GEE AND SON, Solicitors, Bishop's Stortford; and of the Auctioneers, Bishop's Stortford.

SALES BY AUCTION.

Annual Sale. — Milford Nurseries, Milford, near Godalming, ¾ of a mile from Milford Station, and 1 mile from Godalming New Station, both on the direct Portsmouth line.

HIGHLY IMPORTANT THREE DAYS' SALE of FIRST-CLASS NURSERY STOCK.

MESSRS. MELLERSH have received instructions from Messrs. Maurice Young & Son, to SELL by AUCTION, on the Premises, the Milford Nurseries, Milford, near Godalming, on TUESDAY, WEDNESDAY, and THURSDAY, October 9, 10, and 11, at 11 for 12 o'Clock precisely, each day, without reserve, a large quantity of exceptionally

WELL-GROWN NURSERY STOCK,

lotted to suit all classes of buyers, comprising 2,500 Specimen Evergreens and Conifers, from 2 to 8 feet, consisting of Piceas, Abies, Pinus, Cupressus Lawsonianas, Fraserii, erectas, Youngii, cœrulea, &c, Thuias, Cedrus deodara, Aucubas, Laurels, Hollies, Golden Junipers, Golden Yews, Rhododendrons, Azaleas, &c.; 1,000 English Yews, 1½ to 3 feet; 100,000 transplanted Forest Trees, from 2 to 4 feet, comprising Ash, Birch, Spanish Chestnut, Hazel, Alder, Withey, &c.; several thousand Standard, Pyramid, and Trained Fruit Trees; Stand and Pyramid Thorns, Flowering Crabs, Ornamental Deciduous Trees, &c.; Standard and Dwarf Roses of the leading kinds, Tea Roses in pots, Clematis, Ivies, Ampelopsis, Honeysuckle, Passion-flower, &c.; 1000 fine bushy Laurels of sorts from 2 to 3 feet, and a quantity of General Nursery Stock.

The Auctioneers specially invite the attention of intending planters to this important Sale. They have personally inspected the Stock, which has made good growth, and is in exceptionally fine condition for removal this season, and they will be pleased to execute commissions for gentlemen who cannot attend the Sale.

The Stock may be viewed. Luncheon (by ticket) will be provided each day for purchasers, and Catalogues may be obtained on the Premises; at the leading Hotels in the neighbourhood; and of Messrs. MELLERSH, Auctioneers and Surveyors, Godalming and Guildford.

Annual Sale.—Dorking Nurseries, London Road, DORKING.

Close to the L. B. & S. C. R. and S. E. R. Stations.

THE WELL-GROWN AND HEALTHY YOUNG NURSERY STOCK (in first-rate condition for transplanting), viz., Aucubas, Box of sorts, Portugal and common Laurels, Golden and Green Yews, Thuja Lobbi, and other varieties; Thujopsis, Retinosporas and Cupressus, Pinus and Piceas, various; FLOWERING SHRUBS IN VARIETY; Abies Douglasii, Spruce Fir, &c., large, for immediate effect, Cedars, Junipers, Hollies, green and variegated, and a quantity of STANDARD ORNAMENTAL TREES, such as Birch, Maples, Poplars of sorts, &c, Ivies and other climbers in pots, choice kinds of Dwarf Bush Roses, Strawberry Plants in small pots—leading varieties; to be SOLD by AUCTION, as above, by—

MESSRS. WHITE AND SONS, under instructions from Messrs. Ivery & Son, on TUESDAY and WEDNESDAY, October 9 and 10, 1894, at 12 o'Clock precisely each day.

Catalogues may be obtained at the place of Sale; of Messrs. IVERY AND SON, High Street, Dorking; at the Inns in the neighbourhood; and of the Auctioneers, Land Agents, and Valuers, High Street, Dorking; and on Fridays at Leatherhead.

Castle Nursery, West Norwood.

IMPORTANT TWO DAYS' UNRESERVED SALE of the well-known and valuable Collection of EXHIBITION STOVE and GREENHOUSE PLANTS, successfully shown by Mr. Henry James who is giving up exhibiting.

MR. H. J. BROMLEY is instructed to SELL by AUCTION, on the Premises, as above, on THURSDAY and FRIDAY, October 11 and 12, 1894, at 12 o'Clock each day, the important COLLECTION of PLANTS, including Crotons, Foliage Plants, Palms, Dracænas, Nepenthes, Prize Specimen Ericas, Camellias, Azaleas, Ferns, Chrysanthemums, Ivies, large Standard Weeping Trees, &c., and ORCHIDS, including Cymbidium Loweanum, insigne, Cattleya labiata, Trianæi, Mendeli, Niana, Warscewiczii, Dendrobium Ainsworthi, nobile nobilius, and nobile Jamesianum, Odontoglossum Vexilarium and Alexandræ, Masdevallia grandiflora, Southgatei, Masdevallias, and numerous choice varieties; also a quantity of Hot-water Pipes and Fittings.

On view three days prior to Sale. Catalogues may be had at the Auctioneer's Offices, 1a, Wood Street, Cheapside, E.C.; and at West Norwood, Tulse Hill, and Forest Hill.

WANTED, to RENT or LEASE a MARKET GARDEN, 5 to 10 acres, with House and Out Buildings, with or without Glass. Within an easy distance of Chatham or Rochester.—G. NEWMAN, Post Office, Kelverton Common, Brentwood.

FOR SALE, a NURSERY and FLORIST BUSINESS, capable of extension. Four Houses, about 100 feet run of Pits, ¼ acre of Land. Main road, increasing neighbourhood. Lease to suit purchaser.—All particulars from W. H. SMITH, 22, High Street, Sevenoaks.

NURSERY FOR SALE, in one of the prettiest Suburbs of London; quantity of Glass all in good order; at low ground rent. Nearly 100 years' lease; good business attached. Suit a Gentleman, as it can be easily managed. Price very moderate.—W. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE, a small NURSERY and FLORIST BUSINESS.—Four Glasshouses, and Propagation-house, heated by Hot-water. Near the main-road.—Apply to W. H., The Nursery, Park Row, Greenwich.

LONDON, S.E.—A NURSERY for SALE. About 3 Acres: 16 Houses, 2 Lean-to Pits, 2 Span Pits, each about 100 feet long, 2 smaller houses, all well heated, &c.; also Cold Frames, &c., Dwelling-house, Stables, Sheds, &c. About 5 miles from Covent Garden. Open to consider a reasonable offer.

Apply to SHUTTLEWORTH, Limited, Peckham Rye, S.E.

FOR SALE, a Freehold Compact NURSERY, situated in the centre of the west end of one of the most fashionable seaside towns on the south coast, consisting of five modern-built Houses, all heated with hot-water.

Capital required for Freehold, &c., £1000.

Part can remain.

FLORAL, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

TO LET, a large GARDEN (about 2 acres), well stocked with choice Fruit Trees, 6 miles from Covent Garden. An excellent Cottage adjoining. For particulars, apply to—

Mr. WM. MYERS, 2, Richmond Road, Isleworth.

Royal Kitchen Gardens, Hampton Court.

TO BE LET, 12 acres, 24 Glass Houses, thoroughly heated with Hot Water; Dwelling House, and Shop.—Particulars to E. BENNETT, as above.

COVENT GARDEN MARKET.—To Fruit and Potato Salesmen, Seed Merchants, &c.—TO BE LET, with Immediate Possession, in rear of Piazza, with entrance from James Street, and covered yard for loading and unloading, Two extensive Basement Warehouses, fitted for Bananas, but suitable for other purposes; Store or Sale Room on Ground Floor, 28 ft. 6 in. × 26 ft. 6 in.; Extensive Warehouses, 2nd, 3rd and 4th Floors, with Hydraulic Lift throughout.

Apply to Messrs. S. CHADWICK AND PILDITCH, 17, Parliament Street, S.W.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TO EXHIBITORS. — SPRINGTHORPE'S CUP and TUBE; Highly Commended by National Chrysanthemum Society, Sept. 4. Provisionally protected.

For circulars, apply to G. SPRINGTHORPE, Coombe Court Gardens, Kingston-on-Thames.

CARNATION Mdlle. Thérèse Franco (Perpetual), a beautiful pink, large, well formed, and very fragrant; strong plants, in 4-inch pots, 2*s.* 6*d.* each; price to the Trade on application. Carnations for massing:—Comtesse de Paris, blush-white; Meteor, scarlet; Germania, yellow; strong, well-rooted layers, 5*s.* per dozen, post-free.

J. PIKE, 6, Hillside, Wimbledon, S.W.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address—

GEORGE WAITE, the Foreman, Calcot, near Reading.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—

WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

FOR SALE, 10 cwt. SHALLOTS, 10 cwt. PICKLING ONIONS. Apply,

WILLIAM BRACEY, Martham, Great Yarmouth.

ORCHIDS.—Many rare and choice Cattleyas, Cypripediums, Odontoglossums, &c., always in stock. Inspection invited. CATALOGUE free.

W. L. LEWIS AND CO., Chase Side, Southgate, London, N.

DOUBLE PEARL TUBEROSES, specially grown in Africa; potted now, these will flower at least two months earlier than the ordinary American. Grand Bulbs, 12 for 2*s.*, 100 for 14*s.*; Freesia refracta alba, 2*s.* 6*d.* per 100; Single Lent Lilies, 2*s.* per 100; Scilla Sibirica, 2*s.* per 100. All carriage paid. Special catalogue gratis.

W. H HUDSON, F.R.H.S, Kilburn, London, N.W.

JOSEPH F. TUFFIN, COMMISSION AGENT (for Choice Cut Flowers only), 11, Russell Court, Catherine Street, London, W.C, and Covent Garden Market.

VIOLETS.—Fine clumps of Queen Victoria, Comte de Brazza, Marie Louise, &c. For prices apply to GEO. DRABBLE, Ketton Hall Gardens, Stamford.

TO THE TRADE.—Several ounces of ALPINE AURICULA SEED, in splendid mixture, warranted this year's harvesting; also several thousand SCHIZOSTYLIS COCCINEA, good plants for this autumn flowering.

WILLIAM POLLARD, Nursery, Fruit and Flower Gardens, Alexander Drive, Douglas, Isle of Man.

TUBEROUS-ROOTED BEGONIAS, Single, for SALE.—All colours, best; healthy plants; grown from seeds of fine strong plants, one, two, and three years' old. Some smaller raised this year from seed. Many still in bloom; others not yet in bloom. Upwards of 2000 in all. £2 10*s.* per 100, or in 48's, 32's, and larger pots, £3 and £3 10*s.* per 100. Apply, by letter or appointment,

A. B., 33, Southbrook Road, Lee, Kent.

EXHIBITIONS.

RIPON SHOW of CHRYSANTHEMUMS, WINTER FLOWERS and FRUIT, in the Victoria Hall, on TUESDAY, November 20. Schedules on application to—

Mr. J. WOOD, Hon. Sec., Ripon.

HERTFORD HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.

THIRD GREAT ANNUAL SHOW of CHRYSANTHEMUMS, AUTUMNAL FLOWERS, FRUIT and VEGETABLES, will be held in the Corn Exchange, Hertford, on THURSDAY and FRIDAY, October 25 and 26.—Write for Schedules to JASON FEARS, Hon. Sec., Tamworth Street Hertford. Entries close October 18.

PTERIS TREMULA.—Fine stuff, in 2½-inch pots, fit for potting on into 48's, 10*s.* per 100, £4 10*s.* per 1000; fine stuff, in 48's, £1 per 100.

C. JOHNSON AND CO., The Nurseries, Hampton.

DOBBIE'S AUTUMN CATALOGUE of Bulbs, Carnations, Chrysanthemums, Herbaceous Plants, Pansies, Roses, Violas, and Fruit Trees, is now ready, and will be forwarded free on application.

DOBBIE & CO., Florists to the Queen, Rothesay.

WILD GARDENING. — Plant Hartland's Cheap Offer of Von Sion and Irish Princeps Daffodils, Blue Bells, &c., at very low prices. Apply to—

WM. BAYLOR HARTLAND, Seedsman, F.R.H.S., Cork.

FOR SALE.—MALMAISON CARNATION LAYERS, good Plants at 30*s.* per 100; C. Germania, 15*s.* per 100; also 38 pots of EUCHARIS LILIES, Grand Plants.

J. LITTON, Grosvenor Cottage, Bath.

CHINESE SACRED NARCISS, or "Joss Flower," can be supplied by the dozen, hundred, or thousand.—Price on application to

WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

JULES DE COCK'S NURSERIES, Ledeberg, Ghent (Belgium).

30,000 Azalea Indica, 12,000 A. mollis, 50,000 Begonia Bulbs, 3,000 Dracæna Bruanti, 2,000 D. discolor, 4,000 D. indivisa, 2,000 D. lineata, 2,000 rubra, 10,000 Gloxinias, 30,000 Spiræa japonica, 4,000 S. j. aurea reticulata, 10,000 Palms in variety, with characterised leaves; 2,000 Ficus elastica.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchant, Southgate, N. Established 1797.

VIOLAS.—VIOLAS.—Strong, rooted plants, propagated from Cuttings, guaranteed true: Countess of Kintore, Magpie, Skylark, Souvenir, Her Majesty, Goldfinch, Ardwell Gem, Bullion, Countess of Warncliffe, Lillias, The Mearns, and Duchess of Fife.

5*s.* per 100; 40*s.* per 1000. Carriage paid.

BRUCE BROS, Florists, Haynford, Norwich.

Bouvardias.—Bouvardias.—Bouvardias.

A FEW HUNDRED popular sorts, in 48's, fine bushy plants, for Sale, 5*s.* per doz. Cash with order.

WM. RISLEY, Floral Nursery, Enfield.

KRELAGE'S AMARYLLIS, and all kinds of DUTCH BULBS and Rare or New Bulbous Plants, true to name, and of the best quality only, at cheap prices. Descriptive Catalogue, illustrated, may be had free, on application to

E. H. KRELAGE AND SON, Bloemhof Nurseries, Haarlem, Holland. Established 1811.

PANSIES and VIOLAS.—My growth is equal to that of any three growers in the world. Plant now for spring blooming. My collection of Carnations is unsurpassed. Catalogue post-free on application.

R. H. BATH, Flower Farm, Wisbech.

BARR'S MIXTURES of DAFFODILS, for beautifying Orchards, Woodland Walks, Grass Slopes, &c., and for Cutting. MIXED, ALL SORTS, per 1000, 21*s.* and 30*s.* MIXED PEERLESS OR CHALICE-CUPPED STAR NARCISSI, graceful and beautiful, per 1000, 42*s.*; MIXED POET'S DAFFODILS, very beautiful, per 1000, 42*s.* All sent, CARRIAGE PAID, on receipt of remittance.

BARR AND SON, King Street, Covent Garden, W.C.

ROSES.—Jacqueminot, on own roots, good strong Plants, £9 per 1000, or £1 per 100.

W. HILLS, Nurseryman and Florist, Crescent Road, Bury Street, Lower Edmonton, N.

DOUBLE SWEET VIOLETS, Marie Louise and Dr. Parm, all fine transplanted stuff, large, and healthy. 3*s.* 6*d.* per dozen, or 24*s.* per 100, package free.

JOHN HOOD AND CO., Nurserymen, Hexham.

To the Trade.

CYCLAMEN.—CYCLAMEN.—Grand stuff, in 48's, well set with bloom, 8*s.* per dozen, free on rail, cash with order; £3 per 100.

W. E. TIDY, Brockhampton Nurseries, Havant, Hants.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s.* per doz.; six sorts of PALMS, in 48's, 9*s.* and 12*s.* per doz.; Large KENTIAS, in 60's, 5*s.* and 6*s.* per doz. eight sorts of PALMS, in 60's, 4*s.* and 5*s.* per doz.; do. in large thumbs, 3*s.* per doz., 20*s.* per 100; ARALIAS, in 48's, 5*s.* and 6*s.* per doz.; FICUS, in 48's, 12*s.* per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5*s.* per dozen; twelve best sorts of FERNS, 12*s.* per 100; ASPARAGUS PLUMOSUS NANUS, 6*s.* per doz.; variety of FERNS in 48's, 5*s.* & 6*s.* doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.

FOR SALE, or EXCHANGE for ORCHIDS, 2 CYCADACEOUS PLANTS, in Tubs, 2 feet 4 inches across, viz.:—1 MACROZAMIA DENISONII, 10 feet through, with 18 fronds, 6 to 7 feet long; 1 ENCEPHALARTOS VILLOSUS, 12 feet through, with 25 fronds, from 6 to 7 feet long. The above are two healthy, fine specimens, and are most suitable for Winter Garden or Large Conservatory.
F. CLARKE, The Gardens, Lowther Castle, Penrith.

ROMAN HYACINTHS, 4¾ to 6 inches, impossible to surpass, 10s. 6d. per 100. HYACINTHS, finest named sorts, 4s. per dozen, 25s. per 100; second quality, named, 2s. per dozen, 14s. per 100. BULB LIST on application.
WALSHAW AND SON, Scarborough.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 4's, for cutting (value in fronds), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 20s. per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1s. each. Seedling Ferns, 6s. per 100 Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

NOTE PRICES for EXTRA LARGE BULBS.—100 Lilium Harrisii, 10s. 6d., 12 for 2s.; 100 L. candidum, 8s., 12 for 1s. 6d.; 100 Freesia, 2s.; 100 Gladiolus The Bride, 2s.; 100 Galanthus Elwesii Snowdrop, 1s. 9d.; 100 Anemones, assorted, 2s; 100 Arums, strong Bulbs, 15s.; 12 for 2s.; 100 Chionodoxas, assorted, 1s. 9d.; 100 Narcissus, 1s. 6d.; 100 Cyclamens, 10s. 6d., 12 for 1s. 6d.; 100 Lily of the Valley for Forcing, 3s., 1000 for 26s. All other Bulbs, Plants, Orchids, &c., at low prices for cash.—BIRCHALL BROS. AND CO., 20, Polygon Road, Southampton.

LARGE QUANTITY of STRONG ROOTED LAYERS, to CLEAR.—Duchess of Fife, Pink; John Westlake, Flake; The Duke, Lemon and Buff; New Crimson Clove (sweet), 6s. per dozen. Mrs. R. Hole, Mrs. Muir, The Bride, G. De Nancy, Maid of Athens, Emin Pasha, Raby Castle; these and other varieties, our selection, 4s. per doz. Free delivery, cash with order.—J. KERR & SONS, Carleton Nurseries, Penrith.

TO THE TRADE.—WINTER-FLOWERING CARNATIONS, fine bushy stuff, in bud in 48's. La Neige, Miss Joliffe Improved, 9s. per doz., 65s. per 100; Mrs. Moore, largest white, 12s. per doz; Golden Gate, best yellow, 20s. per doz Packed free for Cash.
CRANE AND CLARKE, The Nurseries, March, Cambs.

MESSRS. COLLINS AND COLLINS have a fine stock of the following plants for sale:—
ADIANTUM ELEGANS, in 48's, 6s. per dozen.
ADIANTUM DECORUM, in 48's, 6s. per dozen.
ADIANTUM FORMOSUM, in 48's, 6s. per dozen.
ADIANTUM WILLIAMSII, in 48's, 12s. per dozen.
ARALIA SIEBOLDI, in 48's, 6s. per dozen.
Specimen Plants of STEPHANOTIS FLORIBUNDA, in No. 12 and 16-pots, 30s. to £3 each.
ASPIDISTRA LUCIDA, in 24 and 16-pots, £1 per 100 leaves.
IMANTOPHYLLUM MIN. in 24's, 24s. to 30s. per dozen.
A magnificent stock of CYPRIPED. INSIGNE, in bud, in 32's and 24's, 7s. 6d. to 15s. each.
CATTLEYA PERCIVALLIANA, in 8-inch baskets, with from 5 to 8 sheaths, 15s. to 30s. each.
CATTLEYA TRIANÆI, in 8 and 10-inch baskets, several sheaths, 15s. to 30s. each.
CATTLEYA LAB. AUTUMN., splendid plants in sheath, from 7s. 6d. to £1 each.
Cumberland Park Nurseries, Willesden Junction, London.

FOR SALE.—Fine FREESIA BULBS, 12,000 at 10s. per 1000.
THE "BRIDE" GLADIOLI (Colvilli alba), fine Bulbs, 10,000 at 10s. per 1000.
ANEMONE FULGENS, bright scarlet flower, 4s. per 100.
ARUM LILIES (Calla æthiopica), fine Bulbs, just starting, 10s. per 100.
H. A. GAVEY, Thornhill, St. Jacques, Guernsey.

LORD'S CARNATIONS.

Highest Awards wherever exhibited. Winner of the First Prize at twelve consecutive Exhibitions of the National Carnation and Picotee Society (Northern Section), as well as at other principal exhibitions. Good plants, my selection, 6s. per dozen; 3s. 6d. per half dozen; purchaser's selection, as far as possible, 9s. per dozen, free for cash with order.

NEW CARNATIONS.—Selected from his Seedlings, viz.: Duke of York, S.B., 1s. 6d.; Bruce Findlay, C.B., 2s.; Thaddeus, C.B., 1s. 6d.; Arline, P. & P.B., 1s. 6d.; Edith Annie, C.B., 2s., and Magpie, P.F., 1s. 6d. One plant of each, 9s., free for cash. Send for LIST.
T. LORD, Holebottom, Todmorden.
Please mention this paper.

I. DAVIES & SON

Are now offering Nursery Stock at reduced prices, to clear a large portion of their Nursery ground required for building purposes. Catalogues free by post to any address.
BROOK LANE NURSERY, ORMSKIRK.

NEW CARNATION, "YELLOW QUEEN."

For Cut Flowers, this variety will be the one to grow, producing its beautiful primrose-yellow flowers in great profusion, of robust habit. Received Certificate of Merit and Medal from the Royal Horticultural Society. Strong plants, in 48's, 3s. 6d. each, 36s. per doz. Trade price on application.
THOMAS BONES, Heaton Gardens, Cheshunt, N.

BARR'S WINTER & SPRING FLOWERS.
CATALOGUES sent free.—See Illustrations, back page. *Gardeners' Chronicle*, September 1, 1894.
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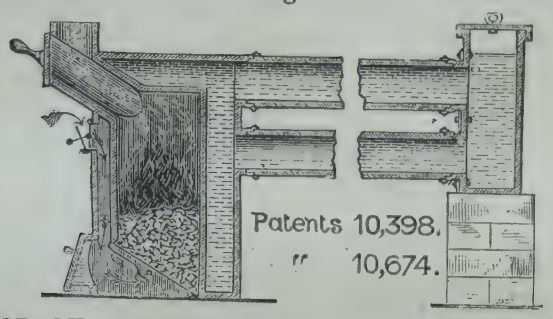
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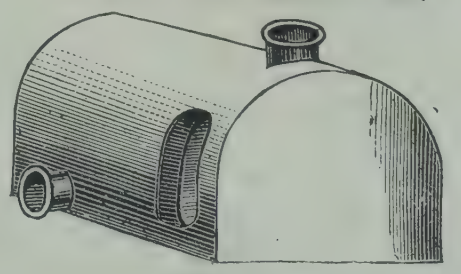
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THE
Gardeners' Chronicle.
SATURDAY, OCTOBER 6, 1894.

THE BUITENZORG BOTANICAL GARDEN.

THE Botanical Gardens at Buitenzorg, in the Isle of Java, are now universally acknowledged to be among the finest and most extensive in the world. Buitenzorg is situated some forty miles inland in a direct line taken south from Batavia. The climate here is delightful, for the nights are cool, while the sun during the day does not hinder one from getting a certain amount of walking exercise.

Probably but few English botanists have been so fortunate as to have paid a visit to Java, and an account, therefore, of a very recent visit to the island, by a distinguished French scientist, must be of great interest. M. Albert Tissandier, one of the directors of *La Nature*, sends to a recent number of that journal an account of his visit to Buitenzorg, and from his paper we extract a few paragraphs. The English naturalist, Dr. A. R. Wallace, some thirty years ago, visited these gardens, but he did not seem to be much impressed with them, or with the management of the place. M. Tissandier, however, affirms that they are the most beautiful in the world. It was in 1817 that the Dutch Government first conceived the idea of founding a botanical garden in Java, and under the superintendence of Van der Capellan the gardens at Buitenzorg were laid out.

In 1837, M. Diard, a Frenchman, was appointed Director, and he laid the foundation for a systematic arrangement of the plants. The gardens at the present day are famous for two things—for the endless variety of tropical shrubs and trees with their strange and beautiful foliage, and secondly for the excellent arrangements made for the reception of the foreign *savant*. Dr. Treub is the present acting superintendent, and M. Tissandier pays a warm tribute to his kindness and to the ungrudging manner in which he lays himself out to accommodate visitors from distant climes who may visit Java for the purpose of seeing and profiting by the lessons given by Dame Nature in this favoured quarter of the globe.

The State keeps up three gardens in Java, although they are, for convenience sake, grouped under one head. Besides the Buitenzorg gardens, which extends over 150 acres, there is an agricultural garden at Tjikeumeuh, extending over some 170 acres, and a large forest garden. The plantations in the third division extend over 900 acres. The mean annual temperature at Buitenzorg is from 28° to 29° Centigrade. Sometimes in the dry season the thermometer is up at 31° C. The growth of plants at the gardens is sometimes astonishing. For instance, some Palms,

*

of the genus Oreodoxa, which were planted out when still quite young to make a border to one of the walks, have grown in five years to a height of 32 feet. Some species of Albizzia moluccana, again, in the same space of time have grown to a height of more than 60 feet. In short, no other botanical garden can show such interesting sections as those devoted to Palms, Ferns, Climbing plants, and Bindweeds in the Buitenzorg Gardens.

A foreigner, when he is about to enter the plantation is provided gratuitously with a plan, and with the aid of this he is enabled easily to find his way to each of the sections. With the aid of his catalogue he can find each species of each family. When he has been introduced to the director of the gardens he is taken to a vast laboratory, where he can study in perfect quiet without any payment whatever.

A small library containing the necessary text-books and works of reference, and a good supply of instruments, are also provided for the use of the foreign *savant*. Close to this fascinating workshop is to be found a photographic laboratory, and a little further on is the Great Library containing a large number of the most ancient works on Botany, together with the most recent editions of standard works. The periodical section is particularly well filled, most of the leading journals on botanical and allied subjects, of each country, being regularly filed.

A whole morning can well be spent in exploring the grounds and buildings at Buitenzorg. In the afternoon, if the traveller be pressed for time, as M. Tissandier happened to be, he can visit the "agricultural garden" at Tjikeumeuh, some twenty minutes' drive from the principal gardens. The route, according to M. Tissandier, was exquisite, the road being dotted with little villas, surrounded with gardens in which each flower vied with its neighbour in sweetness and colour. Dr. Treub accompanied M. Tissandier, and enlarged upon his pet scheme, the "Laboratoire des Savants Étrangers," which was opened in 1885.

Since its foundation, one Russian, one Englishman, and one Dutchman, have worked for more or less time here. The number is gradually increasing, and Germany, Sweden, and Austria have all sent representatives, to M. Treub's delight. France alone, bemoaned the worthy doctor to M. Tissandier, is unrepresented in their visitors' book. Now M. Tissandier has gone, however, this reproach can no longer be preferred.

In the agricultural portions, corresponding, one would imagine, to the Rothamsted estates in England, foreigners are welcomed, and liberally looked after.

To get to the forest plantations connected with the State botanical gardens, a carriage drive lasting some five hours must be taken The picturesque route, however, does not allow one to feel weary. On arriving at Tjibodas you are driven up to the "Pavillon de réception des savants étrangers," situated some 4900 feet above sea level. Inside the pavilion is to be found a comfortable "salon," furnished with a library Here also are bed-rooms and dining-rooms for the use of visitors, for the nearest village, Tjimathian, can boast of no hotel.

The direction of these gardens is in the hands of M. Couperus and ten workmen. Here, in th forest gardens, are to be found specimens of almost every tree and shrub which grows in Australia and Japan. The forest of Tjibodas, in which the garden is situated, is well worth inspecting. Dr. Treub has constructed numerous paths through this forest, and by following these you come out on some fine clearings situated from 6000 to 7000 feet above the level of the sea. Were it not for these paths, locomotion would be impossible, the undergrowth being excessively luxuriant. On the ground are endless varieties of Mosses and Ferns, and on the trees of from 90 to 130 feet are to be found growing in great profusion—Orchids, Ferns, and Climbing-plants.

To describe the beauties of these tropical woods of Java is impossible in the space of a brief article like the present. Dr. Alfred Russell Wallace, on his visit to Java, declared that the plants in the Buitenzorg gardens were not to be compared for luxuriance and beauty to the same species grown in our hothouses. But though we may grow as fine plants in England as are to be seen in Java, nowhere can we produce the wonderful tropical vegetation which so entrances everyone who visits this favourite isle. Where in England, where, even in Europe, can we find any botanical garden such avenues of stately Palms, such endless variety of tropical shrubs, and such clumps of Bamboos, as are to be seen in the gardens at Buitenzorg?

ROOT TUBERCLES OF ALDER, Etc.

Having directed attention to the root tubercles of the Leguminosæ (see *ante*, p. 307), and not long previously to those of the Vine, we would now gather together what is known of the root tubercles which are so common on Alder, and a few other plants. The Alder tubercles are nothing new, but the name of the supposed parasite has shifted since Woronin called it Schinzia alni, and so has opinion with regard to its nature. Previously, some considered these outgrowths as merely cases of hypertrophy; others as resulting from the puncture of an insect; but Woronin attributed them to a parasitic fungus, of which he believed that he had detected both mycelium and spores. When Gravis first examined them, he disputed Woronin's conclusions, and considered the tubercles to partake rather of the nature of galls, and the substance found in the cells as albuminoid reserve-material stored for the purpose of nutrition. Afterwards the same author returned to the subject, and remarked that he had found in some of the cells a viscid mass resembling the plasmodium of Plasmodiophora brassicæ, and in neighbouring cells granules, which might be spores; at all events, that the fungus found in the cells is accidental, and not the cause of the disease.

Möller having pronounced in favour of the plasmodium of a Plasmodiophora (related to that of Cabbage and Turnips), Brunchorst examined the tubercles again, and pronounced against this view, but as the spores had never been made to germinate, he contended that the systematic position of the fungus could not be fixed. On a still further examination, he found precisely the same kind of tubercles on Elæagnus, Hippophae, and Shepherdia; but the structures previously regarded as spores he regarded as sporangia, the contents of which ultimately break up into extremely minute spores. He proceeds to call it by a new name, as Frankia subtilis, although thinking it probably identical with what had been called Schinzia by Woronin, and Plasmodiophora by Möller. But he regarded it as a Hyphomycete, with a mode of formation of the spores peculiar to itself.

In 1886 Frank came forward, and offered the same opinion as that which he had expressed relative to the tubercles of the Leguminosæ, and stated that the spongy parenchyma was full of protoplasm; that the so-called vesicles were nothing but accumulations of newly-formed albuminous substance, contained within the spaces of the porous structure. Hence, that they are organs for the temporary storing up of albuminoids, to be dispersed to those parts of the plant where they are required. Therefore such names as Schinzia alni, Plasmodiophora alni, and Frankia subtilis must be abandoned.

We have only to announce that, five years afterwards, Möller returned to his original position, with a modification, that the tubercles are produced by a fungus, which had been called Frankia subtilis, a Hyphomycete, producing a mycelium, of which each branch ends in a sporangium. That the protoplasm of this sporangium divides into a large number of spores, each of which is capable of germinating, and producing a new mycelium. Thus it remains, as a question of authority, until one or other is confirmed.

With regard to the tubercles on Vine roots, the position remains unchanged from what it was on June 17, 1893, except that perhaps, taking into account these analogous instances of tubercles, the editor was right in his note, that "the mischief done by the slime fungus in this case is not serious."

We need not particularise the olive tubercles which occur on the branches, or those of Ruppia and Zannichellia, which are found on the leaves, as we are now concerned with root tubercles. Neither will we stray further than to name the clubbing of Turnips and Cabbages, of which there is nothing new to relate.

The root-swellings of Juncus and Cyperus would not interest our readers over-much, and they are the produce of a different kind of fungus, belonging to the "smuts," Ustilagineæ, and there is very little doubt about the character of the fungus and its associates. Possibly our British species is Entorrhiza Aschersoniana, but hitherto it has only been recorded in Scotland. Thus ends our record of root tubercles as far as they have come to our knowledge, and we are glad that it is calculated to suppress rather than excite alarm. *M. C. C.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT THE BOTANICAL GARDENS, MANCHESTER.

Not having visited these gardens for a considerable length of time, I was very pleased to find them, on the occasion of a recent visit, showing much improvement. The Cypripediums, of which there are many fine specimens, occupy part of a house of 50 by 20 feet, and were in excellent condition. Mr. Findlay, the curator, does not possess all the latest novelties in these plants, but I noticed such rarities as Cypripedium T. B. Haywood, two plants, one with seven growths; C. Swinburni, a fine plant showing several flowers; C. Arthurianum, C. Charles Canham, C. Mrs. Canham, C. Harrisianum superbum, C. Morganiæ, C. Schroderæ, C. grandiflorum, a fine plant of C. Lathamianum; C. Sedeni is grown remarkably well, several plants in flower. There are also excellent specimens of C. Boxalli atratum, C. villosum, C. Spicerianum, C. Parishii, C. hirsutissimum, C. Lawrenceanum, C. Curtisii, C. Chamberlainianum, a fine plant; C. Roezlii, two very large plants of 2 feet in diameter C. callosum, &c. A dozen examples of C. Charlesworthii were in flower.

In the same house as the Cypripediums are fine lots of Vanda suavis and tricolor in variety, Cymbidiums Lowianum and giganteum.

In a range of span-roofed houses is a number of Cattleya labiata, possessing numerous flower-sheaths, which will make a beautiful display later in the autumn. The Dendrobiums do not number many species; the following were observed: D. nobile, with good growths; D. n. nobilius, D. splendidissimum D. Ainsworthii, D. Leachianum, D. Cooksoni, a fine plant, and D. Findlayanum. Cœlogyne cristata, and the Chatsworth and Trentham varieties of the same are grown in considerable numbers. Lycaste Skinneri in variety is making fine growth. Masdevallias, not numerous, include the rare macrura, and Odontoglossums look promising.

Not only are the Orchids satisfactory as a whole, but the gardens generally have a good appearance for the season.

The exhibition-houses are rendered attractive, the pillars being clad with various species of climbing plants; and stately Palms and other plants form a scene that all must appreciate. As I walked through these houses, I could not but wish that the Royal Horticultural Society was in possession of such fine buildings in which to hold their exhibitions. *R. J.*

which are almost peculiar, among garden Begonias, at any rate, to B. coccinea. In my opinion, this is the handsomest of all hybrid evergreen Begonias. It grows freely, and flowers continuously from early spring till late autumn; and probably it could be had in flower all the year round. The plant shown in fig. 53 was about 2 feet high; and I have seen

flower consists of two roundish sepals half-an-inch wide, and two very small petals. The stems are smooth and green, and the leaves are obliquely cordate, lobed and wavy, 6 inches long, bright green, with a reddish margin, and red petioles, spotted with silvery-grey when young. When starved and cramped in a small pot this Begonia makes a poor

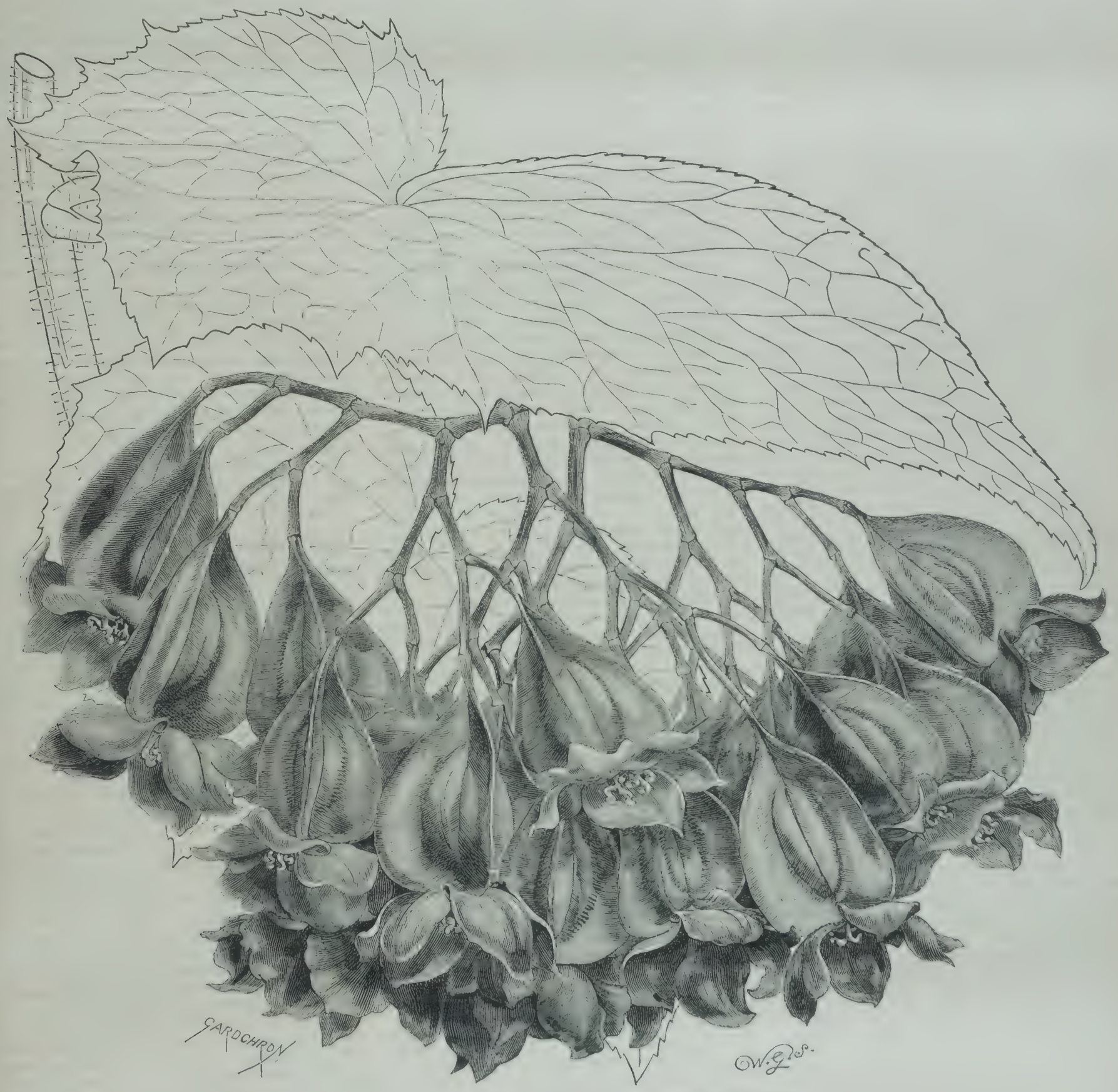


Fig. 53.—BEGONIA PRESIDENT CARNOT: FLOWERS ROSY-CARMINE.

BEGONIA PRESIDENT CARNOT.

M. Crozy, of Lyons, raised this handsome hybrid Begonia, and distributed it three years ago. Its parents, he said, were B. olbia, a Brazilian species, and B. rubra; but no doubt the latter name is a mistake, B. coccinea, commonly known as B. corallina, being meant, the large size and rich colour of the female flowers in the hybrid being characters

plants of 3 feet in height, with bunches of flowers 9 inches in diameter. The female flowers are by far the largest and handsomest, and they last a month or more. The conspicuous winged ovary is sometimes nearly 2 inches long, with wings ¾ inch deep, whilst the petals form a limb 1½ inch across. The whole of the inflorescence, including the pedicels and peduncles, is coloured bright rosy-carmine. The male flowers are borne on separate smaller racemes, and each

show, but when liberally treated it develops into a magnificent plant. No Begonia among the many species and hybrids grown at Kew has been so much admired as this, which is as great an achievement among hybrid Begonias as Canna Madame Crozy is among hybrid Cannas. Another hybrid Begonia from the same parents and by the same raiser is said to be even finer than President Carnot. I have not seen it, but it is called Souvenir de François Gaulin,

and is described as a winter-flowering plant of great beauty, with straight stems, red-tinted leaves, and clusters of about twenty female flowers, each 3 inches long! *W. W., Kew.*

THE ROSARY.

PREPARATION OF STOCKS.

Most amateurs like to propagate a few Roses of their own, and to do this from the first. The time for rooting the various forms of stock is very near now, and as the season is more forward than usual, we shall commence by the end of the present month. The Manetti, Briar, De la Grifferaie, or any strong grower among the Polyantha and Ayrshire section may be prepared as I will describe. One of the great advantages of doing this early lies in the fact that cuttings will callus directly, and make some few roots before winter. They are thus able to stand the drying winds better, and the roots will hold the stock from frost lifting to the same extent as when inserted so much later in the season.

Choose wood half or three-quarters matured, and cut it into lengths of 9 inches. Be careful to select wood with little pith, and without undue coarseness. If we want a healthy Rose, we must propagate from a healthy stock upon foster-roots attached to a plant in good condition. To make up the wood so indiscriminately as many do is altogether against common sense. We must always remember that we do not want any more suckers than can possibly be avoided, as we do not need these to form the main portion of our future plant, in the same way as when propagating Roses upon their own roots; therefore, avoid using those side-growths when making stocks. If we select growth of a suitable character, there will only be from four to six eyes upon each cutting. The bottom cut should be close below an eye, and the eyes cut clean out with a sharp knife, except the two nearest the top. I like my cuttings to be a foot long where plenty of suitable wood is available. We find considerable advantage in this when budding upon them the season after transplanting. When we strike Roses, a shorter cutting is best, and no disbudding takes place.

As the rosebuds worked upon various stocks are now set firmly, we can commence making cuttings at any time, according to the state of our stocks. Some years ago, and even now in a few cases, the cuttings were placed in the rows ready for budding upon the ensuing summer. This is not a good plan, because one not only runs considerable risk of serious blanks from death, but it is impossible to secure so deep an insertion of the rosebud as we should like. Not only is the stock in much better condition for budding, but we can ensure an even bed, bud with greater facility, and be sure of insertion well upon the crown of their roots. By doing a few each year we lose no time, as we simply plant out a few stocks, instead of inserting cuttings for working upon the following season. The shady side of a wall or hedge is an excellent spot for propagating Rose stocks. If a sandy compost can be afforded them, so much the better, and the cuttings should be inserted for fully three-fourths of their length.

A good method of operation is the following:—Turn over a little of the ground deeply with a spade or spud, and when you have got a breadth of a foot or so from the edge of the plot, set a short line across it about 3 inches from the edge of the newly-dug soil. Cut this down with a spade, pulling the loose soil forward into the trench. This will leave a firm bank against which to stand the cuttings. If the soil is not of a fairly sandy nature, it is a great advantage to have a little prepared soil, such as worn-out potting material, and place a small quantity of this in the bottom of the trench, so that the base of the cutting may rest upon a compost more encouraging to root formation. Our plan is to make this partly firm by gently treading along the bottom of the trench. Now press the prepared cuttings into this slightly, and place them some 3 inches apart. Let the depth of your trench be regulated by the length of the cuttings, leaving the top eye just out of the soil while in a loose and freshly-dug state. As the soil settles down, they will be a little more than three parts covered. Turn a little more of the soil against the cuttings, and tread them up firmly, then proceed to turn over more soil as before. When about 18 inches have been dug, set the line 15 inches from the first row. This will be a good distance, row from row, and also allow of a little soil being cut down in preparation of the second trench as before, and so on until the desired number of cuttings are inserted. They root freely enough if done early, and suitable wood be selected. When lifted and transplanted the following year, we must place them at distances varying with the strength of Rose to be worked upon them, and also whether they are to remain in the same spot, or be transplanted after a good Rose bush has been secured.

I must not forget a word or two here upon seedling stocks, nor yet the standard hedge Briars. Seedlings are easily raised; but when selecting the seed choose from a good grower minus those exceedingly small and numerous thorns. Any approach to the minute and numerous thorns of the Sweet Briar should be avoided. Sow now or in March. I have no choice whatever in the matter, and do it when most convenient. Sow thinly in drills in the same way as Carrot-seed—there will be few failures. Leave the seedlings in the seed-bed two seasons, then plant out the strongest for working upon the ensuing summer. Do not fear to use them of no greater thickness than a small packing-needle, for few stocks swell so rapidly as seedling Briars, when they have reached this size. The smaller stocks make grand stuff for a future year if set in thickly. Always shorten the roots of seedling Briars when planting, and thus check that tendency towards tap-roots, and which is the chief drawback to their safe transplanting when turned into Roses. Hedge Briars will need collecting soon, the earlier in October and November the better chance of rooting. Far too many aim at higher stems than are desirable. When they are brought in by the vendors they generally possess a quantity of coarse knobby roots. These are much better if removed pretty severely; indeed, we split the stem off almost as in taking a cutting with a heel of the older wood. So much of this old root rots and decay in a few years. It is also a trouble to lift them without breaking off many of the young roots later on; and as these will form even better upon the healthy heel left when the coarse knobs are removed, it is folly to plant in the rough state so often met with. Hedge Briars are planted about 18 inches apart for full standards, and 12 inches for shorter stocks; the rows being 3 feet 6 inches apart in either case. These stocks may be set into the soil some 9 inches deep; in fact, planted in the same way as I advised for cuttings, except to keep them the greater distance asunder. They are budded the first season after planting, and make maiden Roses the year following. It is a good plan to place them quite as thickly as advised, and then transplant to permanent quarters the autumn following their formation into Roses proper. However carefully we may have trimmed them, suckers are sure to form in more or less quantity; and we have the best possible opportunity of removing these when transplanting, and at a time when most of the dormant eyes will have developed sufficiently to be noticed. *A. P.*

LARGE-FLOWERED MIMULUS IN AUTUMN.

Plants, raised from seed sown in March, which bloomed finely in a greenhouse at the end of May and in June, are now, having been cut down and repotted at the beginning of August, again putting forth very fine blossoms. The strain I am growing is that fine selection from Clapham's known as the Imperial; the flowers very large, stout, finely-formed, and brilliantly spotted with maroon, crimson, rosy-purple, rose, &c., on yellow and white grounds. It is said sometimes that the Mimulus is too fleeting to become a popular plant, but there can be no doubt that the flowers are very handsome, produced with great freedom, and continuous in bloom up to a time when the leading stems show signs of exhaustion, and begin to wither. They should be at once cut away, and then fresh shoots will spring up from the roots, and as soon as these are an inch or so in length, they should be turned out of the pots, a good deal of the soil shaken from the roots, divided if large enough to admit of its being done, and then potted in fresh soil, and the bases of the shoots buried a little below the soil. These soon make a fresh growth, and quickly get into flower; and during the cooler days of September and October, when the atmosphere is moister, the flowers come very fine, are brilliantly coloured, and last longer than in the hotter and longer summer days. It is from this second growth I like to take cuttings of any particularly fine varieties, which root quickly and freely, and soon grow into fine plants, which, if carefully kept through the winter, make strong plants in early spring. Still, some seedlings should always be grown, to obtain something new in marking. Some of the rose-tinted varieties I flowered this season were delightful.

It is sometimes said the Mimulus is perfectly hardy, which is quite true of some of the species, but there is in the case of the fine varieties of the Imperial strain a susceptibility to frost, which should not be disregarded. The young plants should be placed beyond its reach. I have no doubt they would bear several degrees with impunity, but it is the sudden and severe frosts which need to be guarded against.

Dryness at the root in summer should be strictly guarded against, and full sunshine is not desirable. While blooming in the greenhouse [Some cultivators place them in saucers. Ed.], the Mimulus is a thirsty subject, and a little guano placed dry upon the surface of the soil, or given mixed up well with water, and applied immediately after being stirred, is very useful. As soon as the plants begin to decline, they should be stood out-of-doors in a cool shady place until they can be divided, when they should be kept close for a few days, and then placed on the greenhouse shelves. Increase by means of seed is an easy matter. The seeds germinate quickly under cool treatment, but they are so minute, that they should be scattered upon the surface of the soil very thinly indeed. *R. D.*

PARK HILL, STREATHAM.

This fine suburban place is the residence of Mr. Henry Tate, whose magnificent gift to the nation of a picture-gallery on the Thames Embankment with a collection of splendid and costly pictures, has been for some time a matter of notoriety. It is situate at the very apex of Park Hill, which runs up beside Streatham Common, and enjoys some charming views of the surrounding country. The house is large, and superbly furnished, and I had the pleasure of seeing in its capacious galleries many of the splendid pictures which will in time be transferred to London. The grounds are not extensive, but very compact and complete. A noble conservatory corridor leads from the lawn to a far finer Palm-house; the corridor is full of flowering greenhouse plants; the Palm-house is a mass of frond and leaf, everything in superb condition. Beyond that, and enclosing the lower front of the mansion, is a glass corridor, in which were growing many fine examples of Campanula pyramidalis, some of which are of the dwarfer or compact form. The picture-galleries are reached from this corridor. A broad terrace runs along the front of all this glass, and it was in beautiful condition, flowers in beds and vases—the latter particularly numerous, making the whole singularly gay. A dwarf or compact crimson-flowered Nasturtium is here very effective, in spite of the heavy rains. At the bottom of the lawn is a huge rockery, presenting one of Mr. Pulham's best efforts. The sunken character and shaded position renders it

specially adapted for Ferns, &c. Close by, in an enclosed area, are large numbers of glass-houses, devoted to plants of all descriptions, but the collection of Ferns, and all the best foliage plants, especially those suitable for house-decoration, is very extensive. Mr. Howe, the able gardener, does Dracænas well, and has a very fine collection of these striking plants. Particularly effective amongst foliage plants is Phrynium variegatum, the Canna-like leafage much coloured with creamy-white, and particularly useful for giving leaf-colour to plant groups. There is a fine lot of plants, though some are branching rather than erect, of the fine crimson-coloured Celosia pyramidalis, of the Maiden Erlegh Stock—and all sorts of things, in fact, in rich profusion.

Mr. Howe has frequently shown from this garden some grand Grapes. Alicantes are in fine form, but the chief house of this variety is planted with one Vine only. It has been cropped in this way some ten years, carrying from 80 to 100 fine bunches, the which now averaged some 3½ lb. in weight. It is by no means a large house. The chief vinery range has an excessively long sharp pitch roof, and that is not good for Grapes. Hamburghs have been very fine, but are now fast disappearing. Superbly as originally coloured, the colour wanes if kept hanging long after on the Vines. Gros Maroc, Gros Colmar, and Muscat of Alexandria are the chief other varieties grown, but for indoor use big bunches are not desired, hence there is no attempt to induce these to carry show samples. A fine densely-green Melon, unnamed, that is described as one of the finest-flavoured, is cropping well. So also is Lockie's Perfection Cucumber, which is so much favoured at the table. Tomatos, too, are largely and well grown, but it is a distinct relief to learn that Mr. Howe has no specialty. He grows Melon Perfection, Ham Green Favourite and others, and most highly-prized for its high flavour, beauty in clusters, and abundant cropping, is Sutton's Red Dessert, which is so greatly appreciated as a table fruit. The yellow form Golden Nugget is equally pleasant as a dessert variety.

The kitchen gardens are not extensive, as the area which was formerly used for that purpose has been parted with. Still, there are plenty of good vegetables of most descriptions. There are, as everywhere, heavy crops of Pears, and some good Apples. In some frames seen are Gloxinias of the famous Reading strain are very beautiful, specially so is the white-and-red Duke of York, and the rich scarlet, both wonderfully true from seed, a very important thing in named stocks of Gloxinias. *A. D.*

BLECHNUM *v.* LOMARIA.

As the recent issues of Mr. E. J. Lowe's little book on *British Ferns*, and Mr. G. Schneider's more comprehensive book of *Choice Ferns*, both contribute to substitute the name of Lomaria Spicant for our native species popularly known as Blechnum Spicant, it would be of considerable interest to British Fern-growers to know whether this alteration is justified. In Mr. Lowe's book, the specific distinction between the two species is not stated, nor is a description given of the Lomaria form of fructification. In Mr. Schneider's book, however, the definitions are clear enough. In Blechnum "the involucre (cover) is membranous and distinct from the edge of the frond." In Lomaria, the sori "are covered by an involucre of a parchment-like texture, formed of the revolute (curled up) edge of the frond." We have therefore a perfectly clear issue before us, viz., that if our native species known as Blechnum has its sori covered by a membranous indusium, altogether distinct and independent from, and situated well within the margin of the frond or pinna, it is a Blechnum, and not a Lomaria. Mr. Britten in his *European Ferns* (p. 64), not only treats of the plant as Blechnum Spicant, but gives wood-cuts of the specific differences described, and quotes Mr. Moore as a corroborative authority thus: "The distinction between Lomaria and Blechnum becomes easy when full force is given to the technical characters assigned to each respectively. The peculiar character of Lomaria is that the sori are produced at the margin, whilst the characteristic of Blechnum is to have the sori distinctly within the margin, and near to the costa. Thus in technical and exact terms, the sori of Lomaria are marginal, and in Blechnum costal or intra-marginal. The fructification of Lomaria is determined by the indusium being a continuation of the margin of the frond, which becomes membranaceous, and is inflected over the spore cases. The fructification peculiar to Blechnum, on the other hand, is known by the indusium springing directly from the under surface of the frond, the margin extending beyond."

There is clearness of definition; and all that should remain to decide the question is the plant itself—a fertile frond of which I enclose, maintaining that it is Blechnum Spicant and not Lomaria, on its own evidence and the preceding definitions.

I would not trouble to contest the recent rulings were I not cognizant that the alterations of old and well-known names, of which B. Spicant is one, is a source of great vexation and confusion to many Fern-lovers. Nomenclature is a puzzling question enough without having confusion worse confounded by alterations such as here involved, which are contradicted not only by good authorities, but what is far more, by the evidence of the plants concerned. I and many of my *confrères* would be very glad of the editor's pronouncements on the specimen found herewith. *Chas. T. Druery, F.L.S.* [Please send another specimen. Ed.]

A TRAVELLERS' NOTES.

(*Continued from p.* 310.)

Sydney: *May* 31.—The Bulli Pass, one of the prettiest spots near Sydney, lies due south, and but a few hundred yards from the open ocean on the Kiama line. *En route*, 18 miles from Sydney, the National Park, an immense area of 40,000 acres, is traversed. To a great extent it is in a state of Nature, and the vegetation apparently not luxuriant, doubtless owing to the poorness of the soil.

Near Bulli, in sandy soil interspersed freely with irregularly-shaped boulders, often of great size, Doryanthes excelsa is thoroughly at home and multiplies freely. The foliage is of the palest shade, a tint spreading to the flower-stalk, which is slight, straight, and from 8 to 10 feet in height. At this season no flowers are to be seen, though undeveloped heads are frequent, oval, pointed in shape, and of the brilliant blood-crimson colour, the more advanced spikes glistening with gummy exudation.

Epacris flower on the sides of the cuttings, and carpets of Bracken cover every available spot. In the district is good coal, glimpses of the collieries being frequently obtained on the slopes clad with tall Eucalypti.

A good road leads up the pass, at the foot of which masses of gaily-flowering Lantanas have become a weed, not however to such an extent as the Bramble, veritable tangled shrubberies of which line, at intervals, both sides of the road for the whole of the ascent, only some 1000 feet.

A panoramic view of the country beneath, laying beyond the forest at the foot of the hill, with the open ocean beyond, is afforded during the ascent, and above all from "Webber's Look-out" on the extreme summit. Corypha australis is very fine, on tall, straight stems, 50 to 60 feet in height; Seaforthia elegans no less so, with many heads of flowers. Alsophila australis, A. MacArthuri, and A. Cooperi are frequently met with, though much of the latter has been removed by enterprising collectors.

Fixed to the smooth white stems of the Eucalypti, or clamped firmly in the forks of the main branches, are specimens of Asplenium Nidus, in some instances of considerable size; whilst in the general shrubbery are such well-known plants as Doryphora Sassafras and Pittosporum undulatum. In the village gardens on the plains beneath, a favourite tree is Erythrina speciosa, now rapidly losing all its leaves and opening its superb scarlet blooms, large specimens offer a magnificent spectacle.

In addition to the National Park, Sydney is well provided with open spaces, both in and on the outskirts of the town. Chief amongst these is the new Centennial Park of 700 acres but recently opened. Avenue planting has been done, roads and rides laid out, due provision made for the protection of the numerous wild duck on its lakes, and the whole fenced in, in a massive and efficient manner; as it is, however, in the dawn of its existence, the trees have attained no size, and there is little to remark beyond suitability of site, and the wisdom of apportioning such an area for public purposes near the heart of a large city. With the two Domains, Moore Park, Hyde Park, the Centennial Park, &c., Sydney has no lack of open spaces. The chief planting tree, growing with freedom and yielding unrivalled shade in Hyde Park and the Domains, is Ficus macrophylla. *James H. Veitch.*

(*To be continued*).

FORESTRY.

THINNING FORESTS.

(*Continued from p.* 368.)

The shelter group and the belts were thinned early, to encourage sturdy growth, and enable them to resist the winter gales. In March, 1865, I took up a cart-load of Spruce and Silver Fir from the head of the wood for another plantation. In May, 1866, thinned Larch near the river, by cutting holes through the thickest parts.

In June, 1866, I cut through the field, part in serpentine-lines, from corner to corner, diagonally, the cuts crossing in the middle. Thinned Scotch Fir at the head of the wood and shelter-belts. In May, 1866, we knocked off several Oak that had grown from the stools of timber that was felled in 1855, and found that the part attached to the decaying trunk was much smaller where it springs from the stool than it is higher up, the extra size being fed by roots springing from its bark, where it is embedded in the earth. This accounts for the shoots from the stools making much more rapid growth at first before any of the old root has died, than seedling Oak, as they are fed by the roots of a large tree, and for their not making so much growth afterwards from the old roots dying. After their death, it is only supported by the new roots it has made. Seedling Oaks make the best trees afterwards. In March 7, 1867, we thinned south corner of the wood; thinned shelter belts regularly. On June 12, 1871, we began cutting a road through the wood, from the path at the bottom, sloping up the side of the hill towards the south-east boundary; cut 359 Larch. On June 7, 1872, turned the road to southward, cut through a rock 14 feet high, and continued it to the lower corner of the wood, where a group of Oak trees remains, part of the old wood; 5 feet were cut off the rock, and 9 feet built up with a dry wall. In June, 1873, cut Larch in lines. In May, 1874, cut out young Oak among the Larch in the lower part of the wood; Spanish Chestnuts have every leaf turned brown by the late frost in the low ground, 20 feet high; some are cut nearly at the top of the wood. In May, 1871, I cut a quantity of young Oak, and a few Larch. Finished the road to the field part, and made a wide cut, nearly as wide as the height of the trees, as the trees had killed all the grass and Brambles, and were dying. Carpenter half a day; eleven dozen Larch. In 1877, began cuts, taking two trees and leaving eight from lower road to north-west. In 1878, made cuts from new road to north-west, between the cuts that were made up to the road. In 1879, made cuts above the road in wood part in May; cut in field part in October, where the trees were thickest. In 1880, cut young Oaks in the cuts that were made the last three years. In 1881, began a cut parallel to the new road, leaving twelve trees between it and the road, and taking down three trees out of fifteen. In May, 1882, continued the cut parallel to the road, and took out long thin trees from field part, where they whip the larger Larch. In May, 1883, made a cut parallel to and above the last at 48 feet distance. In May, 1884, cut dead and suppressed trees. In May, 1885, cut young Oak trees. In May, 1886, cut dead and suppressed trees. Professor H. Marshall Ward and my son who has studied forestry for two years, went through the wood; they do not think the leaf-canopy sufficiently preserved, and advise no cutting of poles for some years. In May, 1887, cut suppressed trees and

forty-three dead Larch. In 1888, cut suppressed trees and thirty-three dead Larch. In 1889, cut dead and suppressed trees; and in 1890, 1891, and 1892, during May. September 20 to 27, 1892, cut branches off Spanish Chestnut and Oak with a saw, using a light ladder. In May, 1893, cut suppressed trees and forty-six dead Larch. May, 1894, widened the roads, converted the path at the bottom of the wood into a road, and rooted nine trees; one measured 15 feet 7 inches.

On page 752 in the *Gardeners' Chronicle*, June 16, 1894, "L." writes: "The good old rule of hard wood being thinned out to half the height of the trees, and Pines to one-third their length is now, not always, but I am sorry to say far too frequently forgotten." If any beginner in plantation management follows "the good old rule" he will not find the trunks of his trees very long.

In conclusion I would say that over-thinning is much more injurious to plantations than allowing them to grow too thick. My brother allowed workmen to take out every other tree from a plantation of about ten years' growth. The result was, the annual growth of the trees was reduced from 18 inches to 3 inches the first year after the thinning, and the trees took some years before they grew well. It is not good practice to thin the whole of a large plantation the same year, as it is usually done at the coldest and stormiest part of the year. The whole plantation is chilled, and its growth checked for some years. I have seen plantations of thirty or forty years' growth thinned regularly, leaving no two trees touching each other, with very bad results, the growth of the trees coming to a standstill for years, from the sudden exposure and the sun drying up the soil, and depriving the trees of one of the principal factors in tree growth—moisture. *H. R.*

THE SEED TRADE.

The Grass and Clover Seed Crops.—We are now able to estimate pretty accurately the yield of seeds grown so largely abroad for agricultural and garden purposes. Like many of the seed crops in this country, those of natural grasses were very promising in the early months of spring, but advices from Darmstadt are to the effect that, with very few exceptions, there was a great change for the worse in the course of the summer.

Natural Grasses.—Bent-grass (Agrostis) of all kinds promise a short crop, not only in southern Germany, but also in the United States of America; but, while cold, wet weather has considerably lessened the crop in one case, the severe drought in the States has had the same results. Of the Hair-grasses (Aira), A. flexuosa, which is useful for sheep-feeding on dry natural pastures, has been harvested in fair quantities, but quotations cannot be low, as there are no stocks in hand. Meadow Foxtail (Alopecurus pratensis) has this season produced a crop inferior even to that of last year, the late frosts in May having materially damaged the development of this valuable grass; the produce appears to be only about one-half of what was harvested last year, and prices have advanced in consequence. Sweet Vernal (Anthoxanthum odoratum) is a very indifferent crop, the whole output being extremely limited. A. Puelli has succeeded very well, but it does not appear to be in demand in this country. The crop of false Oat-grass (Avena elatior) is a fair average one, and the quality proves to be excellent; the German growers advise that early orders be sent, as the earlier receipts of this grass are always the choicest, both in colour and quality. Brome-grasses (Bromus), for the most part of rough quality, disliked by cattle generally, as they contain but little nutriment, have produced average good crops. The yield of crested Dog's-tail-grass (Cynosurus cristatus) is, without doubt, more abundant than has been the case within the last three years; but, it is stated, the colour will not be good, on account of rain. Cock's-foot-grass (Dactylis glomerata) has failed this year in New Zealand, where it is largely grown — the weight is light, the colour bad, and the germination low. The American (States) crop is an average, and the germination very high; but there will be heavy loss in cleaning, owing to the impure character of some of the samples. There is a fair average crop in France of the Fescue-grasses, the Hard (Festuca duriuscula), and the Sheep's (F. ovina), have produced seed in larger quantities than last year, and prices rule more reasonable, but as the seed is being rapidly taken up by dealers, in the absence of last year's stocks, prices are rising. The yield of the narrow-leaved Fescue-grass (F. tenuifolia) is good, indeed, rather plentiful. Meadow Fescue (F. pratensis) shows about the same yield as last year, and prices will rule as in 1893. Tall Fescue (F. elatior) shows a satisfactory yield, but the area of the crop being limited, the supply will correspond. The Woolly Soft-grass, or Yorkshire Fog (Holcus lanatus), shows a fair crop of good quality. Timothy-grass (Phleum pratense) is a partial crop in the States, and prices advance rapidly. In Germany it is a late crop, and nothing definite can yet be learned as to the probable yield. Of the meadow grasses, the Wood (Poa nemoralis) is a good average crop, but the colour has suffered from the rain. The Rough-stalked (P. trivialis) has been harvested in satisfactory quantity; the seeds are ligher in weight than usual, and somewhat discoloured. The Smooth-stalked (P. pratensis) is a good crop, excellent in colour and quality. Of the Rye-grasses, the Perennial is reported to be promising, but it is expected the weight of the seed will be light. The Italian has given good results, both in France and Great Britain, and normal prices will rule.

Clover Seeds.—It is early to report on these with anything like certainty, but Sainfoin will probably be plentiful, though rain has affected the quality, and it is thought prices will be lower than last year. Trefoil has proved a plentiful crop of fine colour, but as there are no old stocks on hand, prices are likely to be high. White Clover is thought to be below the average, while really fine samples are rare. Of Alsike Clover there is a satisfactory crop in the United States, and very fine samples are offered at fair prices; German-grown seed is not yet in the markets, but the yield is regarded as an indifferent one. Trifolium incarnatum has been plentiful in all producing districts, and prices have reached a low level. Of Red Clover, the United States appear this season to show a below-average yield; but there are, it is said, large yields in Hungary, Galicia, and Bohemia. From Italy has come new seed of good quality, but as the reports from America are not favourable, there is an advance in prices. France and Italy both show a large crop of Lucerne.

The continued heavy rains, and complete absence of sunshine, have seriously impeded the drying and threshing of most of the grasses, and deliveries are, therefore, slow, making it difficult to fix definite prices at present.

THE HERBACEOUS BORDER.

CHRYSANTHEMUM LACUSTRE AND COREOPSIS GRANDIFLORA.

There are two hardy plants that are well worth growing for cutting at this season of the year; they are Chrysanthemum lacustre, and the golden-yellow Coreopsis grandiflora. I planted a long line of the former in order to form a boundary line between my own land and that of my neighbour, and an excellent summer fence it makes; and it is now, and has been for some time, a perfect mass of bloom, supplying bushels of cut flowers if required. It grows freely; indeed, it will grow in any soil, and a clump spreads rapidly, soon attaining to a large size. I find that the flowers stand well in water in a cut state, and they are decidedly better for indoor decorative purposes than the white variety of Anemone japonica, which unfortunately soon sheds its petals, even when cut young. In the new Lammas Public Park at Ealing, there is a border of hardy shrubs and flowers, and chief among the latter is the Chrysanthemum under notice. It is full of bloom, and associates well with evergreen and deciduous shrubs; while it is so hardy that, so far as my experience goes, the hardest frost will not injure it.

It is not difficult to have two seasons of blooming of the golden Coreopsis grandiflora, one early in the summer from plants left over from last year; the other from seedling plants, the seeds of which are sown in June and July, and which, of course, bloom later. But both are very persistent in flowering, and their continuity is no doubt helped by the cool moist season. In the somewhat moist sandy loam of my seed-grounds at Bedfont, both these plants bloom freely, and this is a result of making strong rootstocks in the holding soil. In the finest stands of cut blooms of hardy flowers, I saw at flower shows during August and the first two weeks of September, Chrysanthemum and Coreopsis grandiflora were almost invariably among them.

I have this season bloomed a batch of seedlings of C. lacustre, but so far there is little, if any, apparent departure from the type. No doubt, the fine forms which have been shown on two or three occasions during the summer were seminal varieties, and that some show produce flowers larger in size than others, is perhaps not to be wondered at. Such improvements soon cease to be rare, because it is possible others may obtain the same results in their seedlings, and it would appear finer forms of this useful perennial have appeared in two or three places during the past three months. *R. D.*

Anemone japonica.

The varieties of Anemone japonica are among the best and most useful in the garden in the early days of autumn, as regarded from the purely ornamental point of view. Especially so are the snow-white variety, A. japonica, the type with warm rosy-purple blossoms, and alba, or Honorine Joubert. The intermediate pink-shaded variety known as A. j. elegans is distinct and pleasing enough, but for bold masses of colour and where an effect is wished to be produced when viewed from a good distance, I should favour the first two kinds. A. Honorine Joubert is valuable in many ways, and can be associated with other plants, both planted and in a cut state. The type possesses a shade of purple which is not found in other garden flowers in the autumn season, and should on that account find favour. Any good ordinary soil suits this species, and position is not a matter of consequence. The rhizome frequently wanders wide from the parent plant, and encroaching often on other plants; still, they are easy to keep within bounds, and places in most gardens might well be occupied with them where they could remain a long time without disturbance. This is a point of importance in the culture of the plant which should not be overlooked. They are also among other places specially well suited for planting at the foot of a warm sunny wall, and, indeed, seem to attain perfection in such positions more readily than they do in the open border, which in a measure may be due to the protection afforded them by the wall in the winter season. I have more than once seen these plants attain to 5 feet high in warm snug corners, yielding abundantly of flowers a long period of time.

Rudbeckia Newmanii.

A useful late summer and autumn flowering perennial of dwarf habit, one of the best border plants; of easy culture, and readily increased. The plant has a cushion-like habit of growth, with abundant foliage, from out of which the numerous flower-stems arise. These, when fully grown, are of a golden-yellow tint, with a jet-black disc. The plant is about 2 feet high, compact, vigorous, and hardy, good forming for masses. *J.*

NOTICES OF BOOKS.

Anleitung für Pflanzensammler. Von Dr. Udo Dammer. (Stuttgart: Ferdinand Von Enke.)

This is a very compact and serviceable treatise on the methods of collecting, preparing, and conserving plants, and parts of plants, for purposes of study. Not only is the general method of drying plants for the herbarium treated on, but special sections are devoted to collections for special purposes, pathological and teratological, and to the formation of illustrative series of leaves, fruits, woods, Ferns, Algæ, Lichens, fungi, &c.

Fungi and Fungicides: A Practical Manual concerning the Fungous Diseases of Cultivated Plants, and the means of Preventing their Ravages. By Clarence M. Weed, D.Sc. (London: Kegan, Paul, Trench, Trübner and Co., Charing Cross Road.)

This is an unpretending but very serviceable little book, treating of a selection of the more common fungi affecting fruit trees, ornamental plants, vegetables, cereals, and forage crops. It covers much the same ground as is partially occupied by the similar works of W. G. Smith and Marshall Ward, but has the advantage of being more comprehensive than either of these. A description of the diseased conditions, and of the fungus causing it, is given in each case, the descriptions being illustrated with wood-cuts or process-blocks, which do not compare favourably with the illustrations given in our English books; in addition useful references are given to the literature of the subject.

The methods of prevention and the remedies are detailed in each case, great stress being laid upon spraying with Bordeaux Mixture and similar compounds, with or without the addition of arsenites (London Purple and Paris Green). It is very astonishing that our cultivators should be so slow to adopt the methods of spraying as a preventative against the enormous losses now sustained, but we may hope that one result of the technical education scheme now being worked in various ways will be to diffuse information on these matters. Lecturers and students will find this little volume useful to them. It will, we may hope, be the precursor of a similar book, adapted to British requirements, and containing information on a number of diseases of cultivated plants not given in any book yet published in this country.

Agricultural Zoology. By Dr. J. Ritzema Bos. Translated by J. R. Ainsworth Davis. (Chapman & Hall.)

Professor Davis has executed a very useful task in publishing this translation of Dr. Ritzema Bos' work, as there is no book in the language that we know of that so well covers the ground. Without overloading the book with technicalities, which in this case would be superfluous, the author gives an accurate and clear account of the several classes and orders of the animal kingdom, illustrating his statements by a more detailed account of those particular species which are of the greatest importance to the farmer. The general structure and appearance of each animal is described, and details are given as to its habits and the method of preventing their ravages. The author has even a good word for the fox, which, in spite of its preying on domestic poultry, game birds, &c., affords some compensation by feeding on rabbits and voles, whilst he does not disdain cockchafers, worms, and snails.

Insects naturally occupy a large proportion of the book. Sometimes the remedies prescribed, though doubtless effective, are not such as could be carried out on a large scale; for instance, it is true that thousands of crane-flies may be caught with a net, but we fear the thousands so caught would only bear a fractional proportion to those left. The ravages effected by mites are only partially dealt with, possibly because fruit-culture is considered to be a thing apart from that of farm-plants proper.

Eelworms, which are such a plague to growers of Carnations, Cucumbers, and Tomatos, come in for a share of notice, but unfortunately we are not told how we may rid our plants of these pests, nor of the steps to be taken to free the soil from them. In the case of plants grown in pots, measures can be taken which would be impracticable on a large scale. Preventive measures, however theoretically serviceable, would practically often be worse than the disease—take the slug, for instance. We are recommended to protect their natural enemies—well and good; but what are the natural slug destroyers? The answer is, "pigs, moles, shrews, ducks, fowls, pigeons, rooks, starlings, and toads." It is evident the remedy must be carefully selected and administered in small doses, and its action carefully watched by the practitioner! The work is adequately illustrated, but it lacks an index. Though intended primarily for farmers, much of the information is of value to the gardener also, and in another edition a few supplementary pages, dealing with the pests which plague the gardener, might advantageously be added.

Home Correspondence.

Potatos in 1894.—The crops this season are not so good with us as they at one time promised to be, the early kinds however turned out well; and some of the later sorts, of which there were about forty on trial, have done well considering the character of the season, some being free from disease, and others not so badly affected as was at one time expected. All the crops have now been lifted. In these brief notes the kind of soil is indicated, the mode of treatment, and the results. Our ground is a heavy loam of a good depth, which retains a considerable moisture a long time, and therefore not the best for Potatos, particularly those of robust growth. The ground was dug in the autumn, and left in a rough state till planting time came, when it was broken down and pulverised with the fork. Drills were then drawn about 3 inches deep, our object being by so doing to keep the tubers near the surface, so that the ridges would be drier should the season be a wet one. All varieties were treated alike, and after the drills were drawn, kainite was spread down the rows at the rate of about 4 cwt. to the acre. The sets were planted in the last week of March, these having been spread out all the winter on shelves in a light airy shed. Some sets had growth of ½ inch long, while others were scarcely started. The warm weather which succeeded caused the most forward sets to push through the soil in the first week in May. Remembering how we suffer in this part from late spring frosts, I had the tops covered whenever they pushed through the soil, so that but few of them got nipped by frosts at the end of Whitsun week. Lifting the early varieties was begun at the end of May, and a finer crop I have seldom had, not a tuber being diseased. Of the early varieties, Myatt's, Veitch's, Rivers', and Sutton's Ashleaf were good alike, and very little difference in them, either as to goodness of quality or amount of crop. The second earlies were under-sized, as they stopped growing too soon. The mid-season and late varieties, strange to say (though Sutton's Supreme seemed to be affected the worst of any with the blight), had not more than half-a-dozen diseased tubers in a bushel of them when lifted. Edgecote Purple was also good, and very few of them were affected with the blight. Abundance, Best of All, Windsor Castle, Triumph, Supreme, and Satisfaction did well. The same may be said of Chiswick Favourite and Vicar of Laleham. Record was a poor crop, and very much blighted, as were Empress and Renown. Rising Star and Invicta were fair. The variety Quantity-and-Quality was a good crop, with but few diseased tubers; they are, however, too coarse for the best table. Crimson Beauty was much diseased and a poor crop, as was Epicure; while Marvel had a fair crop, with but few diseased tubers. Marvel has a nice shape, short haulm, and good flavour. Purple Perfection was the heaviest crop of all, there being scarcely any diseased tubers. Prolific, a good-shaped tuber, was a good crop, but it is not a fine quality. Fink Perfection has a good shape, and that is its only recommendation. Monarch and Colossus were both grown, but neither of them was of good quality. Here, then, is a list of varieties, a number of which are of but little use in an ordinary garden, as they make too much strong growth, while the quality in some cases is poor. Of early varieties, in my opinion, there is none to compare with the Ashleaf; and for mid-season and late ones, none are better than Windsor Castle, Triumph, and Supreme. *H. C. Prinsep.*

The Conference on Trees.—I shall be glad if you will allow me to refer to the remarks of Mr. Thiselton-Dyer at this conference, in reference to my paper, as, I think, he must have been under some misapprehension on the subject. You report him to have said that:—"He must say that he was much struck with the fact that the writer of the paper really answered, with almost destructive criticism, many of the suggestions raised in his own paper. There seemed to be some confusion in the matter. A landowner with an attractive estate planted trees for various purposes—for shelter, or to a very large extent from considerations of landscape effect. Of course, in so doing, he had his reward in the pleasure he derived. Such actions ought not to be regarded from a commercial point of view. There was, in point of fact, very little in this country of what could be called forestry. That arose from various considerations, and he would not now trouble them with details. On the continent, however, forests to a large extent belonged to permanent bodies, such as the Communes in Switzerland, and other great corporate bodies. Therefore such bodies could, if they liked, project the expenditure and the expected profit into the next century. That was impossible for the private landowner in this country. He did not agree with the writer of the paper that English landowners were less astute than foreigners, although it was the fashion to say so." It is not clear from the above where the "destructive criticism" comes in, but I am under the impression that the paper of mine that was read at the conference is in almost entire agreement with the above paragraph. I was careful to state that my paper referred exclusively to the production of timber. I have not confounded the planting of trees for shelter, &c., with planting "from a commercial point of view," but have distinctly stated that such plantations "need not be reckoned upon for the production of timber, and hence should not be mixed up with the latter subject at all," and I have also stated my belief that waste-lands can only be made profitable by planting under specified conditions, and the very best management. Neither have I stated that "English landowners were less astute than foreigners," although Mr. Dyer appears to think so himself, when he says that, "in point of fact, there was very little in this country of what could be called forestry." I cannot say I am in sympathy with Mr. Thiselton-Dyer's attempt to dissuade the Society from making "the public believe it, as a Society, had any distinct views" on the subject of forestry. The Society might draw the line somewhere if it saw fit; but to suggest that it is to have no distinct views of any kind on a subject in which it is deeply concerned, is, in my opinion, timid counsel, especially from such a source. *J. Simpson, Wortley.*

Veitch's Climbing French Bean.—Like other Runner Beans, the above requires to be planted at not less than 10 inches apart, in single line, on heavily manured and deeply-trenched land, or in trenches like Celery, the stakes used for them to cling to being not less than 7 feet above the ground. It is a variety I have grown for more than thirteen years, and fail to understand the cause of its being so long in getting generally known. *H. Markham.*

Lessons of the Great Fruit Show.—The first is, that we should in market-fruit culture utilise to the fullest extent the more favoured parts of the Kingdom, especially those south of the Thames. Whilst last year the unusual heat brought hardy fruit to a remarkable degree of perfection everywhere, it is but too obvious that such seasons come only too seldom. This present season we see no such fine finish to fruit generally as was evidenced last year, and the present season is but a type of many. The very best finished and finest fruit, and therefore the most profitable of fruit, came to the Crystal Palace chiefly from Kent, and that county still stands at the head of all other counties as the great hardy fruit district of the Kingdom. But Sussex and Surrey have on both chalk and sand hardly less favourable sites for fruit culture than Kent has, and certainly these three south-eastern counties of England do present the most favoured field for fruit culture, they get more of sunshine, the air is purer, and they have generally better and warmer subsoils for the trees. Then, so far as competitive classes are concerned, it is evident that to give all growers a fair chance, counties require to be grouped, so that competitions may be in the respective classes limited to growers in those groups. It is obvious always that growers in the eastern, midland, western, or south-western counties have no chance against the growers of the south-east. They have not the same fine climatic conditions. Much as Maidstone is to be congratulated on the comparative success in certain classes made by Messrs. Woodward, Mackensie, and Killick, yet, is it not discouraging to growers in other districts, less highly favoured, who feel how poor is their chance in such a open competition? If it is desired by these fruit exhibitions to offer encouragement to fruit culture everywhere, then some better method of apportioning the classes must be adopted. No doubt Maidstone is proud, but fruit shows do not exist solely for the glorification of Kent. The packing competitions were disappointing.

In no sense was anything seen superior, and in some cases not so good as when similar competitions were furnished at South Kensington. Peaches showed nothing new; and the competition in packing utensils was so limited as to be almost devoid of interest. *A. D.*

BRITISH FRUIT AND ITS PRICES.—I have had my attention drawn to your article on this subject, and to that portion relating to myself especially, and also the last seven lines in which you are pleased to give your opinion of my friend, Mr. R. D. Blackmore, others, and myself. You say "how threadbare the whole thing is, and yet how fresh it seems to be to the writers in the *Times* in the *silly* season" (the italics are mine). You say also Mr. Harrison Weir endorses Mr. R. D. Blackmore. My letter had nothing to do with the salesmen or the prices of fruit further than those quoted by Mr. R. D. Blackmore. I am by no means unfrequently asked my opinion by persons anxious to know about, and to invest *their little all* in fruit-growing; therefore what I said was to place before such people what they had to contend with, and then leave it to them "to invest" if they thought proper. You say the matter is "threadbare," &c. This I deny. The conditions of fruit growing *are changing every day*, and the foreign competition *is growing*. I should not be doing my duty to my countrymen, knowing what I do of fruit-growing, if I did not point this out to them. You are pleased to call this in an indirect way, "silly." I never said a word about salesmen's dues, &c, which you "in words" have "rambled" about. Neither is the matter anything like so *threadbare* as that we often get about Grapes and other fruit growing under glass, &c., which is so *ad nauseam*. However, I am more astonished at the denseness of the following remarks: "For these gentlemen the Royal Horticultural Society, its fruit conferences at Chiswick, its fruit committees in Victoria Street, and the Horticultural press of this country, might just as well have not existed." Now, Mr. R. D. Blackmore and myself are both members (and now appears that we are very unworthy members), of the Royal Horticultural Society, and I am one of the Fruit Committee, and have been for many years, and I have been connected with the Horticultural Press for a considerable period. So this assertion comes on me as a new revelation that the Royal Horticultural Society has anything to do with the price of fruit or salesmen, &c. What the Society has done and is doing is in the way of promoting the growth of the best fruit, and of new varieties, and it has gone as far as to gain information as to *packing*, but not the selling of it; nor has it ever, so far as I know, concerned itself as to its *distribution* in any way, nor possible or actual *competition*, or how it should be met. And yet the writer of the article draws the inference that because a few men discuss the prospects of *profits*, *distribution*, and *competition*, we are told we are "silly," and that the Royal Horticultural Society is of no use to such men. I am an old man, and have seen, heard, and read much in my time, but anything more ridiculous or absurd has never come before me; and I feel that I must also add, that if there is anything 'silly" about controversy, it does not rest entirely at least with the writers in the *Times*. *Harrison Weir, F.R.H.S., and One of the Fruit Committee.* [Our valued correspondent is under a misapprehension. We were not silly enough to impute silliness to him or anyone else. But it is a fact that the correspondence appeared in what is called the "silly season." And it is also a fact that the questions have been threshed out over and over again, although we believe not a word to that effect was stated in the *Times* correspondence. Mr. Weir has, for instance, overlooked the full discussion that took place at a deputation to the Board of Trade last spring, and has forgotten the discussions on fruit culture for profit at the Fruit Congresses, especially that of 1888, at Chiswick. It seems to us that enough has been said on general principles; it is now more than time to act. Ed.]

FOREST MANAGEMENT.—A good deal has been written lately of various kinds on the subject of forestry, but very little of it contains anything of the least use to anyone practising planting. It is, therefore, very refreshing to read Mr. Webster's article upon the planting and managing of Larch plantations. I should say from my experience in planting that no better directions could be given. Of course, these directions apply only to the planting of Larch; other kinds require other management. Each other kind ought to have particular directions for the planting and management of it; and again, mixed plantations of two or more different kinds of trees, require special directions for each different mixture of trees. There are some kinds of trees that can only be grown profitably in a mixed plantation. I do not know if this is what Mr. Forbes means by "scientific forestry." But a truly scientific forestry is impossible at present, because the data for it are unknown. "Scientific agriculture" is to a certain extent possible, because Lawes and Liebig and Ville have taught us something about the physiology and chemistry of soils and different farm crops; but nothing of the kind has been attempted in forestry. Your Cornish correspondent is mistaken in thinking that the thinning of them by storms has anything to do with the peculiar character of natural forests. That character depends upon there being a constant succession of seedling plants of all different sizes growing together. When the larger trees are cut out, there are always smaller ones to take their places. Anyone may see this, and study it in the Pine and Fir forests of Norway and Sweden. But there is an instance in England of the similar management of a natural forest. The Beech woods in Buckinghamshire are managed by taking out and stubbing up a certain number of the largest trees every year; these are constantly replaced by seedling trees, of which, in all sizes, the woods consist. There is a piece of wood here, which fifty years ago came up a self-sown forest of Silver Fir; so that, being of all different sizes, they never required to be thinned. But the conditions of a wood artificially planted are totally different from those of a natural forest. *C. W. Strickland.*

"SAUCE AND SEWE."—In the interesting article in your paper of Saturday last on "Fifteenth Century Gardening," the writer translates the line—

"Herbys to make bothe sawce and *sewe*,"

thus:—

"Herbs to make both sauce and *show*."

I think the last word must be one which is still in use in this district, Furness, and was used in the same sense. On Good Friday, a customary dish is "Fig sew," made by boiling Figs in beer or milk. In Stormont's *Dictionary*, "sew" is given as an old English word for pottage, boiled meat, and "seaw," Anglo-Saxon, juice. *Geo. Slater, Barrow-in-Furness.*

FLORIFEROUS PLANTS OF CHRYSANTHEMUM.—The early summer varieties are now at their best in Mr. Milward's picturesque gardens. The plants include two pyramids, one having 357 the other 350 flowers on them; there are also two dwarf-trained specimens, one with 360 the other 355 flowers, so that these four plants carry 1422 flowers, a remarkable result of cultural skill on the part of Mr. J. Fleming, the gardener. *W. H. Titcomb, Alice Holt, Farnham, Surrey.*

The Week's Work.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton.*

THE CONSERVATORY.—At this season any repairs, painting, and glazing, should be carried out. If painting be not done, then washing with soap and water is almost sure to be needed, as is also the lime-washing of any walls that there may be. The first of the flowering plants to put into this house are the early-flowering Chrysanthemums, which if trained into certain shapes are useful subjects for placing as starers, filling up the remaining space with Salvias, Celosia plumosa, Lasiandra (Pleroma) macrantha, Pelargoniums, &c. Where the space at command admits of a group or groups of specimens with single stem, arrange one in the centre of the house, but this kind of arrangement is best left alone unless the roof is sufficiently high to afford these a good appearance, for nothing looks more incongruous than plants touching the roof. Such varieties as Elaine, Avalanche, Belle Jeanne, Gorgeous, Mr. Holmes, Lady Selborne, W. H. Lincolm, are useful at this season. No manurial stimulus should be given to these plants. The stakes which are seen to be too long for the stems, may be shortened or replaced with others, placing these so that they are concealed.

ZONAL PELARGONIUMS.—These form a useful and brilliant group of plants for the conservatory, and care should be taken to distribute the various colours in a harmonious manner. The double and semi-double flowered varieties are more useful in the neighbourhood of smoky towns, as the blooms stand the effects of the winter fogs better than single ones. These plants will benefit from regular supplies of weak manure-water and good ventilation, with a little heat in the pipes at the time it is afforded. Every day the floors, benches, and plants should be cleaned, and dead leaves removed; and whenever it is necessary to wash the paths and floor, it should be done in the early morning.

PRIMULA SINENSIS.—The earliest sowings will now be sufficiently well rooted to receive a weekly application of some much diluted soot-water, alternated with Standen's manure at the rate of about one teaspoonful to a 5-inch pot. A slight amount of artificial warmth should be afforded these plants, with, at the same time, abundance of air; in fact, much air should be given in mild weather.

SEASONABLE HINTS ON OPERATIONS.—The fall in the outside temperature towards the end of last week came as a reminder that frosts may soon be expected, and that the various glasshouses must be filled up with their winter occupants. The better method of arranging these plants is to place together in the same temperature, Ericas, Epacris, and Cyclamen; Carnations and Mignonette can be grown together, provided the latter be kept near the glass, preferably the roof glass. Let pots be made clean outside by washing them, and fresh green-painted sticks be given to plants where such are necessary. The first batch of Roman Hyacinths being now in a condition to be gradually forced into bloom, a portion of the stock of them may be put in a warm house, removing them to the forcing-house in about a week afterwards. Continue to use liquid manure in a much-diluted form to those Poinsettia pulcherrima whose bracts are now showing, and a higher temperature should be afforded the plants, say 65° by night, with a rise of 5° by day. Shading materials of whatever sort should be removed from the glass, except the roller blinds on the stove or other warm-houses, where they may be useful in maintaining an equable temperature during severe night frosts.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

THE HEATING APPARATUS.—It is of importance that everything connected with the apparatus which warms the various houses should be put in good working order before cold weather comes. The mild nights lately experienced in the south have rendered the use of fire-heat uncalled for in large amount, but we must now be prepared for sudden falls in the outside temperature. Immediately the houses of the warmer divisions are damped down in the afternoon, the warmth should be increased a little, so that as the temperature outside declines as the evening advances, that of the inside the houses may be easily maintained at its proper figure without having to drive the fires. By the man in charge keeping a little extra amount of heat in the pipes at night, more air may be admitted than would otherwise be prudent to afford; it is also needed in order to prevent the warmth falling too low by the morning, and by plants that are only partly through their growing season. Undoubtedly, much depends on carefully-managed night temperatures, but at times it is difficult to forecast the fluctuations in the external temperature, and I consider it preferable to err a trifle on the warmer side during the present month than run any risks. Should the houses be a degree or two too warm when finishing up for the night, no evil effects need be apprehended, providing a free use be made of the ventilators. If, however, through an inefficient heating apparatus, or owing to sharp frosts which sometimes suddenly occur during October, the temperatures of the various divisions fall a few degrees below what is considered right, no watering of the plants or damping down should be proceeded with before the required temperature is reached, and the drier the houses are then kept the better, cold and moisture being the chief causes of spot and the beginnings of disease. The following should be the night temperatures for October: East Indian-house, 65° to 70°; Cattleya and Mexican, 60° to 65°; intermediate about 60°. The higher readings should be maintained only when the external air is about 45°, when below 35° the lower ones are to be preferred, but always allowing for a fall of several degrees towards the morning. The cool or Odontoglossum-house may be kept at 50° to 55°, or warmer if the weather should continue mild, the ventilators being kept wide open; but in the event of cold weather, fire-heat may have to be used, but the warmth should not exceed the lower reading. In all collections of Orchids, the destruction of insects which injure the plants in one way or another is constantly

called for, if the plants are to be kept in health. I have frequently advised Orchid cultivators to be careful in the use of chemical insecticides; at the same time, I have largely experimented with them, and found that one of the best, most efficacious, and safest insecticides is the XL All vaporising fumigator. During the past summer I have used nothing else, and the Orchids are cleaner than they ever were before; in fact, as regards thrip, none is visible. I may add, that with the exception of Disas (the foliage of which is exceedingly tender), every species of Orchid here has been exposed to the vapour periodically, without the slightest injury being done to a single plant.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CHERRY TREES.—The trees intended for forcing early being at rest, the repotting of those which require it should be done. Always use perfectly clean pots, abundance of drainage, and a potting soil consisting of turfy loam mixed with one-eighth mortar-rubble broken moderately small, and some half-inch bones. Pot firmly, leaving ample space for water. For top-dressing use two-thirds loam, and one third manure. Every pot should be turned out, and the drainage materials put into good order. If planted out, fresh soil, more or less in quantity, according to the needs of the trees and age of the border, should be afforded, and any trees or bushes that are growing grossly carefully dug up and replanted. Any pruning still remaining to be done ought now to be attended to. Good varieties of Cherries for forcing are May Duke, Royal Duke, Black Circassian, Black Eagle, Knight's Early Black, Bigarreau Napoleon.

THE FORMATION AND MANAGEMENT OF VINE BORDERS.—The season has arrived when the making of new borders or renovation of old ones may be best undertaken. Having determined on the width and depth of the border, having regard to the size and elevation of the vinery, 15 feet being allowed for lean-to houses as the width of the border if it be intended for early forcing, and proportionately more for span-roofed vineries, and those intended for late Grapes. It is desirable to make the interior of the house a border, with free access for the roots to both borders; in fact, the land must be treated as a whole merely divided by a row of pillars supporting the front of the house. Some cultivators prefer to have the earliest Vines in an inside border, so as to have them quite under control. For a span-roofed vinery, 25 feet in width should be allowed, in addition to an inside border about 12 feet wide on each side; but no fixed rule can be given, and the gardener must be guided by circumstances. The depth of drains will be settled by the natural drainage of the ground, but on soils that are retentive, the staple should be taken out to the depth of 5 feet, measuring from the top of the pillars or arches of the vinery and where the soil of the border will be required to stand when finished. A slope of 1 inch to a foot should be given to the bottom of the border; a 9-inch brick wall should be built round the front to keep the roots from going into the soil beyond; then a layer of concrete, 4 inches thick, should be placed over the bottom of the border. A main drain should run along the front or end of the border, 8 inches below the level of the concrete, and this may be connected with the outfall drains of the garden. On the concrete place lines of drain-pipes 3 inches in diameter, about 6 feet apart, and connect these by means of pipes with the main drains. Over the drain pipes and concrete, place a covering of chalk, brickbats, or coarse gravel to the depth of 12 inches, then a thin layer of charcoal and turf. Where limestone or chalk underlie the border, there will be no occasion to drain to this extent so long as a good outfall drain is provided. The bulk of the border may consist of good turfy friable loam, lime rubbish, charcoal, and half-inch bones; the turf being taken from old pasture land if possible, and it should not be too strong or contain much clay, neither should it be sandy. The more of the fibrous roots of plants that it contains the longer it will last before getting pasty or soured. It should be dug in sods 6 inches thick, carted, and placed in the Vine-borders at once, or stacked in a convenient place. There is no necessity to chop it up; it is quite as good carted at once to the border, and placed the grassy side downwards, with 2 inches of porous material between each layer of sods, to keep the soil open. This last is a main point in Vine-border making, as after a few years many kinds of soil run together into a retentive mass, causing shanking of the berries and other evils, which are due to the loss of the young roots in the winter. The usual plan of making Vine-borders is to chop up the loam, and to every five cartloads add one of lime-rubbish, broken bricks, and charcoal, with 1 cwt. of ½-inch bones, mixing all well together. By my method there is a saving of time and labour, and the borders are more evenly and firmly made. The depth of the borders will allow for more drainage and more rough materials being used than is usual in making Vine-borders. Here at this place, twenty years ago, this plan was adopted, and it has answered well; the rough materials were placed in alternate courses —charcoal, turf, the grass-side down; ½-inch bones, turf, lime-rubbish, and so on, to within 9 inches of the top of the border, which consisted of loam and bone-meal. No manure of a quick decomposing nature was used; it is too stimulating, causing strong, long-jointed wood which often ripens badly, and the soil, when much of it is used, quickly settles into an uneven close mass unsuitable for the production of good short-jointed wood, and fine clusters of Grapes. The piecemeal system of making borders is the best; the inside border being made the first year, leaving the outside to be done as soon as the roots need more space. In three or four years the rest of the border may be divided, and half of it left for a future time with advantage to the Vines. The depth given for the borders will be objected to by some people, but it is not a bit too deep for the production of good heavy crops of Grapes for a number of years, especially when the borders are confined to a space of 20 feet, provided plenty of rough lime-rubbish, charcoal, &c., are used to keep the soil open. Shallow borders are satisfactory for a few years, but it is prudent to allow them as much width as possible for root extension where they have not to be prevented from getting into the surrounding soil.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

CABBAGES.—The plants of the second sowing having grown to a good size, they should be planted out forthwith, water being afforded them if the soil be dry, and the seed-bed should also have a watering before any plants are taken out of it. The best results are often obtained from this second sowing, the plants being less liable to bolt after a severe winter. Where plants of the first sowing have been pricked out into reserve beds, they should without delay be planted out in the open quarter. All such plants, of whatever kind, should be lifted with a trowel, it being necessary, if the effects of pricking out be not quite undone, to have a good ball of soil, and this obliges the use of a trowel in planting them. If the Cabbage-maggot or grub is feared, any plants observed to be failing in any way should be taken up and burnt, thus making sure of killing the grub or maggot, the gap being filled up from the reserve. As a precaution, dip the roots of all Cabbages in a puddle made of clay, soot, and water, on planting them. Red Cabbage should now be planted at 3 feet asunder in good soil, in a perfectly open place, but not just close to the paths.

LATE POTATOS.—The slight frosts having put a stop to growth, the tubers are now ready for being lifted, and in a dry state of the soil may be dug up and stored in clamps or dark cool cellars.

GLOBE ARTICHOKES.—Owing to the want of any great heat to cause complete maturity, these plants are producing heads unusually late, and any of these still fit for use may be cut off and the ends of the stalks put into a pan of water. Remove the old stems, and dress the plants with rotten manure, forking it in between the plants.

MUSHROOMS. — Ridges may be made out of doors if the materials are sufficient in bulk, and litter and waterproof coverings to put over them are available. The chief point is to have prepared stable-dung in quantity to make ridges 4 feet wide at bottom and 3 feet high, a loamy adhesive soil for covering the bed, a steady warmth of not more than 90° at 1 foot below the surface, and good spawn.

SCARLET RUNNER BEANS.—Although we have had in this district 5° of frost, Beans are not injured; but it will be well to keep the pods closely gathered and stored in a damp cellar.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

CARNATIONS AND PICOTEES.—These, if layered as advised, will now be rooted, and ready for being transplanted, which work should be performed forthwith, and with rapidity, so that the young tender roots are not long exposed to a drying atmosphere. Where a fresh border is obtainable, and it is always best to give these plants a change of soil, it should be in or near to the flower-garden, if that be possible. In my own case, I have grown them for several years in succession on the same ground, it being the most suitable place that there is in the garden. It is a south border, about 10 feet wide, with a Peach wall at the back of 9 feet in height. In commencing the job, detach the layers from the parent plant by cutting through the stems with a keen knife; then sort out the best-rooted and strongest for planting, cleaning off nearly all the soil in which they were layered, if it be not of the best quality; laying these carefully in some soil near at hand, the weaker layers being laid in for future use. Then afford the border to be planted a light dressing of good loam, and a dusting of soot and charred garden refuse. If the soil be too heavy, horse-droppings will improve it, but partly rotten cow-manure will be more suitable where the soil is light. Dig the ground well, breaking it up fairly fine; if too wet and stiff, let it lie untouched for a day or two. Then apply another light dressing on the top, of the same materials as before, and prick this lightly and evenly in all over the border, when, if dry enough, planting may be proceeded with. Great care must be given in planting, the young roots being very tender, and the little ball of soil adhering to each quite loose. If in beds, they may be planted a little closer, but when in long lines, and no alleys are left between them, 15 inches from plant to plant will not be found too much at layering-time, if the plants are strong. Plants late layered will not require quite so much space. After planting, afford one good watering, and should fine dry days come, a sprinkling of tepid water, by means of the syringe, will be of benefit to them. A few of the best of each variety left over from planting may be potted-up in case of failure, and plunged in coal-ashes in a cold frame, close to the glass. This plan may be advisable for all the plants in very wet, stiff clayey soils, but I do not advise leaving the layers attached to the old plants throughout the winter, and planting them out in the spring; for having tried a few this way, I find the heavy rains are apt to wash the light loose soil from the roots, exposing them; the frost also lifts them, and has more effect on them this way than when properly planted.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

ROOT-PRUNING APRICOT TREES.—Trees of very vigorous growth will be benefited by being root-pruned during the present season; and trees planted two years, which also make shoots of great vigour, are beneficially checked by being lifted and replanted. In the case of fruiters, the earlier this work is undertaken the less risk there will be of injuring the fruit crop of next year. Where the space at command admits of borders 6 feet wide being devoted to Apricots, and this area can be confined by means of a chalk or other wall, which I have described in a previous calendar, then the roots being quite under the control of the cultivator, short-jointed fruitful shoots can be assured, and the dying off of the branches, so common in vigorous trees, greatly reduced. If the trees are growing in borders about 12 feet wide, cropped with vegetables, arrangements should be made to have the borders fallow at this season, so that the root-pruning of the trees may be properly attended to. As in most gardens the Apricot border is only 4 feet wide, the roots should be pruned back to that point. In place of the usual heavy dressing of manure for the vegetable crops, a good quantity of turfy loam, burned garden-refuse, old mortar, chalk, &c., may be worked into the soil of the border, the vegetable crops being made of secondary importance. This is better than using manure, which only encourages strong growth in the trees, with the consequent labour of root-pruning.

LIFTING AND REPLANTING PEACH TREES.—As with the Apricot so also with these fruit trees. Young or gross-growing trees should receive early attention in the matter of lifting and replanting, or else in such a season as the present, with the ground thoroughly moist, the trees will continue to grow till the frost causes the fall of the leaf. The rains have rendered the soil in the best possible state for replanting, which operation may be done without delay, if the trees are kept syringed every day so long as the weather is dry and the leaves remain on them. A large wheelbarrow-load of old mortar and wood-ashes in about equal parts, well mixed together with the staple, should be applied to each tree station. If the weather should keep dry, a mulching of spent Mushroom-bed manure should be laid over the roots of all disturbed trees, otherwise mulching may be deferred till frost threatens.

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APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY	Oct. 9	Royal Horticultural Society's Committees at the Drill Hall, James Street, Westminster. United Horticultural Benefit and Provident Society's Anniversary Dinner at Cannon Street Hotel.
WEDNESDAY	Oct. 10	—East Anglian Horticultural Club.

SHOW.

WEDNESDAY	Oct. 10	National Chrysanthemum Society at the Royal Aquarium (three days).

SALES.

MONDAY,	Oct. 8	Plants, Roses, Ferns, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.
TUESDAY,	Oct. 9	Greenhouse Plants, at Prospect House, Woodford Green, by Protheroe & Morris. Dutch Bulbs, at Protheroe & Morris' Rooms. Nursery Stock, at the Wood Lane Nurseries, Isleworth, by order of Messrs. C. Lee & Son, by Protheroe & Morris. Nursery Stock, at the Nurseries, Tunbridge Wells, by order of Messrs. T. Cripps & Sons, by Protheroe & Morris (three days).
WEDNESDAY,	Oct. 10	Dutch Bulbs, at Protheroe & Morris' Rooms. Special Sale of Hollies, Rhododendrons, &c., at The Nurseries, High Beech, by order of Messrs. Paul & Son, by Protheroe & Morris.
THURSDAY,	Oct. 11	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants, Roses, Ferns, &c., at Protheroe & Morris' Rooms. Orchids, at The Gardens, Walton, Stone, Staffs, by Protheroe & Morris.
FRIDAY,	Oct. 12	Orchids, at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe and Morris' Rooms.
SATURDAY,	Oct. 13	Orchids, at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—52°.2.

The Great Fruit Show.

The great Fruit Show inaugurated by the Royal Horticultural Society, has come and gone. It can hardly be compared to some other displays of a similar character; but taking the time, the season, and all other circumstances into account, it must be pronounced to have been a good show. The weather was bright and altogether favourable, thus forming a marked contrast to the state of affairs at Chiswick on the previous Tuesday. There was, moreover, a large gathering of gardeners, for whom a fruit show seems to have greater attractions than any other horticultural exhibition. On each day the Conference Hall was crowded, so much so, that on the third day a larger hall had to be utilised, showing the interest that is excited by the subject of fruit culture. The papers were sensible and to the point, and whilst they did not hold out exaggerated notions of the profit to be derived from fruit-culture, they, at least, showed that under fairly favourable conditions, the industry could be, and was, worked at a profit.

It might have been supposed that the public had experienced a surfeit of fruit, its culture, and exhibitions, but judging by the number of exhibits and exhibitors, and the good attendance of sightseers on the first day, interest in these subjects has not in any degree grown less. In contradiction to the prophecies and the lamentations of newspaper writers, and of speakers at public meetings, we are still *facile principes* in Apple and in Grape culture, and as far as climate permits, we are not so very greatly behind our neighbours. In the matter of small fruits, Cherries, and Pine-apples, we cannot be said to occupy a mean position. We still cultivate too many varieties, we have much to learn of the arts of packing, assorting, and marketing, and we are slow to appreciate the use of insecticides and fungicides, for the purpose of saving much of the fruit now lost.

Fruit drying, in view of the burdensome railway rates now charged for all but those goods sent in quantities of a ton, is deserving of the earnest attention of cultivators, seeing the general excellence, marketable portability, and relative cheapness of the various products shown by home exhibits. These, so far as could be judged without tasting the examples shown, are the equals of anything that we, at the present time, import from France, Spain, California, Australia, and Germany. We need not specify here what these were, as a notice of them will be found in another place.

Of hardy fruits grown out-of-doors, it may be said that the colour was much better than might have been expected after this somewhat sunless season. Naturally a higher colour is looked for in fruits under glass, but this is not always the case, and this year at least, ripe or ripening fruits from cordons grown under glass are not nearly so rich and bright in their tints as out-of-door grown ones—if we may except Peaches, such as Lady Palmerston.

We do not look for blemished appearance in the picked fruits of an exhibition, so that we are unable to say if it be a fact that much fruit has this season suffered from those minute funguses which attack the rind of Apples, Pears, and Plums. The dishes of Apples were present in bewildering numbers. The trade exhibits were extensive (we rather wish they were less so, for they are a great temptation to would-be buyers of trees). The collections of fruit were not up to the mark; nor were the Grapes as fine as have been seen at former shows at Sydenham, or of phenomenal size of bunch.

We were pleased to remark a novel, very practical, lasting, and what is more, a cheap kind of basket made of wood. It is made in bushel and half-bushel sizes, and a number of them may be put one in the other like a lot of tumblers, thus occupy but small space as empties, compared with that taken up by the old-fashioned baskets. Moreover, they have lids with open slats, so as to admit of the escape of moisture, and being smooth at the sides, fruit, &c., cannot readily be bruised.

As a place for a show of this kind, the Crystal Palace is unrivalled, and many who were present echoed the wish that was expressed by one of the speakers at the luncheon, that in future the Royal Horticultural Society will occasionally hold some of its large shows in so very suitable a building. Even if the weather were wet the spectators would not have to experience the discomforts which were felt at Chiswick at the Tree and Shrub Conference.

We refer to another column for a detailed report of the Show and of the Conference; but we may here allude to a very praiseworthy attempt to break away from the traditional rows of white plates which was made by Mr. Owen Thomas, and one or two other exhibitors. By command of Her Majesty a large collection of fruit was exhibited from the Royal Gardens. It comprised some 120 varieties of Apples, 110 varieties of Pears, 14 Pines, Peaches, Frogmore Selected Tomatos, Grapes from the famous Vines at Cumberland Lodge and Hampton Court. The former, a veteran of 110 years, is this year bearing about 2000 bunches of Grapes. We hope, in a subsequent issue, to give an illustration of this group.

Mr. Thomas arranged his vast mass of fruit in the form of a trophy, which was effective, and showed what might be done in the future in this way. It showed also that by a little contrivance it would be quite as easy to display the fruit for comparison or in competition in this way as in the ordinary manner. There is really no reason why some at least of the best flowers and the best fruits should not be arranged in masses to please the eye. Why should the most beautiful objects in creation suffer by being arranged in the ugliest and most formal manner possible? Something has been done to vary the monotonous lines of Dahlias; and even Rosarians are beginning to see that they do dishonour to the queen they worship by allowing her to be displayed in the most unattractive way possible. Fruit, as the nearest greengrocer's stall will prove, is capable of being grouped in such a way as to display its pleasing forms and rich coloration to the best advantage. The Spartan simplicity of rectangular boards, green boxes, paper collars, blacking bottles, and bare white plates, &c., may be left for committee meetings and gatherings of experts, but at shows to which the public is admitted every endeavour should be made to gratify, instruct, and interest them.

To show what our Belgian friends do on similar occasions, we give this week an illustration (see Supplement) of the central group in the "Salon Royal" of the International Horticultural Exhibition at Antwerp in July last, and mentioned in our issue for July 28, p. 96. It was arranged by M. Guillaume de Bosschère, and the photograph, one of a series of beautiful views, was executed by M. Albéric Lunden.

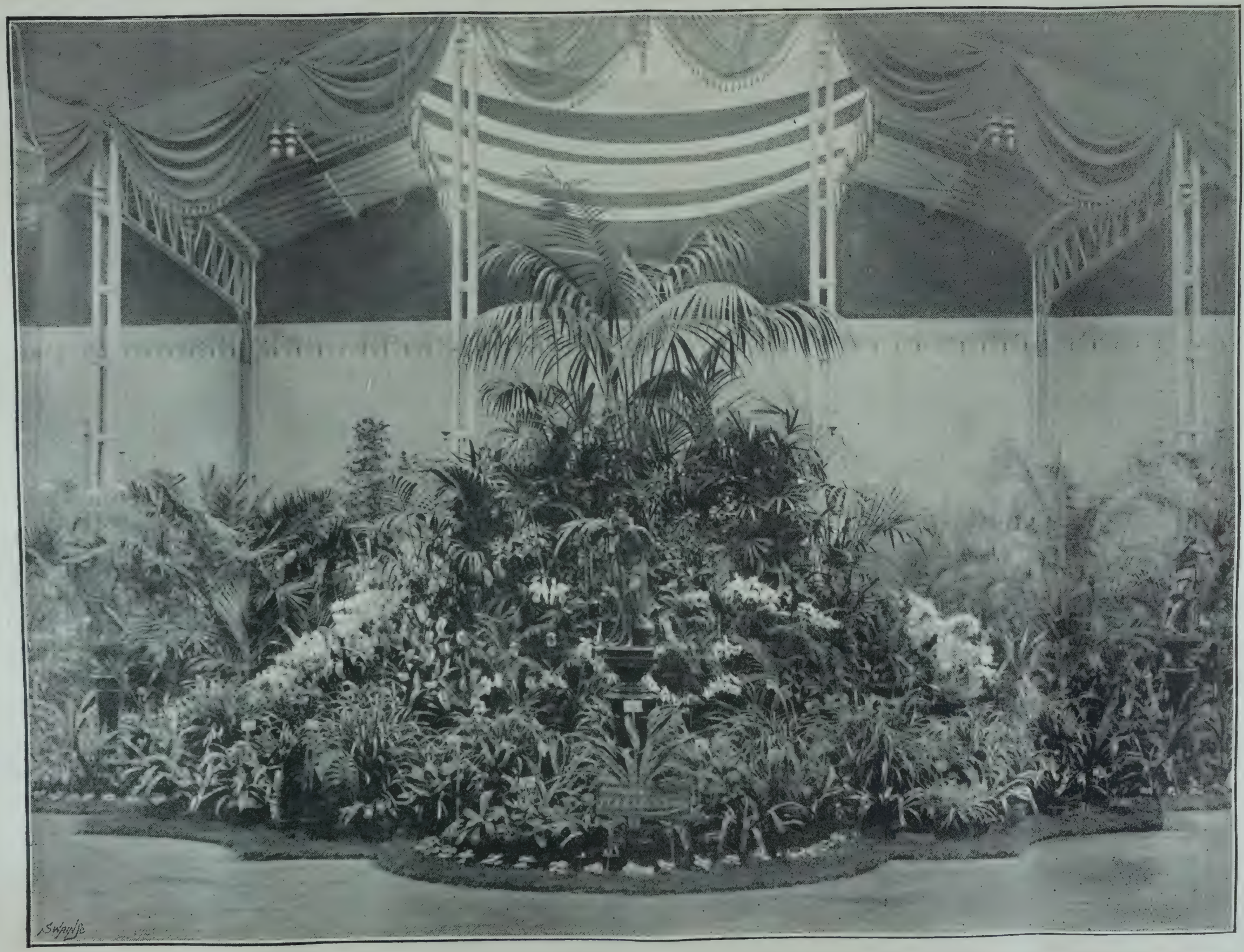
Royal Horticultural Society.—The next meeting of the above Society will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, October 9, when a large display of fruits and flowers is anticipated. At 3 o'clock Mr. E. H. Woodall, F.R.H.S., of Scarborough, will deliver a lecture on "How to Popularise Orchid Growing."

"The Kew Bulletin."—The September number (No. 93) contains an interesting article on the "Vegetable Resources of India," comprising a summary of a report prepared by Dr. Watt; a list of the plants collected in the Hadramaut Valley, Arabia, by Mr. W. Lunt, one of the Kew Garden staff, who accompanied Mr. Bent's expedition, is also given. Mr. Lunt brought home about 150 species, including representatives of twenty-five new species and two new genera. The ninth decade of new plants is published, consisting of specimens in the herbarium previously undescribed.

Lindley Library.—The following sums have already been promised or paid towards the Library Fund and the preparation of a printed catalogue. At present the amount received is very inadequate for the purpose:—

The Council of the R.H.S.	25	0	0
The *Gardeners' Chronicle*	3	3	0
Dr. Masters, F.R.S.	1	1	0
Mr. W. Carruthers, F.R.S.	1	1	0
Mr. A. Dean	0	5	0
Mr. F. W. Burbidge, M.A.	0	5	0
Hort. College, Swanley	1	1	0
H. Kruse, F.R.H.S.	2	2	0
Lord Justice Lindley	5	5	0
Col. C. H. Page, F.R.H.S.	1	1	0
J. H. Veitch, F.R.H.S.	0	10	6
H. J. Veitch, F.R.H.S.	1	1	0
A. H. Kent, F.R.H.S.	0	5	0
W. J. Clark, F.R.H.S.	1	0	0
B.S. Ogle, F.R.H.S.	0	5	0
Sir T. Lawrence, Bart., F.R.H.S.	5	5	0
T. B. Haywood, F.R.H.S.	1	1	0
Geo. Humphreys, F.R.H.S.	0	10	0
Ed. A. N. Arber, F.R.H.S.	0	5	0
W. R. Foster, F.R.H.S.	2	2	0
J. Douglas, F.R.H.S.	0	10	0
Malcolm Dunn, F.R.H.S.			
S. Heaton, F.R.H.S.	0	2	6
Mrs. Robb	0	5	0

Dutch Horticultural and Botanical Society: Floral Committee.—Meeting of September 8, 1894. The committee awarded:—First-class Certificates to Messrs. E. H. Krelage & Son, of Haarlem, for Cactus Dahlias Mrs. John Arnold, Rayon d'Or, Mrs. Thornton, and Veilchen; single Dahlias Miss Gordon, Flora Fischer, Mikado, and Elegance;



Central Group in the Royal Saloon, Antwerp Exhibition, July, 1894.

Lilliput Dahlias Lilian and Marion; Show Dahlias Grand Sultan and Herzog von Kostritz; to Messrs. Ter Brake & Co., of Bussum, for Begonia tuberosa with yellow flowers; to Messrs. Groenewegen & Co., of Amsterdam, for single-flowered Dahlias Madame J. Closon and Souvenir de Madame Schrelle, Lobelia erinalis rosea; to Messrs. A. Glym De Vos & Co., of Utrecht, for Aglaonema costatum, Adiantum macrophyllum albo-striatum, Lastrea lepida, Pteris ludens, Tropæolum Lobbianum fol. var.; to Mr. J. Th. Van Den Berg, Jun., of Jutfaas, for Begonia tuberosa var. campanulatus; to Mr. J. W. Daudey, of Haarlem, for Cactus Dahlias Lady Penzance and Ernest Glasse. Awards of Merit to Messrs. E. H. Krelage & Son, of Haarlem, for Antholyza paniculata; to Messrs. Ter Brake & Co., of Bussum, for Gloxinia hybr. fol. varieg.; to Messrs. A. Glym de Vos & Co., of Utrecht, for Pteris serrulata gracilis, P. s. nobilis variegata, P. tremula densa, P. aspera multifida; to Mr. F. Van den Wissel, of Epe, for Chamæcyparis pisifera plumosa variegata aurea. An Honorable Mention to Mr. Van Dam, Jun., of Utrecht, for a collection of Begonia tuberosa var. fl. striata.

Chrysanthemums in the London Parks.—We are requested to inform our readers that the show of Chrysanthemums at Southwark Park will be opened to the public on the 6th inst., and may be viewed from 10 A.M. till 4 P.M. every day. The flowering of the Chrysanthemum is much earlier this year than usual, and there is a prospect of a splendid display, many being already in full bloom. The number of flowering plants, including all novelties, is 4000. The house will be utilised, if possible, after the show is over, as a winter garden. —The annual show of Chrysanthemums at Waterlow Park, Highgate Hill, will be opened to the public on Saturday, October 13, from 10 A.M. until dusk, Sundays included.

Hyacinths and Lilies of the Valley Flowering early in September.—In former years the first forced Hyacinths in Berlin were ready in October. They were the White Roman varieties. This year the first forced Hyacinths appeared at the beginning of September. They were of various sorts, but not White Roman. The flowers were white, blue, and rose-coloured, the inflorescences healthy, though somewhat short. I hear that the bulbs were kept in an ice cellar during the spring and summer, and then forced at a very late date. Flowering Lilies of the Valley in September are not new to me. Some years ago I saw good specimens of this at Eberswalde near Berlin; also last year at the great exhibition at Leipzig. I remember that some ten years ago at St. Petersburg the well-known nurseryman, Mr. Eilers had flowering Lilies of the Valley ready on the birthday of the Russian Empress in August. These Lilies of the Valley differ very much from those forced during the winter. The flowers are of a very firm texture, the leaves of that bluish-green colour, seen only in those plants which grow in the open air, whilst plants forced in winter, especially the earliest ones, have only small flowers and yellowish-green leaves. It is a question whether it would be possible and lucrative to grow these plants in the future in the same way, so that we might have Hyacinths and Lilies of the Valley all the year round. I hear that a great many of the bulbs and roots die in the ice cellar. Perhaps it would be possible by careful selection to raise varieties which would not suffer by this management and treatment.

The Torquay District Gardeners' Association.—This Association, which is in the third year of its existence, is congratulated in the second annual report of the Committee upon the continued success which has attended its proceedings. The first annual outing took place on August 10, 1893, when a large number of members visited Taunton on the occasion of the flower show. The first ordinary meeting of the Session 1893-94 was held on Friday, October 6, when, in place of the President (Mr. Lavers, since dead), Major Grahame read an interesting paper on "Nature's Agencies in Seed Dispersion." The financial position, as revealed in the balance-sheet, shows a sum of more than £14 to its favour. The present President of the Association is Dr. R. Hamilton Ramsay.

Middlesex Technical Education.—The Tottenham district has instituted for the coming winter, classes in cookery, dressmaking, home-nursing, principles of horticulture, plumbing, hygiene, and carpentry. The horticultural class is conducted by Professor Boulger, on Tuesday evenings at 8 to 9 P.M., at Bruce Castle. Admission is free.

Sale of Nursery Stock at Aberdeen.—The well-known firm of Messrs. Wm. Smith & Sons, seedsmen and nurserymen, Aberdeen, in consequence of removing from their nurseries at Polmuir, to Burnside, Stocket, near Aberdeen, disposed during the last four days of the past week, of their whole nursery stock and greenhouse plants by public auction. The magnitude of the sale drew together a very large and representative number of buyers from all quarters. The bidding on the first day was rather spiritless, but on the second and third days nurserymen and gentlemen's gardeners put in an appearance in larger numbers, and the demand became more animated, more especially on the third day, when the whole of the pot plants, numbering about 4000, were disposed of. For Roses there was a capital demand. The sale at first was meant to extend only over three days, but the salesman was unable to overtake the work in that time, and a fourth day had to be resorted to. In all over 3000 lots were sold, and not a single lot was withdrawn if money was offered for it. Mr. Farquhar, auctioneer, Old Echt (assisted by Mr. Fyfe, Netherhills), was entrusted with the conducting of the sale, and also acted as judge at the close of the fourth day's proceedings.

Mr. George Ross, who has been gardener to Mr. McHardy, of Cranford, Aberdeen, for the past fourteen years, was, the other evening, on the occasion of his leaving for a situation with Captain J. G. Baird Hay, Belton, Haddingtonshire, made the recipient of a handsome marble clock and a couple of bronze statuettes by his professional brethren. The chair was occupied by Mr. Alex. Robson, Vice-chairman of the Royal Horticultural Society of Aberdeen.

Ealing Gardeners' Association.—The opening meeting of this flourishing Institution, which has a membership of nearly one hundred, took place on the 2nd inst., when an interesting paper was read by Mr. J. Barry, Chiswick, entitled "Some Thoughts by the Way on Gardening and Gardeners." J. Sewell, Esq., occupied the chair. Local interest attached to the references to Lee's firm (who have a branch for Roses and fruit trees at Ealing), on its being pointed out that Lee of Hammersmith introduced the first standard Roses into this country from France in 1818, it being on record that the then Duke of Clarence gave the firm an order for 1000 trees at a guinea each! The Lees', too, introduced the Damask Rose, and were among the first who obtained the medals of the Horticultural Society at their once famous shows at Chiswick, and at the monthly meetings, which in those days were held in Regent Street. Roses were at that time shown singly upon the bright surface of japanned tin cases, in which bottles filled with water were inserted, the dimensions of the case being 30 inches by 18. Suggestions were made as to the better and more effective arrangement of Rose shows than now prevails. An interesting section was devoted to the wealth of hardy trees and shrubs, and particularly of exotic species, distinguished by the beauty of the autumnal foliage, passing reference being made to the rich stores of such subjects at the Royal Gardens, Kew, and at Syon. Examples of successful associations of this class of plants at Messrs. Veitch's, Coombe Wood, were referred to. Gardening retrospective and prospective formed the subject of some interesting and practical references, a note of warning being sounded to young gardeners for their apparent preference for employment in the houses, to the entire exclusion of the more important departments of the kitchen and hardy fruit and flower-garden and pleasure-grounds. Gardeners' wages, examinations, and outings, also formed subjects of reference. Gardening charities, too, were touched upon, and hints thrown out for adding to the exchequer of the Gardeners' Orphan Fund, the suggestions being that such might be augmented were collections made at "harvest festivals," "flower-sermons," spare balances (as a result of flower shows) from flourishing horticultural societies, and a recommendation that successful exhibitors at the various flower shows throughout the United Kingdom might exercise a little self-denial annually, and forward a modicum of their winnings to the fund, which would doubtless (if the idea were acted upon) result in a substantial sum to this deserving charity. Why should not the gardeners of the United Kingdom be in the proud position of being able to place on the fund yearly some "winners' children?" Regret was expressed that at the "head-quarters" of the Fund—Chiswick—the annual, and always good concert, which was always well supported, and produced yearly quite, if not more, than £20, had been abandoned. A better example should be set by the gardeners at Chiswick and the surrounding districts, as the concert idea first started there.

Large Pumpkins.—*Apropos* of the Pumpkin weighing 196 lb. exhibited last week before the Royal Horticultural Society at Chiswick by Mr. Basill, Woburn Park, Weybridge, it may be interesting to remark that in *Loudon's Magazine*, October 21, 1834, it is recorded that one grown by Lord Rodney weighed 212 lb., and measured 8 ft. in circumference; whilst notice is made in the *Gardeners' Chronicle* for October 12, 1861, of one in a market garden at Orleans that weighed 242½ lb., and was 10 feet 4 inches in girth. Excepting these two cases, the one shown at Chiswick appears to be the heaviest of which we have particulars.

Trinidad.—Mr. William Lunt, of Kew, has been appointed assistant superintendent of the Royal Botanic Gardens, Trinidad.

Professor Greene.—The important part which the Californian flora has played in the supply of plants to the gardens of Europe, and the fact that a fresh attempt is now being made to introduce other plants of that country into cultivation there by exchange with the Botanic Garden of the University of California, induces us to mention that Professor Greene is now studying at Kew, England. In the herbaria there and at the British Museum perhaps two months' time will be spent. Later it is expected that the greater continental herbaria, at Paris, Berlin, and Geneva will be visited.

Mr. G. E. Blenkins.—The death of this gentleman, a Deputy Inspector-General of Hospitals, is announced. He was Surgeon to the Grenadier Guards during the Crimean campaign. Garden readers will be more likely to remember him as a member of the Fruit Committee some twenty years back.

Scarlet Runners and Canadian Wonder Beans.—These two varieties have already been harvested in Germany in first-rate condition. But in England and Holland, the prospects for seeding are most unfavourable; and, unless we soon get dry and sunny weather, the new crop must necessarily be a bad one. As it is, growers from different parts of the country reported at the beginning of last week that their crop did not look nearly so well as it did a fortnight earlier. And if we take into consideration, the new season will commence with scarcely any old stocks, it is obvious that the demand for seed will be a strong one.

The Yorkshire College, Leeds.—This College, which is connected with the Victoria University, has issued its third report on the work of the Agricultural Department. The lectures on "The Principles of Horticulture, Fruit Culture, and the Management of Allotments," by Dr. Clark, appear to have attracted much attention. The same gentleman held classes for teachers. The systematic course intended for those who wish to obtain a thorough practical and scientific training in

agriculture and the cognate sciences, extends over two years. This general awakening to the importance of obtaining information is a very satisfactory result of the Technical Education scheme.

Fruit to Japan and China.—We learn on the authority of the *Melbourne Leader*, that considerable success has attended the shipment of fresh Prunes, Plums, Pears, and Apples from Washington to Chinese and Japanese ports. The fruit is carefully gathered and packed, is carried in the refrigerating rooms of the steamers, and uniformly reaches its destination in good shape, and is sold for remunerative prices. Indeed, the domain of experiment in this direction has long since passed, and the commencement of what may develop into a great business has been made.

Bengalis as Nurserymen and Florists.—Floriculture, says our contemporary, *Times of India*, August 17, 1894, is a pursuit for which a class of educated Bengalis appear to have taken a special liking. The nurseries in and about Calcutta are growing in number, and some of them show every sign of prosperity. The proprietors of some of these establishments are men of enterprise, and evince energy and pluck not common in the average Bengali.

THE DAHLIA GRAND DUKE ALEXIS OF RUSSIA.

Our figure represents a convolute form of Dahlia recently exhibited by Messrs. Cannell, to whom we are indebted for permission to illustrate it (fig. 54). The peculiarity consists in the manner in which the edges of the florets are rolled round one another. The specimens exhibited were large forms of the show Dahlia type, and interesting from their novelty. The colour of the variety is white, tipped with delicate lilac.

SOCIETIES.

ROYAL HORTICULTURAL.

Great Exhibition of British-grown Fruit at the Crystal Palace.

September 29, *and October* 1 *and* 2.

Fruits Grown under Glass or Otherwise. (Open to All.)

Collections of Fifteen Distinct Dishes of Ripe Fruits (*Open*).—The greater part of the interest attaching to almost all the classes was lacking in that for the large collection of fruit in the open division. It was arranged for a collection of ripe fruits, to consist of fifteen distinct varieties, and to include two varieties of Melons, and a dish of each of the following:—Black and White Grapes, White or Yellow Plums, Red or Black Plums, Peaches, Nectarines, Apples, Pears, and five other dishes of other kinds of fruit, or of distinct varieties. The only competitor was Sir Jos. W. Pease, Hutton Hall, Guisborough, Yorks (gr., Mr. J. McIndoe), who was deservedly awarded the 1st prize of £10. He had three bunches of Gros Colmar Grapes, with grand berries, with fair but not exceptional colour; three very large bunches of Foster's Seedling, well-coloured; fairly good Exquisite Peaches, good Washington Apples, Pond's Seedling and Magnum Bonum Plums (good), Humboldt Nectarines, Pitmaston Duchess Pears, Moor Park Apricots, Warrington Gooseberries, Brown Turkey Figs, two Melons, bunch of Bananas, and a dish of Passion-fruit (Passiflora edulis).

The second class was better contested, there being three exhibitors of a collection of ripe fruit of nine distinct varieties (Pines excluded), to include two dishes of Grapes (distinct), one Melon, one dish each of Pears, Apples, Peaches and Nectarines, and two other dishes of other kinds, or of distinct varieties. Exhibitors were allowed to show in one of the two first classes only.

The 1st prize was won by the Countess of Camperdown, Weston House, Shipston-on-Stour, Worcestershire (gr., Mr. Jno. Masterson). The exhibit included Black Alicante Grapes (good), Muscat of Alexandria Grapes of fair quality, but the bunches might have been handsomer. King of the Pippins Apple, Beurré d'Amanlis Pear, Barrington Peaches, Pine-apple Nectarines, Morello Cherries, and Brown Turkey Figs, all of satisfactory quality. The second position was taken by the Hon. D. P. Bouverie, Coleshill House, Highworth (gr., Mr. S. Haines). He had Black Alicante Grapes of fine colour, as were also the Gros Maroc, though the latter were rather small, and the bloom much rubbed. Pine-apple Nectarines were small, but well-coloured fruits; Prince of Wales Peach, Brown Turkey Figs, Countess Melon, Pitmaston Duchess Pear, and Coe's Golden Drop Plum, were all of good quality. Mrs. Wingfield, Ampthill House, Ampthill, Beds (gr., Mr. W. J. Empson), was a fairly good 3rd.

Grapes.

In most of the Grape classes the exhibitors were more numerous, and the general quality, though good, was not better or even so good as we have seen staged before. However, there were exhibits that must be excepted from this statement, and such an one was the first prize collection of twelve bunches of Grapes, in six varieties, which exhibit, perhaps, has never been surpassed—at any rate, in the size of the berries of several varieties. It was staged by J. Thompson Paton, Esq., Norwood, Alloa, Scotland (gr., Mr. Alex. Kirk). The most handsome berries were those of Madresfield Court and Duke of Buccleuch, more especially the latter, which were truly wonderful, and caused very general remark at the show. One of the bunches of Madresfield Court was a handsome one, the other not so good, but the berries in each were splendid. Muscat of Alexandria were also good in all respects, and Gros Maroc had unusually fine berries in size and colour. There were capital bunches of Mrs. Pearson also, and Black Hamburghs were noteworthy for so advanced a season. The whole exhibit was one that reflected the very highest credit upon the cultivator. The 2nd prize in this class was secured by C. Bayer, Esq., Tewkesbury Lodge, Forest Hill (gr., Mr. J. Berry). In this collection there were two large bunches of Trebbiano, and Alicante were good, and especially one of the bunches. Muscat of Alexandria was good, but they might have carried a little more finish. Gros Maroc good, but not finished quite up to the shank. Buckland Sweetwater was good and well finished, but a little past its best, perhaps; and Madresfield Court was well up to the average. Sir Jos. W. Pease was 3rd; he had Gros Guillaume, Gros Maroc, Buckland's Sweetwater, Gros Colmar, Alnwick Seedling, and Muscat of Alexandria.

Three distinct varieties, two bunches of each.—There were four exhibits in this class, and the principal prize was won by Messrs. de Rothschild, Gunnersbury Park, Acton, London, W. (gr., Mr. Geo. Reynolds). The bunches of Black Alicante were of good size, and pretty, with well-coloured berries of medium size. The Muscats carried a wonderful colour, and were very fine; whilst Gros Maroc were equally so. The 2nd place was taken by Charles J. Massey, Esq. (gr., Mr. Jas. Day). In this exhibit each of the varieties shown was of fine medium quality; 3rd, Mr. W. K. D'Arcy, Stanmore Hall, Middlesex (gr., Mr. W. Tidy). Muscats were the best of this exhibit, the others being Gros Maroc and West St. Peters.

Black Hamburghs could hardly be expected in good quality, and there were but two entries in this class, and they were awarded 2nd and 3rd prizes only.

In the class for Madresfield Court, the 1st position was taken by Mrs. Wingfield with good bunches, not too highly-coloured, and certainly of inferior quality to those noticed in the 1st exhibit of twelve bunches of Grapes; Earl Cowley was 2nd, and had better-coloured berries, but the bunches were smaller; and Andrew Pears, Esq., Spring Grove, Isleworth (gr., Mr. W. Farr), was 3rd, with bunches larger than either of the other two exhibits, but lacking finish greatly.

The best Gros Colmar, or Gros Maroc, came from Messrs. de Rothschild, Gunnersbury Park (gr., Mr. Reynolds), who had Gros Maroc in medium-sized bunches of very fine berries and splendid colour; Sir Joseph W. Pease was 2nd with the same variety; and C. Lee Campbell, Esq. (gr., Mr. S. S. Wright), who had fairly good Gros Colmar. There were seven exhibits in this class.

Black Alicantes were shown best by T. Astley, Esq., Coombe Bank, Kingston (gr., Mr. C. Griffin); the fruit was good in bunch and berry, and the colour excellent. J. Chaffin, Esq. (gr., Mr. Wm. Taylor) was 2nd. He had larger bunches, but the finish was not so good; Henry Tate, Esq. (gr., Mr. Wm. Howe) was 3rd.

The class for any other black variety not mentioned above, was won by J. Massey, Esq., with Gros Guillaume, in very large and good bunches. Messrs. De Rothschild were 2nd, with Alnwick Seedling; and William Saunders, Esq., Vine Cottage, Junction Road, Andover, 3rd, with the same variety. There were seven exhibits.

The next class was for Muscat of Alexandria, and W. K. D'Arcy, Esq., proved most successful with good bunches of finely finished berries. F. Bevan, Esq., Trent Park, new Barnet (gr., Mr. W. H. Lees), was 2nd; and C. Boyer, Esq. (gr., Mr. J. Bury), 3rd, with much larger bunches, but lacking finish. There were ten exhibits.

The remaining class was for any other white Grape, and the winner was L. J. Baker, Esq., Ottershaw Park, Chertsey (gr., Mr. T. Osman), who had good bunches of Dr. Hogg; Messrs. De Rothschild were 2nd, with Buckland Sweetwater; and R. Sneyd, Esq., Keele Hall, Staffs (gr., Mr. J. Wallis), 3rd, with Golden Queen.

Peaches.—Three dishes distinct, were capitally shown by Mr. J. Gore, fruit grower, Polegate, Sussex, who was 1st with dishes of Princess of Wales, Sea Eagle, and Walburton Admirable. Mr. G. Woodward, gr., Barham Court, Maidstone, was, however, a near and good 2nd, with Nectarine Peach, Princess of Wales, and Sea Eagle. Sir Joseph Pease, Bart. Hutton Hall, Guisborough, Yorks, was 3rd, his best dishes being Bellegarde and Exquisite. The best single dish was shown by Ralph Sneyd, Esq., Keele Hall, Newcastle-under-Lyme, Staffs (gr., Mr. J. Wallis), who had a splendid dish of Sea Eagle, being the best Peaches in the exhibition—they were large, and of very fine colour. 2nd, Mr. Lunt, Keir Gardens, Dunblane, N.B., who had a good dish of Walburton Admirable; and 3rd, Viscountess Falmouth, Merewoorth Castle, Maidstone (gr., Mr. H. Markham), with Princess of Wales in good form, considering they were taken from an exposed east wall.

Nectarines.—Ralph Sneyd, Esq., was 1st also for a dish of Nectarines (there was no entry in a class for three dishes), with good-sized fairly coloured Victorias; and William Pope, Esq., had higher colour but less sized fruits. 3rd, the Hon. D. P. Bouverie (gr., Mr. S. Haines).

Figs.—For a single dish, William Pope, Esq., was 1st, showing Brown Turkey; 2nd, C. W. Parker, Esq., The Priory, Witham (gr., Mr. S. Kerry); 3rd, the Hon. D. P. Bouverie. All the winners had Brown Turkey, but the quality was not remarkable.

Tomatos.—Four dishes of distinct varieties, nine fruits in each dish, were best from Mr. J. Gore, who had splendid dishes of Trophy, Challenger, Ham Green, and a good variety called Polegate; the last-named and Ham Green Favourite were the best. The next collection was one from Henry Tate, Esq. (gr., Mr. Howe), who had Hackwood Park, Sutton's Perfection, Ham Green Favourite, and a variety called Silver Invincible. Mr. E. Rider, Orpington, Kent, was 3rd. There were six other exhibitors, and the class made a fine display. The best single dish was one from Mr. S. Garraway, Bailbrook, Bath, an exquisite sample of Perfection. F. C. S. Roper, Esq. (gr., Mr. John Blake), was 2nd, with Sutton's Perfection; and Messrs. H. & E. Wells, Hounslow (gr., Mr. Geo. Thompson), was 3rd. There were six other exhibitors in this class also. The remaining class for Tomatos was one for six ripe clusters, cut from the plants, of one variety, and the most successful exhibitor was Mr. J. Gore, who showed Polegate Tomato in splendid form. Mr. John Hill, jun., The Nursery, New Malden, Surrey, was 2nd; and Andrew Pears, Esq., Spring Grove, Isleworth (gr., Mr. W. Farr), was 3rd.

Vines in Pots.—The only exhibit of three Vines bearing fruit in pots was one from Messrs. T. F. Rivers & Son, Sawbridgeworth, who had 1st prize. The varieties were Black Alicante and Gros Colmar, but the advanced season was much against such an exhibit.

Hardy Fruit Grown under Glass.—There were several exhibits of a collection of hardy fruits, grown partly or entirely under glass, to illustrate orchard-house culture (nurserymen excluded). The best of these was from Sir Mark Collett, Bart. (gr., Mr. Potter). This collection included fourteen dishes of Apples, thirteen dishes of Pears, and two dishes of Figs, the quality being very satisfactory. The best Apples were Cox's Pomona, Cox's Orange Pippin Sandringham, Emperor Alexander, Baldwin, Peasgood's Nonsuch, Washington, and King of Tomkins County. Pears noticeable were Duchesse d'Angoulême, General Todtleben, Durondeau, and Marechal de la Cour. Sir Joseph Pease was 2nd, and he had twelve dishes of Apples, six of Pears, six of Plums, one dish each of Nectarines, Peaches, and Apricots, and two of Figs. The quality of this exhibit, though good, was not equal to that from Sir Mark Collett. J. W. Melles, Esq. (gr., Mr. Nicholson), was 3rd.

Open to Nurserymen Only.

For a collection of fruit trees in pots bearing fruits.—1st, Messrs. Rivers & Sons, Sawbridgeworth, Herts, with a fine lot of upright cordons and pyramids in pots of sizes from 10 inches to 15 inches—about thirty examples. The best fruited were Pears Doyenné du Comice, Glou Morceau, General Todtleben, Marie Louise, Uvedale's St. Germains, Beurré Bachelier, and Duchess de Mouchy. Apples: Bijou, Pomona, Wagener, and Buckingham (a Silver Medal was Awarded). Messrs. G. Bunyard & Co., Maidstone, were 2nd, with two dozen trees of about 5 feet in height, consisting of Plums, Apples, Figs, and Pears. The finest Pears were Olivier de Serres, Doyenné d'Alençon, Conference, Beurré Dumont, B. Baltet, B. Fonqueray. Apples: Gascoigne, Sturmer, Wagener, Baumann's Red Winter Reinette. Plums: Coe's Golden Drop, a number of very fine fruits.

The next important class in this section was that for a collection of hardy fruits, grown partly or entirely under glass, to illustrate orchard-house culture. Here Messrs. G. Bunyard were 1st with a grand lot of fruits, of various kinds set out on a square stand or table consisting of two tiers, the upper tier containing trees in pots, Vines, &c., shown with the idea of improving the appearance as a whole. These were well fruited examples, and helped to illustrate orchard-house culture in a telling manner. The finest dishes of fruit consisted of Gascoigne's Seedling, a showy variety, free bearing when aged; Tyler's Kernel, Baumann's Russet, Stone's, Lady Henniker, Rosemary Russet, Reinette du Canada, Newton Wonder, Okeira, Washington, Emperor Alexander, Mother, Peasgood's Nonsuch, Twenty-ounce, Beauty of Kent, Gold Medal, Belle du Bois, Ribston, &c. Pears comprised Belle d'Ecully, a large fruit, green skin; General Todtleben, extra fine; Beurré Clairgeau, Mons. Benoist, Pitmaston Duchess, Idalio, a fine-looking fruit, not unlike a monstrous Hacon's Incomparable, but useless; Beurré Superfin, Louise Bonne de Jersey, Le Lectier, Catillac, &c. (Silver-gilt Medal). Messrs. Rivers & Sons were 2nd in this class, and staged also fruit-trees in pots, consisting of Pears: Duchess, Charles Ernest, Pitmaston Duchess, Conference, and Doyenné du Comice. The Apples that were shown on dishes consisted of many of our best varieties, of which we may mention some of the finest specimens, viz., Warner's King, Emperor



Fig. 54.—THE DAHLIA GRAND DUKE ALEXIS OF RUSSIA.

Alexander, Pomona, Peck's Pleasant, The Queen, Orange Pippin, Belle du Bois, Bismarck, Sandringham, Nonsuch, King of the Pippins, Lord Derby, Washington, Scarlet Gascoigne, and Melon. The finest Pears were Pitmaston Duchess, Vicar of Winkfield, the handsome Fertility, and Conference; two early varieties, good for home consumption, Emile d'Heyst, St. Lezin, Brown Beurré, Marie Benoist, Seedling No. 11, resembling Fertility; Lebrun, a very large elongated fruit, of a yellow colour; Gregoire Bourdillon, Poire de Barriot, a pale yellow Pear; Rivers' Seedling Bergamot, Magnate, very fine; Magherman, resembling the striped Bon Chrétien in shape; and Triomphe de Vienne. The varieties of fruits in this stand, all of orchard-house culture, were Peach, Lady Palmerston; Plums, Monarch, one of the latest, a fine large dark purple freestone variety, raised from Automne Compote, which was also shown; Golden Transparent Gage, a rich good Plum for the end of September; Automne de Chamel, resembling Pond's Seedling; Cherry Guigne (*Anglice*, Gean) de Winkler, a bright red juicy variety, small, and hanging very late in September. Figs were likewise shown in some variety. An excellent exhibit of its kind, showing what may be done with hardy fruits under glass.

Collections of hardy fruits, in baskets or dishes, grown in the open.—The winners in this competition were Messrs. G. Bunyard & Co., 1st, with a large showy stand or table, on which were arranged seven pyramids of mixed varieties of Apples, with baskets piled up with fruit in the intervals, the remainder of the space being occupied with plates of fruit. The Apples, as goes without saying, were just such as Kent only can produce—large, rosy or yellow, clear-skinned specimens; it is needless to specify varieties. Some Grand Duke Plums of a dark red colour, a seedling from Autumn Compote, Bryanstone Gage (well kept) were shown; and we remarked a quantity of the handsome Princess Royal and Red Filberts, Prolific Filbert, the earliest of them all; and the Atlas Cob. A Gold or Silver-gilt Medal goes with this prize. The winners of the second place in this competition were Messrs. J. Cheal & Sons, Crawley, Sussex, who put up a very extensive collection in baskets and plates, set out with Fern in pots. Extra fine were the following:—Pears: Belle de Fonqueray, Triomphe de Jodoigne, Marie Benoist, Beurré Hardy, Alexander Lucas, Doyenné Boussoch, Kieffer, Vicar of Winkfield, Grosse Calebasse, Beurré Bosc, of fine size and appearance; Mikado, a free-bearing, ornamental variety, of a rich brown, the eye-segments of which drop out when the fruit is near maturity, leaving a deep cavity; the flavour has nothing to recommend it. The best and finest Apples consisted of Duchess of Oldenburgh, a most prolific variety this year at Crawley; Rambour, Queen, Warner's King, Frogmore Prolific, New Hawthornden, and Stirling Castle. There were Dartmouth Crabs, Cobs, white-skinned Filberts, immense Dutch Medlars, and the beautiful Archduke Plum, a most prolific culinary variety.

Fruits Grown in the Open Air (Open to Gardeners and Amateurs only).

Apples.—The present has not been a favourable season for Apples, owing to the great thinning effected by the frosts; the fruits that were left have made good and large specimens, though lacking to some extent the colour obtained in a more sunny season.

In the class for eighteen distinct dishes, to include twelve cooking and six dessert varieties, Mr. Geo. Woodward won 1st place, with a splendid lot, most of them being large perfect fruits, and very fairly coloured. Most noticeable amongst these were Stone's, Emperor Alexander, Northern Dumpling (very large), Peasgood's Nonsuch, Mère de Ménage, Beauty of Bath, Golden Spire. Dessert varieties were Worcester Pearmain, Cox's Orange Pippin, Washington Wealthy, Ribston's Pippin, and Barnack Beauty, all capital.

Another good collection was one from C. Lee Campbell, Esq., Glewston Court, Ross (gr., Mr. S. T. Wright); but the 2nd prize could not be awarded, owing to a dish of Twenty-ounce being considered by the judges to be identical with Warner's King, and therefore a duplicate. To meet the case, however, an extra prize was awarded. Ecklinville Seedling, Spencer's Favourite, Warner's King, Frogmore Prolific, Golden Spire, Cox's Pomona, Devonshire Quarrenden, American Mother, Worcester Pearmain, Washington, and King of the Pippins, were especially noteworthy.

Mr. A. T. Killick, Weavering, Maidstone, was 1st in the class for twelve dishes, to include eight cooking and four dessert varieties. In this fine exhibit were Bismarck, Ecklinville Seedling, Mère de Ménage, Warner's King, Peasgood's Nonsuch, New Hawthornden, and Blenheim Orange, Worcester Pearmain (good), Ribston Pippin, Cox's Orange Pippin, and King of the Pippins. The 2nd prize was taken by Viscount Gage, Lewes, Sussex (gr., Mr. George Helman), whose best dishes were Peasgood's Nonsuch, Warner's King, Blenheim Orange, Cox's Orange Pippin, King of the Pippins, and Ribston Pippen. 3rd, The Rev. E. Bartrum, D.D., Wakes Colne Rectory, Halstead (gr., Mr. Graves), who had good but medium-sized fruits of good colour.

In the next class, which was arranged for nine dishes to include six cooking and three dessert, there was only one exhibitor, and the 1st prize was withheld, a 2nd prize being awarded to Lady Fortescue, Dropmore, Maidenhead (gr., Mr. Charles Herrin).

Mr. George Woodward showed splendidly in a class for six distinct dishes of cooking Apples, and had fine dishes of Belle du bois, Peasgood's Nonsuch (very even and good), Alexander (size and colour excellent), Warner's King, Lord Suffield, and Stone's; C. Lee Campbell, Esq., was 2nd, and had a good collection, being well ahead of Mrs. L. A. Killick, Langley, near Maidstone, who was 3rd.

For three dishes of cooking Apples, there were twelve or more entries, and a very close competition. In the end, the 1st prize was won by Mrs. Killick; she had Peasgood's Nonsuch, Ecklinville Seedling, Mère de Ménage; the fruits were shown in their true character, being splendid specimens. 2nd, J. R. Bavingham, Esq., Bridge House, Carshalton (gr., Mr. W. Jones), with Peasgood's Nonsuch, Warner's King, and Dutch Codlin; Jno. Hargreaves, Esq., Maiden Erlegh, near Reading (gr., Mr. T. Turton), was 3rd; his Lord Suffield dish was fair.

The best six dishes of dessert varieties were shown by Mr. George Woodward, who had good, even, and well-coloured fruits of Washington, Wealthy, Worcester Pearmain, Barnack Beauty, Ribston Pippin, and Cox's Orange Pippin. C. Lee Campbell, Esq., was 2nd, again with less-coloured and rather smaller fruits; King Pippin, Worcester Pearmain, and Margil were very good. 3rd, Mr. W. S. Dawson, The Links, Plumstead Common (gr., T. A. Heston).

The best three varieties were from Sir Mark Collett, Bart., St. Clere, Kemsing, consisting of King of the Pippins, Baumann's Red Reinette, and Cox's Orange, the last-named lacking in colour, though size was satisfactory; 2nd, John Hargreaves, Esq., who had very beautiful fruits of Duchess of Gloucester, also Ribston Pippin and King of Pippins; 3rd, W. Apthorpe, Esq, Cambridge, who had also a good exhibit.

Dessert Pears.

All the classes for Pears were well contested, and there was very fine quality observable in many of the exhibits not fortunate enough to obtain prizes. The 1st place for a collection of eighteen dishes, distinct, was taken by Mr. Geo. Woodward, and his best were Marguerite Marillat, a good and new variety; Pitmaston Duchess, General Todtleben, Triomphe de Vienne, another good and new Pear; Conseiller de la Cour, Doyenné Boussoch, Gansell's Bergamot, Marie Louise, Princess, and others, all of them being excellent in quality. 2nd, H. C. Moffat, Esq., in whose exhibit we noticed as specially fine, Souvenir du Congrès, Doyenné de Merode, Louise Bonne of Jersey (ripe and very good); Beurré d'Amanlis, large, and others. 3rd, A. H. Smee, Esq, The Grange, Wallington (gr., Mr. Cummins), with a nice even collection of moderately-sized fruits.

For twelve distinct dishes, H. S. Vincent Ames, Esq., Westbury-on-Trym (gr., Mr. Bannister), was 1st. His best fruits were those of Pitmaston Duchess, Doyenné Boussoch, Beurré Clairgeau, and Duchesse d'Angoulême; 2nd, A. Basile, Esq., Weybridge. Lord Suffield, Gunton Park, near Norwich (gr., Mr. Allan), was first for nine dishes, and there were nine other collections in this class. The quality was first-rate, and the varieties were General Todtleben, Marie Louise d'Uccle, Pitmaston Duchess, Doyenné Boussoch, Beurré Diel, Doyenné du Comice, Marie Louise, Glou Morceau, and Durondeau. Captain Harcourt Rose (gr., Mr. Cotterill) was a splendid 2nd, his best dishes being of Pitmaston Duchess, Beurré Superfin, Brockworth Park, and Marie Louise; J. R. Bavingham was 3rd. The best six dishes were shown by Mrs. Crawford (gr., Mr. Slogrove), among ten other competitors. She had Doyenné Boussoch, Brockworth Park, Doyenné du Comice, Beurré Superfin, Pitmaston Duchess, and Beurré d'Amanlis; 2nd, Earl Cowley (gr., Mr. Gibson); and 3rd, Mr. W. A. Cook. The Dowager Lady Freake (gr., Mr. Rickwood) beat ten other exhibitors for three distinct dishes, showing, in capital form, dishes of Pitmaston Duchess, Doyenné du Comice, and Durondeau; 2nd, Mr. Jas. Hill, who included some very fine fruits of Louise Bonne of Jersey; and some large Pitmaston Duchess were in the 3rd collection, shown by Mr. W. Apthorpe.

Pears (stewing).—Mr. George Woodward won for three dishes of stewing Pears, with Vicar of Winkfield, General Todtleben, and Catillac. Captain Harcourt Rose was 2nd; and F. C. S. Roper, Esq. (gr., Mr. Blake), 3rd. In the class for a single dish, there were twelve entries, and the competition was keen. The Countess of Camperdown (gr., Mr. Masterson) won, with moderately-good fruits of Uvedale's St. Germain; Mr. W. A. Cook was 2nd; and Mr. T. S. Girdler, Rosedale House, Lowther Hill, Forest Hill, S.E., 3rd.

Peaches, &c.

Mr. George Woodward, with capital dishes of Princess of Wales, Nectarine Peach, and another, had 1st prize, for a collection of three dishes; the Countess of Camperdown, Shipston-on-Stour (gr., Mr. Masterson), being 2nd, with Walton Admirable, Barrington, and Late Admiral; 3rd, F. A. Bevan, Esq., New Barnet (gr., Mr. W. H. Lees), who had good dishes of Exquisite and Princess of Wales. In the competition for a single dish, the 1st prize fell to Viscountess Falmouth, Mereworth, who had Princess of Wales; Mrs. Hulse (gr., Mr. Sclater) was 2nd, with Sea Eagle; and Mr. S. Fennell, Tunbridge, 3rd.

Nectarines.—There was but one entry for three dishes of Nectarines, and a prize was awarded to Mr. W. Pope, Newbury, for a collection of moderate quality. In the class for a single dish there were five competitors, and the 1st position was taken by Andrew Pears, Esq., Spring Grove, Isleworth, Surrey (gr., Mr. W. Farr), for a dish of good Albert Victor; Earl Cowley was 2nd, and T. Astley, Esq., Kingston-on-Thames (gr., Mr. Griffin), 3rd.

Plums, &c.

Dessert Varieties.—The season is late for Plums, but there were numerous entries in some of the classes. The 1st place for four dishes of dessert varieties was taken by W. H. Long, Esq., Trowbridge (gr., Mr. Strugnell), with Transparent Gage, Golden Drop, Reine Claude de Bavay, and Bryanstone Green Gage; the Countess of Camperdown was 2nd, and C. J. Massey, Esq. (gr., Mr. Day), 3rd.

J. Hargreaves, Esq., was the best among eleven other competitors for a single dish, and showed Coe's Golden Drop; Mrs. Wingfield, Ampthill (gr., Mr. Empson) was 2nd, and Mr. R. Edwards, Sevenoaks, 3rd, each showing same variety as the 1st prize winner.

Cooking Varieties.—Mr. W. Pope secured 1st place for four dishes of cooking Plums, with splendid Coe's Golden Drop, Pond's Seedling, White Magnum Bonum, and Victoria; C. J. Massey, Esq., was 2nd, having Prince Engelbert, in the place of Coe's Golden Drop; and J. Hargreaves 3rd, who included Autumn Beauty and White Perdrigon.

Eleven competitors staged one dish of one variety, and the winner was Mrs. Wingfield, with Grand Duke; the Rev. E. Bartrum was 2nd, with Pond's Seedling; and Viscountess Falmouth 3rd, with Grand Duke.

Gage Plums.—The Countess of Camperdown won for one dish of any green or golden variety of Gage Plum, staging Reine Claude de Bavay; 2nd, Lady Fortescue, with Transparent Gage; and 3rd, Sir J. W. Pease, Bart., having Bryanston's Green Gage. For one dish of any purple Gage, there was one entry only, and a 2nd prize was awarded to Mr. J. Neighbour, Epping, for Purple Gage.

Damsons and Prunes.—For three distinct dishes, Mr. Astin T. Killick was 1st with Truant and Farleigh Damsons, and another; 2nd, G. W. Dawson, Esq. (gr., Mr. Heston).

Bullaces.—For a single dish of Bullaces, Mr. G. Tebbutt, Mogden House, Isleworth, was 1st; F. G. Arbuthnot, Esq., Bexley (gr., Mr. Wells), 2nd; and W. G. Dawson, Esq., 3rd.

Morello Cherries.—A dish of fine Morello Cherries came from the Countess of Camperdown. The Dowager Lady Freake was 2nd, and Mr. R Edwards 3rd. Most of the Cherries were of poor quality only.

Nuts.—In a class for a collection of Nuts, including one dish of each variety shown, the best came from J. Hargreaves, Esq., who had dishes of large-fruited French Walnut, another and smaller early fruiting Walnut; Webb's Prize Cob, Red-skinned Filbert, Hazel, and Cosford. Mr. Goodwin, of Mereworth, was 2nd; and Colville Browne, Esq., Horticultural College, Swanley, was 3rd.

Quinces.—The remaining class in this division was for a dish of Quinces, and the 1st prize went to A. J. Howard, Esq., Isleworth (gr., Mr. Peatney); 2nd, A. J. Humphrey, Esq. (gr., Mr. Barleycorn); 3rd, Mr. Wingfield. There were four other exhibitors.

Single Dishes of Dessert and Kitchen Apples Grown in the Open Air. (Open.)

Adams' Pearmain. There were five dishes of this, the best being from Mr. Geo. Woodward, being of even size and good colour. Mr. W. Tayler was 2nd, and the English Fruit and Rose Co., Hereford, 3rd.

Braddick's Nonpareil.—The English Fruit and Rose Co. staged the best among three other exhibits, Mr. W. Tayler, who was 2nd, having large and coarser fruits.

Cox's Orange Pippin.—There were eleven exhibits of this popular Apple, and it was well shown. W. H. Long, Esq., had capital fruits; Mr. H. Berwick was 2nd, and Viscount Gage (gr., Mr. Helman), 3rd.

Golden Reinette.—There was but one exhibit, and this was awarded 1st prize. It came from Mr. H. Berwick.

King of the Pippins.—This was an extremely popular class, as many as twenty-three dishes being staged. Captain Harcourt Rose was 1st with beautiful fruits; the English Fruit and Rose Co. 2nd, and Mr. Garraway 3rd. All these exhibits were excellent.

Lady Sudeley.—There were only four competitors for this somewhat new and very pretty early Apple. Mr. R. Edwards was 1st, and Mr. H. Berwick was 2nd. The other prize was withheld.

Mannington's Pearmain.—F. S. W. Cornwallis, Esq. (gr., Mr. Mackenzie), beat six other competitors with a capital dish; 2nd, J. W. Melles, Esq.; and 3rd, Mr. George Woodward.

Margil.—This handsome variety was good and well coloured from Mr. Geo. Woodward and Mr. James Spottiswoode, who were 1st and 2nd respectively; 3rd, Viscount Gage.

Mother, American.—F. S. W. Cornwallis, Esq., staged good fruits of capital colour of this variety; and Mr. Geo. Woodward, who was 2nd, was followed by C. Lee Campbell, Esq. These were all good, and there were three other exhibitors.

Reinette du Canada.—Among four other dishes, that of Mr. George Woodward was best, the fruits being in true character, and very even; Mr. W. Tayler was 2nd, and the English Fruit and Rose Company 3rd.

Ribston Pippin.—C. Lee Campbell, Esq, was best in the class for this capital variety, and amongst twenty exhibitors. He was followed by F. S. W. Cornwallis, Esq., and J. Hargreaves, Esq.

Rosemary Russet.—J. Hargreaves, Esq., was 1st, with pretty good fruits; and was followed by P. Cavanagh, Esq., and Mr. H. Berwick.

Scarlet Nonpareil.—Only two dishes were staged, and Mr. George Woodward, who showed moderately good fruits, was followed by Mr. Garraway.

Worcester Pearmain.—This handsome variety was largely and thoroughly well shown. There were fifteen exhibitors, and the 1st prize was awarded to Mr. George Woodward, for splendid fruits, of remarkable colour; C. Lee Campbell, Esq., was 2nd; and F. S. W. Cornwallis, Esq., 3rd. The competition was unusually close in this class.

Any other Variety.—Here was a class for any variety the exhibitor might desire to stage, other than those above given. There were eighteen dishes, and the 1st prize was taken by Mr. Geo. Woodward, for splendid fruits of Washington; Mr. R. Edwards was 2nd, showing a good dish of Wealthy; and the English Fruit and Rose Company, with the same variety, was 3rd.

Cooking Apples.—Classes 70 to 104 were for single dishes of culinary Apples, and the entries were, if anything, more numerous than in the case of the dessert varieties. There were four competitors for a dish of Alfriston: Mr. G. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, was 1st, with fine examples; Mr. H. Berwick was 2nd; and Mr. P. Cavanagh, Convent Gardens, Roehampton, 3rd. The class for Beauty of Kent brought five dishes: Mr. G. Woodward was 1st with good fruit; Mr. C. Herrin, gr. to Lady Fortescue, Dropmore, Maidenhead, 2nd; and Mr. H. Berwick 3rd. There were thirteen competitors with Bismarck, fine examples being staged: Mr. J. McKenzie, gr. to F. W. S. Cornwallis, Esq., M.P., Linton Park, Staplehurst, was 1st; Mr. G. Woodward, 2nd; and the English Fruit and Rose Co. 3rd. There were seventeen dishes of Blenheim Orange, occupying portions of two tables, Mr. P. Cavanagh taking the 1st prize, with very fine fruit; Mr. Barleycorn, gr. to A. J. Humphreys, Esq., was 2nd; and Mr. M. R. Edwards 3rd. There were five dishes of Bramley's Seedling: Mr. S. T. Wright was 1st, with capital fruit; the English Fruit and Rose Co. was 2nd; and Mr. G. Garraway 3rd.

Cellini Pippin was represented by twelve dishes, and some very good examples were staged, Mr. H. Berwick taking the 1st prize; the English Fruit and Rose Co. was 2nd; and Mr. P. Cavanagh, 3rd. Out of fourteen competitors, Mr. J. McKenzie had the best dish of Cox's Pomona, very fine; Mr. G. Woodward was 2nd; and Mr. Turton, 3rd. There were only six dishes of Duchess of Oldenburg, Mr. A. T. Killick was 1st with fine Apples; 2nd, the English Fruit and Rose Co.; 3rd, Mr. W. Taylor. There were thirteen dishes of Dumelow's Seedling, Mr. T. Turton was 1st; Mr. Thomson, gr. to Messrs. W. and E. Wells, Hounslow, 2nd; and Mr. H. Berwick, 3rd. Ecklinville Seedling was represented by sixteen dishes, some of the fruit being very fine indeed; Mr. S. T. Wright came 1st; Mr. A. T. Killick was 2nd; and Mr. H. Berwick, 3rd. Emperor Alexander was presented in good form: out of ten competitors, Mr. J. McKenzie was 1st; Mr. G. Woodward, 2nd; and Messrs. Rivers & Son, 3rd. Gascoigne's Scarlet was represented by four dishes only, the 1st prize being taken by Mr. G. Woodward; Mr. A. T. Killick was 2nd; and Mr. H. Berwick, 3rd. There were nine competitors with Golden Noble, Mr. G. Woodward being again 1st; Mr. J. McKenzie 2nd, and Mr. H. Berwick 3rd. Mr. G. Woodward had the best dish of Golden Spire, very good indeed; Mr. J. McKenzie was 2nd, and Mr. G. Garraway 3rd. Grenadier was very fine; the best of five dishes came also from Mr. G. Woodward; Mr. C. Herrin was 2nd, and Mr. J. Mackenzie 3rd. New Hawthornden was represented by eleven dishes: Mr. T. Turton was 1st, Mr. G. Woodward 2nd, and Mr. Bannister, gr. to H. Vincent Ames, Esq., Westbury-on-Trym, 3rd. There were nine dishes of Lane's Prince Albert: Mr. S. T. Wright was 1st, with very fine fruit; Mr. G. Woodward was 2nd, and Messrs. Rivers & Son 3rd. Mr. G. Woodward had the best dish of Lord Derby, eight competing; Mr. J. Hudson, Gunnersbury House, was 2nd; and Mr. Taylor 3rd. Mr. McKenzie had the best dish of Lord Grosvenor; Mr. G. Woodward took the 2nd prize, and Mr. C. Herrin the 3rd. There were fourteen dishes of Lord Suffield, Mr. Killick taking the 1st prize with large but ungainly fruit; Mr. Woodward coming 2nd with what appeared a perfect dish: fruit large, handsome, and finely finished; Mr. H. Berwick was 3rd. There were nine dishes of Mère de Ménage, large, and well-coloured for the season: Mr. A. T. Killick was 1st, Mr. J. McKenzie 2nd, and Mr. G. Woodward 3rd. Northern Greening was represented by the type, and also by the new form: the latter, which is quite distinct, was represented by fine fruit, which gained for the English Fruit and Rose Company the 1st prize; Mr. Cotterell, gr. to Captain H. Rose, Tunbridge, was 2nd; and Mr. W. Taylor 3rd, both with the type. There were but two dishes of Newton Wonder, which is described as a "recent introduction of great merit, large and good:" Mr. S. T. Wright was 1st, and Mr. G. Garraway 2nd. Peasgood's Nonsuch was represented by fourteen dishes, some very fine indeed: Mr. G. Woodward came 1st, with a dish of evenly-balanced Apples; Mr. J. McKenzie was 2nd; and Mr. W. Taylor 3rd. There were seven dishes of Pott's Seedling; and here Mr. W. Taylor came 1st; the English Fruit and Rose Company 2nd; and Mr. G. Woodward 3rd. Sandringham was only sparingly represented, but the fruits very good: Mr. H. Berwick took the 1st prize; Mr. G. Wythes was 2nd; and Mr. G. Woodward was 3rd. There were four dishes only of Spencer's Favourite or Queen Caroline: Mr. G. Woodward was 1st, Mr. S. T. Wright 2nd, and Mr. Killick 3rd. Stirling Castle was represented by ten dishes; Mr. J. McKenzie was 1st, Mr. C. Ross 2nd, and Messrs. Rivers & Son 3rd. There were six dishes of Stone's or Loddington Seedling: Mr. G. Woodward was 1st, with fine fruit; Mr. J. McKenzie 2nd, and Mr. H. Berwick 3rd. The Queen was in good character, represented also by six dishes; Mr. G. Woodward again 1st, Mr. H. Berwick 2nd, and Mr. W. Taylor 3rd. Tower of Glamis was very fine, six dishes competing; Mr. J. McKenzie was 1st, Mr. G. Woodward 2nd, and Mr. S. T. Wright 3rd. There was but one dish of Tyler's Kernel, from Mr. H. Berwick, who was awarded the 1st prize. Warner's King was represented by seventeen dishes, including some very fine fruit; Mr. G. Woodward was 1st, Mr. J. McKenzie 2nd, and Mr. A. T. Killick 3rd. Waltham Abbey Seedling was very fine, Mr. G. Woodward taking the 1st prize, with a perfect dish; Mr. J. McKenzie was 2nd, and Mr. T. Turton 3rd. In the class for any other variety there were eighteen dishes, Mr. G. Woodward being 1st, with very fine Belle du Bois, which is regarded as synonymous with Gloria Mundi; The English Fruit and Rose Co. came 2nd, with Frogmore Prolific, also very fine; and Mr. G. Tebbutt, Isleworth, was 3rd, with very fine Lady Henniker. The unplaced dishes included fine fruits of Stone's, or Loddington, Gloria Mundi, Pomme Royale, Belle de Pontoise, and Yorkshire Beauty.

Single Dishes of Dessert Pears Grown in the Open Air. (Open.)

Beurré Bosc.—There were eight dishes staged, and the largest and best fruits were from Messrs. W. and E. Wells, Hounslow (gr., Mr. Thompson); and the 2nd prize dish from the Horticultural College, Swanley; Captain Harcourt Rose, was 3rd.

Beurré Diel.—Was shown by eleven competitors, and those from Mr. W. Tayler were large and very clear fruits. The Dowager Lady Freake, Twickenham, was 2nd; and the Duke of Northumberland (gr., Mr. Wythes), 3rd.

Beurré d'Amanlis.—H. C. Moffat, Esq. (gr., Mr. Spencer), had a capital dish, and beat a round dozen of competitors. He was followed by Earl Cowley, and Mr. Geo. Woodward; all of them were good.

Beurré Hardy.—Mr. Geo. Woodward's was the best of fourteen, the fruits being large and smooth, those from Mr. Jas. Spottiswoode, Brighton, had more colour; and Mr. J. Turner, Week Hall, Brighton, was 3rd.

Beurré Superfin.—This fine Pear was shown by twelve competitors, and with a very good dish, Mr. Geo. Woodward won the 1st place, followed by H. Vincent Ames, Esq., and H. C. Moffat, Esq.

William's Bon Chrétien.—Only five dishes were staged, and the quality was not remarkable, it now being rather late for this variety. C. J. Massey, Esq., Garliestown, Wigton (gr., Mr. Day), was 1st; W. G. Dawson, Esq., 2nd; and A. J. Humphrey, Esq., Walton, Leigh (gr., Mr. Barleycorn), 3rd.

Comte de Lamy.—Mr. George Woodward won in this class with fruits of moderate quality. He was followed by J. Hargreaves, Esq., and Col. Archer Houblon (gr., Mr. Ross).

Conference was shown only in three cases, Messrs. T. F. Rivers & Sons being 1st with fine fruits, followed by J. W. Melles, Esq., and Mr. Woodward.

Maréchal de la Cour.—Mr. Woodward's fruits that beat ten other exhibits were splendid; Mrs. Hulse, Carshalton, was 2nd; and Mrs. Crawford 3rd.

Doyenné du Comice.—This excellent variety was put up by sixteen competitors, and large, fine specimens from Sir Mark Collett won the 1st prize; Lord Suffield, who was 2nd, was followed by Viscount Gage, Lewes (gr., Mr. Helman).

Durondeau.—Mr. Geo. Woodward had a good exhibit, and was 1st; he was followed by Sir Mark Collett and Lord Suffield. There were nine other exhibitors.

Emile d'Heyst.—In this class also, Mr. Woodward was successful with fine fruits, the only other dishes being from Lord Suffield and Mr. Berwick.

Fondante d'Automne was shown by seven exhibitors, and G. W. Dawson, Esq., with nice even fruits was 1st; Mr. W. Tayler following, and Mr. W. Fife 3rd.

Glou Morceau.—Lord Suffield's dish was superb, and much ahead of Sir M. Collett, who was followed by Mr. Woodward.

Josephine de Malines.—Mr. G. Woodward had the best dish among eight others, and was followed by Mr. J. Hill, Cambridge, and H. C. Moffat, Esq.

Louise Bonne of Jersey.—There were twenty-one dishes staged, the quality of most of them being very fine. Messrs. T. F. Rivers & Sons, were 1st, with splendid and large fruits; and Mr. J. Hill, and H. C. Moffat, Esq. staged dishes of good quality also.

Marie Louise.—This ever-popular Pear was competed for by twenty-seven exhibitors, being the largest number any one dish of Pears attracted, except Pitmaston Duchess, which had twenty-eight. T. B. Haywood, Esq., Woodhatch, Reigate (gr., Mr. C. J. Slater), was 1st; Mr. C. Chard, Clapham Park, 2nd; and J. Hargreaves, Esq., 3rd.

Nouvelle Fulvie.—Exhibited but sparingly. H. C. Moffatt, Esq., who had very commendable fruits, was followed by Mr. G. Fennell and the Duke of Northumberland.

Pitmaston Duchess.—Of the twenty-eight dishes shown, the best was from Lord Suffield, and he was well followed by Captain Harcourt Rose and Mr. W. A. Cook. All these were good.

Souvenir du Congrès.—Fine examples of this useful variety placed Colonel Archer Houblon before eight

other exhibitors, but he was closely followed by Messrs. W. & E. Wells, and Messrs. de Rothschild.

Thompson's.—Lord Suffield won in this class, and was followed by Mr. H. Berwick and G. W. Dawson, Esq. The exhibits were good, and there were four other dishes staged.

Triomphe de Vienne.—This tolerably new and first-class handsome Pear was shown by three exhibitors only. Mr. Woodward had fine fruits, and he was followed by G. W. Dawson, Esq., and Mr. J. Foreman, Maidstone.

Winter Nelis.—Captain H. Rose had nice fruits of this good keeping Pear, and Mr. Garraway, who was 2nd, was followed by T. B. Haywood, Esq. There were ten other dishes.

Any other Variety.—A class left to the exhibitor's fancy, and always a popular one. There were twenty-nine entries, and Mrs. Halse, with fine large fruits of General Todtleben, was 1st; Mr. H. Berwick 2nd; and Mrs. Crawford, who had good specimens of Doyenné Boussoch, 3rd.

Special Prizes.

Six varieties of Hardy Fruits, grown in the open air, two gallons of each, and at least two kinds of fruits being represented. Market-growers only to compete. The winner of the 1st prize was Mr. Wyatt, Hatton, Middlesex, who had four varieties of Apples, viz., Ingestre, King of the Pippins, Worcester Pearmain, and Duchess' Favourite; and Pears, Brockworth Park, and Pitmaston Duchess, both good samples.

For the best ten bushels and ten half-bushels of one variety of Apples, particulars of trees, soil, system of culture, method of packing, and grading to be given (open to market-growers). 1st prize to Mr. Geo. Tebbutt, Mogden House, Isleworth. Fruit from old unpruned bush-trees, grade of the best acreage, 35 acres of mixed fruits, variety King of the Pippins (dessert).

Mr. Tebbut was 1st for one bushel of cooking Apples, Lady Henniker, fine large clean fruit; but it being an angular, rather uncouth-shaped fruit, it did not take the eye as, say, Golden Spire or Golden Noble. The produce was from bushes twenty years old, and management as before stated.

Fruit Packing.—For the best packed baskets of Grapes (12 lb.), received by rail: 1st, Mr. Gore, Polegate; 2nd, Mr. McIndoe, Hutton Hall Gardens, Darlington; 3rd, Mr. C. Cooper, Ascot.

The best-packed box of ripe Peaches, twenty-four in number, received by rail: 1st, Mr. G. Woodward, the packing being wood-wool, and tissue paper in which to wrap each fruit. The boxes were about 13 by 19 by 3 inches. 2nd, Ralph Sneyd, Esq. (gr., Mr. Wallis), Keele Hall, Stafford, the packing cotton wool wound round each fruit over tissue paper; these had travelled well, but the wool costs more than the wood-wool, cannot be cleaned, and soon gets unelastic. 3rd, A. J. Howard, Esq. (gr., Mr. Pentney).

Best-packed box of twenty-four ripe Pears: 1st, Mr. G. Woodward, packing same as with Peaches. Dimensions of box, 2 feet by 1½ foot by 4 inches. 2nd, Mr. Garraway; in this case the packing materials seemed too scanty, the box about the same size as the previous one. 3rd, Mr. J. Clarke, Farnham; in this case the packing was not first-class.

For Mr. G. Munro's and Webber's prize for the best packages superior to the ordinary bushel and half-bushel baskets for the carriage of Apples, the competition was very small, and the 1st prize was secured by Mr. Savage, Peckham.

A. Weir, Esq., Bendarroch, Ottery St. Mary, Devon, showed samples of packing choice Apples in boxes with wood-wool, viz., a 5 lb. box with the fruits placed in one layer; and a 21 lb. box with several layers. The cost of wood-wool was given at 6*s.* 6*d.* per cwt. (we think it is cheaper), and packthread for tying boxes together 4*s.* 6*d.* per 12 lb.

Messrs. Colby, Hinkley & Co., 10, Tudor Grove, Wells Street, Hackney, showed a new kind of wooden market basket to supersede the Willow baskets now in general use, and which are dear to buy, easily decay, bruise the fruit placed in them, and which cannot be packed as empties one inside another. The basin-shaped baskets shown have the advantage of packing one within another, thus taking up comparatively small space, of being strong, light, smooth inside and out, and are furnished with a lid formed of a wooden-hoop and strong slats, so as to admit of ample ventilation. The price is, we believe, less per dozen than that of ordinary baskets.

Messrs. C. H. Clover & Co., Ormside Street, Old Kent Road, London, S.E., showed nests of boxes, of a capacity of 1 lb. each, for the sending by rail, &c., of berries, Tomatos, and soft fruits generally; also the materials of which the boxes are made, in a handy cut-up form, for export, or sending long distances at home. It seemed a great improvement on the methods in common use.

Miscellaneous.

A large and important position among the trade exhibits of fruit was taken by that from Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, and displayed on two large tables, the Pears upon one of these, and the Apples on the other, there being about 150 dishes of the former, and 170 of the latter. The new Marguerite Marrillat was shown, and there were pretty dishes of Dr. Hogg, Gansell's Bergamot, Beurré Hardy, Seccle (especially good), and very many others. On this table also were a few of the later Plums. Several varieties of Damsons also, and the Wilson Junior Blackberry, and Rubus laciniatus. This last-named Blackberry is a very free cropper, and is strongly recommended; the fruits are not large, but good. The Superlative Raspberry was also shown.

Glancing at the other table, we noticed nearly all of the best varieties of Apples were represented by good and, in many cases, excellent fruits.

A considerable space of the western portion of the nave was occupied by collections of Apples and Pears, with here and there a dish or two of Plums and Medlars, exhibitors in some cases covering one and some two tables each of about 150 superficial feet. Messrs. J. Laing & Sons received a Silver-gilt Knightian Medal for a collection covering two tables, comprising about 250 dishes of Apples and Pears, with large basketfuls of leading varieties. One object of interest was two tiny trees, each in a pot, budded at the end of August, 1893, and each bearing a fruit of Bismarck. A Silver Knightian Medal was awarded to Messrs. Spooner & Sons, nurserymen, Hounslow, who set up a very fine collection, the fruit bright and clear, and well coloured. A Silver Banksian Medal was awarded to Messrs. C. Lee & Son, nurserymen, Hammersmith, who had a large table filled with best varieties of Apples, and a supplemental one with Pears. A Silver Banksian Medal was also awarded to Messrs. B. Peed & Son, Roupell Nurseries, Streatham, who also filled a large table with dishes of Apples and Pears. A Silver Banksian Medal was also awarded to Messrs Paul & Son, Old Nurseries, Cheshunt, also with a large table of Apples and Pears.

From the School of Handicraft for Poor Boys at Chertsey, Mr. A. J. Brown, Instructor in Horticulture, came forty-five dishes of Apples and Pears of a very creditable character. From the Gardens of the Royal Horticultural Society at Chiswick came eighty-four dishes of Apples.

The Conference.

(From our Special Reporters.)

Hardy Fruits for Small Gardens.

The proceedings of the Conference in the afternoon of Saturday were devoted to the reading and discussion of a paper on this subject, prepared by the Rev. W. Wilks, M.A., Vicar of Shirley, Surrey, Secretary of the Royal Horticultural Society, and Mr. George Bunyard, F.R.H.S., The Nurseries, Maidstone. In the absence, through severe illness, of the Rev. W. Wilks, the paper was read by Mr. Bunyard, who at the outset gave Mr. Wilks all the credit for the real work connected with the preparation of the paper. By "small" gardens was meant, for the present purpose, gardens in which from half an acre to an acre and a half was set apart for fruit and vegetable culture. If fruit was to be grown to any reasonable extent in a small garden at all—if, the gardener was expected to furnish the dinner-table with relatively as much of fruit as he did of vegetables, than rather more than half the space at his disposal should be devoted to it. One way in which a great economy of space could be made in small gardens, is by planting standard Apples and Plums, and early Pears and Cherries, in the pleasure garden. An Apple-tree planted in front of a couple of evergreen Oaks, and surrounded with an undergrowth of Rhododendrons or Laurustinus, &c., would make a lovely picture. Or a half-standard Apple, with the lower branches encouraged at first so as to sweep down upon the turf, was quite as pretty as nine-tenths of the lawn-trees that one saw. Yellow Ingestre made a charming lawn Apple, on account of its beautiful drooping habit. A standard Williams' Bon Chrétien on the Pear stock (if an early Pear be wanted) would make a lovely object; Beurré d'Amanlis and Jargonelle, were both of handsome foliage, and had much finer flowers than Williams' Bon Chrétien, but the flavour of Amanlis was not equal to that of Bon Chrétien, and Jargonelle so very quickly rotted. Plums and Cherries would also clothe the garden with a wealth of blossom in the spring, quite as beautiful as many of our so-called ornamental trees, besides providing a wealth of fruit in the autumn, and adding immensely to the general interest of the pleasure-garden. A Mulberry and a Medlar, if they were had at all, should certainly be on the lawn, the foliage of the Mulberry, and its peculiar growth, making it a good contrast to almost all other trees; and the massive white blossoms of the large Dutch Medlar, and the glorious tints of its foliage in autumn, marked it out as a desirable ornamental tree, without considering its fruit, whilst its drooping habit rendered it not unfitted to cover a low summer-seat. Roughly speaking, every third tree in any pleasure-garden might, without disfigurement, or lessening of the general effect, be a fruit-tree. All fruit-trees in the ornamental garden should be grown on the extension system, that was, pruned but sparingly, the leaders of all the branches being allowed almost free play, cutting back only to balance the head when young, the side-shoots being clean cut out to a couple of buds, if the inner growth appeared too dense.

Turning to the kinds of fruits to be grown, and the varieties of each to be preferred, it was impossible to lay down any hard-and-fast rule. In the same way, the proportion of the various kinds to one another would depend, to a great extent, on the preferences of each household. Setting aside individual cases, the order of relative importance, from a household point of view, would probably be nearly this, viz., 1, Cooking Apples; 2, Cooking Plums; 3, Gooseberries; 4, Strawberries; 5, Raspberries; 6, Red Currants; 7, Dessert Apples; 8, Dessert Plums; 9, Cherries; 10, Black Currants; 11, Dessert Pears; 12, Stewing Pears; 13, Medlars; 14, Quinces; 15, Mulberries. Peaches, Nectarines, and Apricots were not spoken of, as though, in a sense hardy in the South of England, they were far better grown in an orchard-house.

Apples for Cooking should be from five to eight in number. For the earliest, choose either Pott's Seedling, Ecklinville, Grenadier, or Lord Grosvenor; for second Apple, Warner's King or Stirling Castle; third, either Tower of Glamis or Blenheim Orange; fourth, Lane's Prince Albert in bush form, or Wellington, or New Northern Greening; fifth, either Bramley's Seedling, Newton Wonder, or Alfriston; sixth, Bismarck or Golden Noble; seventh, the second out of the three named for the fifth place, so as to make sure of late-keeping Apples; and if an eighth be possible, Lord Derby (in bush form); ninth (strongly advised), Annie Elizabeth, the latest Apple of all, which keeps good up till May. In this way, except for spring frosts, which no forethought could avoid, there would be a supply of Apples the whole season through. Apples required well gathering and well keeping. When they parted easily from the tree they were fit to pick.

Plums for Cooking.—Five varieties would suffice:—First, Rivers' Early Prolific; second, The Czar; third, The Sultan, or Belgian Purple; fourth, Victoria; fifth, Pond's Seedling, or Monarch. If possible, add a tree of Damson, either Farleigh or Bradley's King, and one of Shepherd's Bullace. Sharp look-out should be kept for bullfinches during blooming.

Gooseberries.—There could scarcely be too many bushes—twenty-five to forty at least. Every collection should include Whitesmith, Bobby, Crown Bob, Pitmaston Green Gage, Whinham's Industry, Keepsake, Early Sulphur, Warrington, Leader, Brown Girl, and Leveller. The bushes should be grown in a patch, for ease of netting, and very early fruit could be had by planting cordons on a south or west wall.

Strawberries.—These, like Gooseberries, must, in the country, be netted before they begin to colour, or the birds will not leave one to ripen. They should therefore be in beds, and not planted as an edging to the paths, as was so often seen. There should be at least 350 to 500 plants. For a light soil, plant Vicomtesse Héricart de Thury for next gathering, President or Sovereign third, Countess, and latest, Gunton Park or Lord Suffield. Some other varieties might be tried, viz., Noble, Latest of All, British Queen, Lucan, Georges Lesuir, and Filbert Pine.

Raspberries.—A line of from 100 to 200 yards in length would not be too much. Red Antwerp was still the best for flavour, though perhaps Superlative

was to be preferred, owing to its prolific bearing, and its flavour was not far behind. Red Antwerp and other good kinds were Carter's Prolific, and Norwich Wonder.

Red Currants.—A very few of these would suffice if plenty of the better fruits were grown. About twelve bushes would be enough, half being of Red Dutch and half of Raby Castle. To plant white Currants, as white Raspberries, was to waste good ground, but if they were required, the best were White Transparent and Versailles.

Apples for Dessert.—Five of these should be planted, and mostly in bush form. In their order of bearing they should be:—Irish Peach or Devonshire Quarrenden, Lady Sudeley, Gravenstein or Worcester Pearmain, Cox's Orange—the prince of all dessert Apples. If later varieties were wanted they would be best found amongst Sturmer Pippin, Duke of Devonshire, or Rosemary Russet.

Plums for Dessert.—All kinds of Plums should be grown, either on a wall or fence, in bush fashion. Three or four would probably be enough. Deniston's Superb would be the first, followed by Rivers' Early Transparent, and that again by Jefferson's, ending the season with Coe's Golden Drop, which should have a wall. Greengages should be avoided where bullfinches abound.

Cherries.—The finest Cherries for dessert were Early Rivers (black), and Kent Bigarreau (white); and for cooking, none could approach Kentish. A north or a north-east wall could be used for planting a Morello against.

Black Currants.—About ten or twelve bushes of these should be grown, as they make excellent jelly. The best variety was Baldwins, or if that could not be had true, Lee's Prolific.

Pears for Dessert.—Pears are of little value in an ordinary family where no great amount of company is kept, and dinner parties are not of constant occurrence. The earliest Pear advised is Williams' Bon Chrétien, either as a standard or bush tree. This may be followed by Louise Bonne, Beurré Hardy, Pitmaston Duchess, and Durondeau, all of which do well as bush trees or espaliers. Marie Louise is a somewhat over-rated Pear. The best of all Pears is Doyenné du Comice, and a Winter Nelis should be tried.

Pears for Cooking.—These should be in bush or espalier form, the fruits being so heavy. Catillac is the best for the purpose, the blossom being really most beautiful and ornamental.

Medlars.—The variety called Large Dutch forms a very pretty small lawn tree. Few people seem to know how very delicious Medlar jelly is.

Quinces.—If there be any odd damp corner, or an unoccupied spot near a pond, a Quince-tree is always useful. The Pear-shaped variety should be preferred.

The paper also gave suggestions for planting and pruning. The best time for planting all fruits is late October and throughout November. Strawberries should be planted in August or early September. Just digging a hole, cramming the roots in, shovelling the soil over, stamping it down and leaving it, is the wrong way to plant any trees, and can only result in failure. The right way is, break up all the earth to a depth of 18 inches, either in a square or circle of at least 3 feet across, but without bringing the bottom spit to the top. If the roots are in any way jagged or torn, cut the points cleanly off with a sharp knife, and at the same time shorten back all the straight-downward roots, unless they will easily bend outward to right and left; place the tree in the hole at such a depth that when the planting is finished it will be at the same depth as it was in the nursery, which will be easily seen by the soil-mark on the stem. The depth should be such that the uppermost roots will be about 3 or 4 inches below the surface when the planting is finished. Spread out the lowest roots carefully on the soil in the hole, and scatter a little fine earth over them; then spread out the roots next above these, adding more soil, then those above them, and so on, giving a little shake now and then to let the soil run in between the fine roots. When all the roots are spread out and covered, give the trees a good vigorous shake, add a little more soil, and then tread it in firmly, and fill up the hole slightly above the surrounding soil, as it will sink 1 or 2 inches; put a strong stake to the tree, and be sure that the way the two are fastened together is such as to make it impossible for the stem of the tree to chafe itself against the stake when the winds blow; protect the trees from rabbits, cattle, and sheep. No dung whatever should be used under the ground. It is important not to plant too deeply, especially in wet or heavy lands. It is important to spread out all the roots down to the smallest fibres.'

Many other details, all of which are important to ensure complete success, are given in the paper, and some hints are furnished on worn-out and dilapidated gardens. "Most old gardens are benefited more by the addition of fresh turfy loam than by strong nitrogenous manure, as in time all the holding qualities of the soil in town gardens seems to vanish, and it assumes such a loose nature that the roots of fruit trees cannot duly perform their functions in it."

The Chairman, in inviting discussion, said they often learnt more from their failures than from their successes. He then told the meeting of a gentleman who was taught by bitter experience, because contrary to instructions, his trees were planted too deep; and because a dead dog, a dead cat, and butchers' offal, were placed at the roots of some Pear and Apple trees. Trees could not live on such food, said the Chairman, who added, that as they would not go to a cheap grocer for their tea, so they should go to none but the best sources for their fruit trees.

Mr. John Wright paid a high tribute to the Rev. Mr. Wilks' paper. No mention had, however, been made of the grand old favourite among Strawberries, Sir Joseph Paxton.

Mr. Bunyard said the flavour was not good enough.

Another gentleman in the hall suggested that it was "worn out."

Mr. Wright vigorously defended Sir Joseph Paxton from these onslaughts. He was glad to see the importance attached by Mr. Wilks to the Gooseberry and the Raspberry. These were the fruits for the amateur, as they gave an ample return for a space allotted to them. He mentioned a man who divided his allotment from his neighbour's by a hedge of Raspberries. The hedge was 75 yards long only, but after consuming all he needed, the grower sold between £3 and £4 worth each year. That was an example of how to utilise ground which might have been planted with a useless bush. In fruit culture, knowledge, judgment, and ordinary business commercial care were needed. Being a Liveryman of the City of London, he would like to tell them a secret, and make a suggestion. The Master of the Fruiterers' Company would in all probability be Lord Mayor next year. The suggestion was, that the Royal Horticultural Society should hold another show next year, which should be opened by the Lord Mayor in state, who would bring all London with him.

Mr. H. R. Williams, who has been twice Master of the Fruiterers' Company, and whose prize of 25 gs. and Gold Medal for an essay on the subject of the day were won by the last speaker (Mr. Wright), next spoke. He said he was sure Sir Joseph Renals, if Lord Mayor, would gladly open the next year's show. The speaker went on to allude to the long discussion which has been going on in the *Times* on the subject of fruit growing.

Mr. Rivers also alluded to the *Times* correspondence. He said that if an orchard gave three years' profit out of five they ought to be satisfied. The remainder of the rent would be paid by the bush-fruits. He would like to give to the meeting a recipe for canker, which had been made by Mr. Tonks of Birmingham. It had proved most successful, and was as follows:—

	lb.
Superphosphate of lime	35
Nitrate of potash	21
Nitrate of soda	28
Sulphate of lime	28

A quarter of a pound to the square yard, should be applied in the autumn and spring.

Mr. Bunyard said that Mr. Blackmore was a distinguished novelist, a most estimable gentleman, and a very clever fruit grower; but he lacked the commercial tact to put what he had grown to the proper market and in the proper way. Those were things which every man must learn who wished to succeed in fruit culture.

Second Day's Conference.

Fruit Growing on a Large Scale.

The second day's conference, held on Monday, October 1, was devoted to thereading and discussion of a paper on this subject, prepared by Mr. Charles Wise, agent for the Toddington Estate, and manager of the fruit farms established by the Right Hon. Lord Sudeley. Mr. Bunyard presided, and there was a crowded meeting.

Mr. Wise began by saying, that owing to the great increase in the fruit-growing industry a good deal had been written during the past few years on fruit farming and the enormous profits to be made. The bulk of these reports were greatly exaggerated, although under certain conditions fruit growing yielded a fair return on capital expended. Many people thought that fruit trees had merely to be planted and profitable returns in due course were assured, but it was only by experience, and in many cases by loss of capital, that they found that fruit-growing was a business and a science. The question asked again and again was—Why do not farmers go in for fruit-growing? The simple answer was, that not only did they not know how to set about it, but they had not the necessary capital. And even should that be forthcoming, it was not on every farm that land adapted for fruit-culture was to be found. There were also these important considerations:—(1) There are only selected areas where you can hope to succeed, so far as soil, shelter, and situation, are concerned; (2) Fruit-growing, especially on a large scale, should be within reasonable distance of a great market or railway station; (3) The tenant must be prepared to stand out of his capital for certainly four years, or perhaps longer, before a fair return is obtained; and no tenant should plant on a large scale, except under a lease of at least twenty-one years, and with compensation for improvements, fully assured at the end of his tenancy (a sentiment loudly applauded by the meeting). Given suitable soil and situation, with railway accommodation at hand, and security of tenure, he was of opinion that hundreds of acres of land might be planted with fruit, to the advantage of both landlord and tenant. We heard a great deal of what the Royal Commission was going to do for the tenant-farmer, but he feared that unless the tenant-farmers looked after themselves, they would obtain very little help from that quarter.

Soil.—Mr. Wise divided his paper into headings, the first being soil. Most soils would, he said, grow fruit, a good strong, deep loam being preferable. Shallow soil, on gravel or on chalk, was the least suitable, especially for standard fruit trees, though Strawberries might do well in certain seasons, and the same remark applied to sandy land. Land should be thoroughly drained before planting commenced, though not over-drained, as the trees as they grow older would take up a great quantity of moisture. Great advantage would accrue from having an analysis made of the soil.

Situation.—This point was, he thought, the most important of all, and was frequently overlooked. Many acres of fruit trees were planted in unfavourable situations, which year after year yielded no return whatever. Low-lying situations should be avoided, because in them the frost took most effect. He found that plantations that were not lower than 250 feet above sea-level, as a rule escaped frost, although the higher they were the better. He would urge all not to plant in the valley.

Sorts.—In making a selection, it was best to observe what varieties did best in the district. If uncertain as to what would do best, the beginner should try to commence with two or three kinds of bush fruit, and say four or five varieties each of Plums, Apples, and other tree fruit. They would soon answer the question.

Strawberries.—In his district, the most suitable for market were Vicomtesse Héricart, Sir Joseph Paxton, President, and Stirling Castle Pine for main crop. The usual method was to plant with a dibble, but he was convinced that if more time were taken in planting, and a small three-tine handfork used, the plants would make a far better start, and the extra labour would be more than repaid. Runners should be taken from one to two-year-old plants, and if the weather was suitable and ground ready, they should be planted as soon as they were well rooted. Plants cost from 10*s.* to 15*s.* per 1000, and if half an acre was planted, and the runners were all left the following summer, there would be a large stock of plants available. The cost of planting would be about £8 to £10 per acre, exclusive of manure, if the land was clear and in a good state of cultivation. The average annual returns might be taken at 2 tons per acre at £20 per ton net. The beds lasted five to six years, after which the plants began to fail, and should be grubbed up. He had heard this season of 170 tons of Strawberries being bought in one district alone by a large jam maker, which showed the very large demand there was for this fruit. The foreigner had not yet been able to place fresh Strawberries on our breakfast-table,

Raspberries.—These were fond of a good friable loam. They would not thrive on a thin soil, nor would they do well on stiff clay land. Carter's Prolific, Semper Fidelis, and Superlative, were all good sorts for market. The canes cost about 20*s.* per 1000, and planting would amount to about £14 per acre exclusive of manure. Cultivation and manure cost about £8 per acre exclusive of picking. On suitable soil Raspberries would stand ten to fourteen years, and in many cases still longer. The average crop was 2 tons per acre, and an average price £25 per ton net.

Black Currants.—These liked a good strong soil. Baldwin's Black, Black Naples, Lee's Prolific, and Carter's Champion were all excellent varieties. They might be planted 5 feet apart, which took 1750 per acre, and the bushes should be cut down to within 6 inches of the ground after planting. Planting would cost about £12 per acre, including the purchase of the young bushes at £4 per 1000. Exclusive of picking, the cultivation, including manure, cost about £8 per acre, and an average crop might be taken at about 2 tons per acre. The price, which varied, was this season down to £14 per ton, owing to the heavy crops. The average price might be taken at about £25 per ton net.

Red Currants.—Scotch Red was a very good early variety, with Raby Castle and Dutch Red for main crop. Young bushes might be bought at £3 per 1000, and the cost of planting should not exceed £10 per acre. Red Currants were more regular croppers than black; but the average crop could not be taken at more than 2 tons per acre, although he had known 5 tons per acre grown two or three years in succession. The average price for the past few years could not be taken at more than £14 per ton net.

Gooseberries.—Of the many different sorts recommended, Whinham's Industry and Berry's Early were good early varieties, with Crown Bob, Lancashire Lad, Warrington, Keepsake, and Whitesmith to follow. He knew of one plantation this season on which 5 tons of Lancashire Lad were grown to the acre, the price realised being £12 per ton; cost of planting, £13 per acre. Pruning full-grown bushes cost from 2*s.* 6*d.* to 3*s.* 6*d.* per 100. Picking costs from 1*s.* 6*d.* to 1*s.* 9*d.* per cwt., and cultivation about £10 per acre, including manure. On suitable land the yield should average at least 3 tons per acre, if not 4 tons. On no account should Gooseberries be planted on wet land; they would bear heavy dressings of manure. Green Gooseberries averaged about £14 per ton, and ripe about £9 per ton.

Nuts.—The Kentish Cob Nut was the best, if not the only Nut, to grow. They would do well on stony ground. Nuts would pay well for good treatment. A return worth speaking of should not be looked for for at least six years from the time of planting. Young bushes cost about 30*s.* per 100, and the cost of planting Nuts only would be about £5 per acre. The average crop might be taken at 10 cwt. per acre; price, 6*d.* per pound. The cost of cultivation with standard trees, Apples or Plums, 36 feet apart, together with bush fruit planted among the nut trees would be about £15 per acre, including manure.

Plums.—Coming to the planting of standard fruit trees and mixed plantations, Plums were first dealt with. Mr. Wise said out of the forty varieties of Plums he would select as the most profitable to plant River's Early Prolific, Czar, Violet, Pershore, Egg Plum, Victoria, Black Diamond, Burns, Orleans, Belgian Purple, Prince Engelbert, Cox's Emperor, Pond's Seedling, White Magnum, and Grand Duke. Picking was done by the cwt.—about 8*d.* per cwt. was given for a fair crop. He had known a plantation of Black Diamonds, twelve years old trees—in a good year yield 10 tons per acre. Two to three tons of Plums per acre might be taken as an average crop at £10 to £12 per ton.

Gages should only be planted in a nice warm sheltered situation. The Old Green Gage, Oullin's Gage, Bryanstone, Denniston's, and Purple Gage, were all good sorts, though preference should be given to the Old Green Gage and Oullin's Gage.

Damsons.—The Damascene was largely grown in the Evesham district. It was a free cropper, and could generally be relied upon for a crop. The Blue Prolific was a good early variety; Shropshire, or Prime Damson was one of the best, and the Farleigh or Crittenden was a great cropper. Crop 2 tons per acre.

Apples and Pears.—Apples and Pears might be grown either as dwarfs or standards. At five years a dwarf Apple on the Paradise stock yielded a good return, while it was ten or twelve years before a standard Apple was in profitable bearing. Foreign supplies had enormously increased, and we recommend planting good early varieties of cooking Apples, which would come in about August—a time when the foreign supply was at its lowest. In 1882 Apples imported amounted to 2,386,805 bushels, valued at £783,903 or 6*s.* per bushel; and in 1892 4,514,700 bushels, valued at £1,353,812 or 6*s.* per bushel. It was worthy of note that although the foreign supply had nearly doubled in the past ten years, the price remained the same, showing the increased demand. Mr. Bunyard in his work, *Fruit Farming for Profit*, gave the average crop of Apples at 130 bushels per acre at 2*s.* 2½*d.* per bushel nett, and Pears at rather more.

Cherries.—These are usually grown as standards, though certain varieties did well on the Mahaleb stock as pyramids. Standards are about twelve years before they come into profitable bearing, and when they reach that age, they are extremely prolific. Very large returns are still obtainable from some of the old Cherry gardens. For the best varieties he referred them to *Hints on Vegetable and Fruit Farming*, by Mr. Charles Whitehead.

General Remarks.

Mr. Wise recommended the buyer to go to a first-class nurseryman, as he could then rely on the trees being true to name, and worked on suitable stocks. Cheap trees might be picked up at sales, but they did not pay in the long run. As soon as the trees arrive from the nurseryman, they should be carefully heeled-in for fear of the frost. On no account should a lot of manure be put into the holes with the trees; this only encouraged rank growth. If half-standards were planted, no stakes would be necessary, which saved a heavy item of expense. Nice young stocks should be chosen; they would get established, and go on much more quickly than older ones. Standard and half-standard trees might be bought at from £5 to £6 per 100.

Manuring.—Of all manures good farmyard manure was the best; but as this was not always obtainable, artificial manure had to be used. Stable manure should be put on once in three years, and about £5 worth of artificial per acre should be used on plantations in full bearing the other years. It was here that an analysis of soil was so useful. It was better, if possible, to purchase all artificial with a guarantee, and to have a sample analysed. In young plantations, it was a mistake to manure heavily, as it only caused the young trees to run to wood. Shoddy, fish guano, leather dust, damaged decorticated cotton-cake, dissolved bones, mixed with superphosphate, dried blood, horn and hoof, soot and Peruvian guano, were all excellent manures for fruit.

Returns.—Assuming a mixed plantation is planted this winter, the next summer the returns will be nil, the summer following (1896), if Strawberries only have been planted with the tree fruit, they should pay expenses; other fruits which do not come so quickly into bearing will not pay expenses until 1897, when bush fruit of all kinds should give a good profit. From a field planted with half-standard or standard trees, black Currants and Strawberries, the net return should be £20 per acre, and the average annual return for mixed plantations might be taken at that amount, though in some seasons it would be far more.

Railway Rates.—The present preferential rates were a question of vital importance, and growers should unite and do all in their power to induce the railway companies to meet them, and to re-adjust the rates.

Conclusion.—Looking at the enormous increase in the consumption of fresh fruit and jam, and the increase in the population, it hardly seemed possible that, for many years to come, fruit-growing could be overdone. The writer strongly urged growers to make all the surplus fruit into jam and "bottled fruits," and to pulp down some of the fruit in seasons of glut. Lastly, he said: Foreign competition (with the exception of Apples) ought not to materially affect our fruit trade. Soft fruit from abroad cannot be put on the market in as good condition as the home-grown, and as the public taste becomes more educated, the more demand will there be for fresh fruit and for pure jam. Jams made from imported fruit or pulp cannot compare with the jam made from fresh-gathered fruit.

Discussion.

Mr. Smith, of Loddington, near Maidstone, opened the discussion. He said that of course great allowance had to be made for different districts; as, for instance, in his district they had no market for yellow Plums. He strongly agreed with the writer of the paper, that only the best trees should be planted. Cheap trees were the most unprofitable things that anyone could buy.

Mr. Hammond, of Pilgrim's Hatch, Brentwood, said he believed that at one time their Kentish friends imagined they had got all the good soil available, and that the rest of the country had the leavings. Whether that were so or not, he and his family had for the last fifty years held their own at Spitalfields and elsewhere. Fifteen years ago he had a dispute with his landlord. He had planted a large area with fruit, and when the lease ran out, the landlord refused to renew it. After another similar experience, he decided that farming under that gentleman would not pay, so he took another farm, which he had since purchased. No one should plant under a twenty-one years' lease. Farming could then be carried on with greater confidence, and more interest. With regard to yellow Plums, the secret was to grow only when there was a market. He had every reason to be satisfied, and he was not going to throw up the sponge despite foreign competition or preferential rates. It was a downright shame that they should have to fight the question, but if they produced fruit as good as they possibly could, and sent it to market in the best possible condition, and only used common sense in growing, they could hold their own.

Mr. Basham of Basselly, Newport, Mon., said that he had learnt a great deal from the paper. He had taken an interest in fruit-growing for some years past. So far, he had been successful, although he was living somewhere near the mountains of Wales. Although in many parts of the country the past season had been a failure, yet he had taken sufficient Apples from trees which he planted last winter to pay for the cost of the trees, and when he saw the exhibits that day, he felt sorry that he had not competed. He could not see that it was fair that the English farmer should have to compete so unfairly with the foreigner, but still he saw no hope in having protection granted, and he had come to the conclusion that if they were to beat the foreigner at all it would be by producing a far better class of fruit than the foreigner was able to place upon the market. Last year at the Drill Hall he saw an exhibit from Nova Scotia. What he then saw was worthless compared with his own produce. Mr. Wise considered that five tons per acre of Gooseberries made a pretty good return for Gooseberries, but during the past season he (the speaker) had over eight tons per acre of splendid fruit. Pears had done remarkably well, and those referred to by writers to the newspapers, must have been grown on trees that had not been properly pruned and manured. From what he had seen that day, he was determined to persevere.

Mr. Cheal, of Lowfield Nurseries, Crawley, Sussex, alluding to the *Times* correspondence already referred to, said they heard a very different tale from men of practical experience. It was only the disappointed and sour men who could find time to write to the papers [!]. He warned novices against rushing into farming without looking to the end, because if they did not know what they were aiming for, they would not know where to begin. Markets had to be considered, soil had to be taken into consideration, and if this were done, they would hear far less about failures and unprofitable plantations, and the doleful stories related in the Press. He considered that in the preserving of fruit we had one of the most important operations for the future, because up to the present in a season of glut fruit was either wasted or sold at an unremunerative price. He always endeavoured to have some bottled fruit on his shelf. If the fruit were properly bottled, it could not be distinguished from fresh fruit.

Madame Sales, of Upper Norwood, asked whether the Society could not do something to get Parliament to move in the matter of either prohibiting preferential rates to the foreign or placing the English producer on the same footing?

The Chairman (Mr. Bunyard) said the question could not be kept clear from [party] politics, as of course it involved the subject of protection, and that the Royal Horticultural Society did not mean to enter upon. The Society will, however, do all it can to assist traders, and the council would favourably receive any representations made to them.

Mr. D. T. Fish, of Bury St. Edmunds, wished Mr. Blackmore could have been present. The tap-roots were the very centre and key-note of modern fruit-culture. The tap-roots had been the ruin of fruit-culture in thousands of gardens and orchards; indeed, he was not quite sure whether it was not owing to the tap-roots that the *Times* had been making

such a fool of itself. If these tap-roots were allowed to make tracks for Australia, there was no wonder that Pears were but a little better than hard sticks. Every tree was worth a stake, or it was not worth planting. He was quite in sympathy with the meeting on the question of railway rates, and he did not consider it a question of [party] politics. The preserving of fruit was a question of immense importance. Prices varied because fruit was so perishable.

Mr. Wise, in responding to the Vote of Thanks, would not be drawn into the subject of tap-roots. He, however, said that he "believed that tap-roots should be stopped, and that if Mr. Fish thought he used tap-roots instead of stakes for the trees at Toddington he was greatly mistaken!

Madame Sales asked whether the tap-roots should be cut before or after the planting.

Mr. Fish replied that it should be done before. The tap-root was antagonistic to the production of fruit, and only went to the making of timber.

A vote of thanks to the Chairman closed the Conference.

Third Day's Conference.

The third day was devoted to a paper on "Packing, Grading, and Marketing Fruit," by Mr. George Monro, F.R.H.S. Mr. Philip Crowley, F.L.S., presided. Owing to the overcrowding of the two previous days, Mr. Weathers, the Assistant-Secretary of the R.H.S., obtained a much larger hall, which was again filled by the audience.

Mr. Monro, in the course of his paper, said: I propose to note how we pack now compared with, say, twenty years ago; to compare our methods with foreign methods; to see if we cannot improve our methods; and to deal with the great importance of keeping pace with the times in competition with the foreigner. Taking the hot-house produce twenty years ago, Grapes used to be brought to market by growers near London in punnets holding 2 lb. to 4 lb., and by rail in all sorts and sizes of boxes; but as the trade grew it was found impossible to sell the quantity in this way, and at the present time the handle-basket, holding on an average 12 lb., is found most suitable for rail, and the shallow for those sent by vans. As quantities increase the grading is improved, some senders making three or four different samples of Grapes out of the same house, which is of great help to us in obtaining the best possible price, and in giving every customer the quality he requires.

Peaches used to come in punnets from local growers, and all sorts and sizes of boxes. Now we have a uniform box containing from eighteen to thirty-six, according to size, and customers know to order the size they want of different growers, and will often take them without seeing them. Growers should bear in mind that we want colour as well as size in Peaches.

Strawberries, forced, still come in the flat punnets of ½ lb. or 1 lb.; but with increasing quantities growers find it pays best to sort into two or three sizes, and by having uniform boxes containing so many punnets, it simplifies the sale very much. And when it is considered that we have to handle from ½ ton to 1 ton of morning-gathered forced fruit between 8 and 11 in the morning, it will be seen that every facility for quick sale is necessary.

Cucumbers now come in hampers, containing two to three dozen each; and sometimes upwards of 2,000 hampers are received in our market daily from March to July. We are creating quite a trade in Cucumbers with Hamburg and other foreign places, and successfully competing with the foreigner on his own ground.

Tomatos were scarcely known on the market twenty years ago, but the supply now is enormous. Best growers grade these into four sizes. The stalks are cut close to the fruit to prevent them piercing each other.

We will now turn to strictly outdoor fruits, and take them as they ripen. I don't think we can improve on the Kent method of upright punnets in a box containing sixty each; and the pecks are suitable, as the softness of the fruit requires plenty of ventilation, and in this fruit we need not fear foreign competition.

Cherries, Currants and Gooseberries come next, and the peck and ½ bushel are the most suitable, as they, too, need ventilation. The French are far ahead of us in the tasty way in which they put theirs up, the finest cherries being in small square baskets containing 4 to 6 lb. The basket is given with the fruit.

Plums are also packed in pecks or ½ bushels, but as a rule with much less care than those coming from the Continent.

Apples and Pears are sent in bushels and ½ bushels. I cannot say packed, as the bulk are simply thrown in without grading, and there is nothing to prevent the fruit being bruised by the basket. These are certainly packed worse now than they were twenty years ago; and as the competition from abroad is keener every year, it is very important that we should stop to consider whether we are working on the proper lines or not.

The hot-house fruits are not yet much affected by competition, as our market gardeners have up to the present led the world. There are, of course, many growers who pack fairly, especially in Middlesex and Kent; but none of them take sufficient care, neither can the best of them compare with the foreigner. The Frenchman, even when Oranges or Lemons are not worth more than 2*s.* per bushel, wraps them separately in papers, so that not only is the fruit protected, but if one goes rotten it is not so likely to affect the others. Our methods did fairly well when fruit was all consumed in London; but growers do not take into consideration that as quantity increases a greater proportion must go on rail, and must be packed accordingly; and they also ignore the fact that ours being a damp climate, fruit wants more care than if grown in a dry climate, where there is often no rain while the fruit is ripening.

I think a great deal of the bad packing is owing to the fact that fruit growers are not practical gardeners, but have other business to attend to. Some farmers think they have done everything when they have planted the trees, and do not imagine that there is any art in either fruit-growing or packing. At present the bulk of growers wait until the crop is ready, and expect their salesmen to be prepared with an unlimited number of baskets at a day's notice. This system is becoming impossible. Every year as orchards increase, growers must be prepared with suitable packages to market the fruit, and then we shall not hear of so much being wasted whenever there is any quantity. In the case of Plums, I think a system of drying and bottling should be adopted in full seasons to prevent the whole crop being put on the market in a few weeks. It is unreasonable to imagine that it can all command a good price when forced on the market in so short a time. All fruit-growing countries but ours are prepared with a system to save part of the crop, and we must study the same question.

I will now endeavour to show the advantages of growers finding their own unchargeable boxes. (1.) They would always be able to get sufficient at a few days' notice for any crop they might have. A skilled basket-maker can only make on the average eight bushels a day, while boxes can be put together by the hundred by any unskilled labourer from wood cut into sizes by steam mills, and wood is cheaper every year while Willows get dearer. (2.) Each box could be branded with the grower's name and mark, the name of the fruit, and the variety and size; and so give customers an opportunity of seeing whose goods they are buying. This always affects the sale favourably. (3.) A cheaper rate of transit and commission would result. (4.) To cash buyers cases are a great inducement, as they can lay out all their money in fruit and not have, as at present, to leave from 25 to 30 per cent. on the baskets with the trouble of returning them. If you consider that we have, say 1,000 cash buyers with an average of £10 each to spend; at present they can only buy £6,000 to £7,000 worth of fruit, the remainder being left in the basket, and we lose the sale of from £3,000 to £4,000 worth of fruit; besides crippling an industrial class by compelling them to work part of their capital at a loss. Without this tax, trade would develop more among grocers, who won't take up English fruit because of the bother of returning and being responsible for chargeable packages. (6.) Growers would be independent of any market or any salesman, or they could send their fruit wherever they thought they could do best, which they cannot do now owing to the difficulty of obtaining baskets. (7.) Apples and Pears would travel much better closely packed in cases, and would open out clearer and of a better colour.

The last suggestion Mr. Monro made was as to the freer use of paper. It is heart-breaking to see the immense quantity of good Pears and Apples spoiled for lack of sufficient paper. With a more liberal use of this and less of the damp packing so generally used, which causes the fruit to rot more quickly, better prices would be made, especially with soft fruit such as Cherries and Currants. If these suggestions are followed the fruit-grower would reap a benefit, and the salesman would have a business in which he can take an interest and pleasure instead of as at present, dreading the time the season commences. And last but not least, we should keep many thousands of pounds in this country which now go to the foreigner.

Discussion.

Mr. Cheal, who opened the discussion, said the subject was of the utmost importance to fruit growers. Mr. Monro had not laid too much stress upon it, and if growers would only follow his advice the result would be most satisfactory. We could learn a good deal from the French in these matters. The great thing to be aimed at is to place the fruit before the consumers in the same condition as when it left the grower. They had all seen the mauling and mangling of fruit, and many growers could scarcely recognise their own produce a few hours after it left their establishments. Some time ago he had the pleasure of listening to Mr. Monro when this question was discussed in another place, and he was very much struck by a remark made by Mr. Monro to the effect that foreign fruit, although it came into the market before the English fruit was ripe, it did not act against our own growers. It only opened the way for the consumption of the English product when it was ripe. Foreign fruit competition was not therefore an unmixed evil. With regard to the preservation of fruit, a lamentable waste of soft fruit occurred, and he thought we were only just beginning to wake up to the idea, that it was possible to preserve fruit so that it might be useful throughout the year; not only as jam, but for other domestic purposes, to which bottled, dried, and candied fruits could be put. He knew, for a fact, that their Chairman (Mr. Crowley) had been most successful in drying Plums in the kitchen oven.

Mr. Archibald Weir (Ottery St. Mary, Devon), said he was perhaps one of the first small growers in England to use boxes, and in a letter to *The Field* last December he explained how he came to use them. Wool and paper should be used for the purpose, and the boxes should be made of non-resinous wood, or the fruit would be spoilt. If Apples were placed in boxes they would remain for weeks without damage, and by dealing with the consumer direct, as could in many cases be done when boxes were employed, the middleman could be dispensed with. He had compared a Kentish grower's transaction with his own: 8½ sieves of Cox's Orange Pippins were sent up from Kent at 3*s.* 9*d.* each, and 6½ sieves at 3*s.* 6*d.*, making a gross return of £2 2*s.* The expenses were commission and carriage 7*s.*, packing and carting 2*s.* The cost of the baskets was not given, therefore the net return for 280 lb. of the very best Cox's Orange Pippins was £2 2*s.* The expenses being about 17 per cent. of the gross returns. He himself, happened a little time after that to send up to London 50 boxes, which held 250 lb. of Cox's Orange Pippins. The 50 boxes with wool and paper, carriage and commission cost 3½*d.* each, the ½*d.* representing the railway freight—total 14*s.*7*d.*; the labour of grading, packing, and marking was only 4*s.*, carriage to the station 1*s.*, railway freight to a shop in town 5*s.* 5*d.* For the 250 lb. of Cox's Orange Pippins he got £3 15*s.* nett. The working expenses were certainly 25 per cent. of the gross returns, against the 17 per cent. of the Kentish grower, who did not trouble to pack and grade, but then the returns were so much larger, being 6*s.* for 20 lb. of fruit. All the boxes should have wire hinges, as screws and nails were a great drawback to the salesman.

Mr. McIndoe, gardener to Sir J. W. Pease, Bart., confirmed all that Mr. Monro had said as to the way in which fruit was damaged. They should remember that the carriage was the same for well-packed as for badly-packed fruit, and as so much more could be got for the former, the sooner everyone adopted the better.

Mr. S. T. Wright, of Glewston Court, Ross, Herefordshire, said that during the International course laid down by the writer of the paper, the Fruit Show at Edinburgh, he endeavoured to do a little business with some shopkeepers there, but they would have nothing to do with the English fruit owing to the way in which it was packed, preferring to get their supplies from America. He had been making £1 1*s.* per cwt. for Ecklington Seedlings, and 15*s.* for Worcester Pearmain; but when the foreigner could get men to work for 8*s.* per week, and had preferential railway rates, the matter became very serious.

Mr. W. Roupell said a friend of his once met a lad driving a cart laden with Apples close to the Crystal Palace. On being interrogated, the lad said no one

at Covent Garden would take the Apples, and a bargain was struck that the lad should, on his own suggestion, sell the lot at 3*s.* 6*d.* "a whole bushel." The Apples were graded and packed by his friend, who made 100 per cent. on the transaction. The principle adopted by the lad's father seemed to be to go round the country, and buy up what fruit he could on the trees. He would then gather all he could; would shake down some more, and those he could not shake down he would knock down. With regard to the preserving of fruit, it was a mistake to suppose that cyder could only be made from cyder apples. Any hard, heavy apples would do. Excellent perry, preferable to a great deal of the wines we get in this country, could be made from Pears.

Mr. Assbee spoke of the importance of grading, and said best strawberries would fetch, say 1*s.* 6*d.* a lb., whereas if they were lumped together with all the inferior ones, the whole lot might be sold for only 4½ a lb. A better return could be got for the better fruits alone, than for the whole crop together. They could therefore save time, labour and expenses, and give the worst fruit to the pigs.

Mr. Monro said he was afraid that the ordinary grower would not like to give 3½*d.* for each box.

Mr. Colvile Brown, manager of the Horticultural College, Swanley, asked whether Mr. Monro could suggest any means, whereby small quantities sent from small growers might be placed on the market with better advantage?

Mr. Monro observed that small quantities had not the same opportunity as large ones on the market. Customers were always in a hurry; they had so many things to select, that they had to do it in a wholesale way.

Mr. Roupell in proposing a vote of thanks to Mr. Monro, suggested that something more should be done to bring comparatively unknown varieties before the London public.

The Chairman, replying to a vote of thanks, explained how he dried Plums. He placed them in the kitchen oven. The oven door was left open, and the Plums were placed on a galvanised wire of ½ inch mesh, which took the place of the ordinary oven shelf. They were kept in for about two nights and one day, and were then put into bottles and corked. They kept exceedingly well, and made an excellent fruit.

The proceedings then closed.

AN ONION SHOW AT BANBURY.

September 27.—The exhibition of pedigree Onions, instituted by the late Mr. Henry Deverill, seedsman, Banbury, was held at the Seed Stores, in the Market Place, on the above date, a large number of very fine bulbs being staged, much more fully ripened, brighter, and handsomer than could have been expected, regard being had to the dull and wet character of the summer. The six largest and handsomest specimens of any one of Deverill's Onions were those of Ailsa Craig, from Mr. H. Kneller, The Gardens, Malshanger Park, Basingstoke, weighing 12¾ lb., and finely finished in every way. These were selected out of twelve exhibits.

The best twelve of the globe-shaped Onions, viz., Ailsa Craig, Advancer, Cocoa-nut, and The Original Excelsior, were staged by Mr. T. Wilkins, gr. to Lady Theodora Guest, Inwood House, Blandford, the variety Ailsa Craig weighing 23½ lb. Mr. Kneller was 2nd, with the same variety; and two other prizes were awarded: one to Ailsa Craig, which appears to be the largest grower of the pedigree stocks; and to The Cocoanut, a very distinct shaped variety. Of the flat-shaped Onions, Rousham Park Hero, Anglo-Spanish, The Lord Keeper or Royal Jubilee. The best twelve were the first-named, from Mr. Wilkins, weighing 16¾ lb. very finely finished; Mr. Haines, Coleshill Gardens, Faringdon, came 2nd, with Anglo-Spanish, very handsome, and well ripened; this variety took the 3rd prize; and Lord Keeper the 4th.

The best twenty Onions shown by cottagers and allotment-holders were Ailsa Craig, and they were grown in the neighbourhood of Basingstoke.

TUBEROUS BEGONIAS.

The beauty of these plants has eclipsed this year that of Pelargoniums, as bedding plants; and their season of bloom extended up to the present time, and barring frost of 4° or 5° degrees of intensity, the plants will continue to afford a quantity of flowers. The long duration of these flowers is well exemplified at the nurseries of Messrs. J. Laing & Sons, Forest Hill, S.E., where a large fieldful was recently to be seen in fine flower, which, for the time of year may be said to be quite dazzling. The plants are arranged in their colours, white, yellow, rose, carmine, scarlet, crimson, and intermediate shades, affording the visitor an excellent idea of the appearance made by the plants in masses. Improvement always going on has been made in the poise of the flower, and the sturdiness of the foot-stalks, which results in the flowers being carried almost erect, thus showing the glowing interior instead of the dull exterior, at was once universally the case with this section of tuberous-rooted Begonias. The female flowers in some strains have become almost eliminated, an advantage from some points of view, as the plants last longer in flower, and no hand-picking of seed-pods is required. Scent has also come to this hitherto odourless species, and Messrs. Laing have a variety with blossoms of the exact tint and fragrance of the Maréchal Niel Rose.

A hint to planters. If the flowers of, say, a bed of Begonias, should show the face of every flower in any given direction, do not plant till the leaves are advanced in growth, and then plant with the leaf points directed towards the desired side.

NEW INVENTION

LABEL-HOLDER.

Mr. E. H. Harry, 3, Woodview Terrace, Archway Road, Highgate, N., sends us samples of a label-holder, which seems to us likely to be very useful. The stalk of the label is made of zinc, sufficiently stout to resist the attacks of hoes and rakes, and to defy the jobbing gardener to uproot. At the top are four clips, which serve to keep the label in place. The label can easily be inserted, and as readily removed. How far the brass-clips will resist the electrical action resulting from contact with the zinc stem, remains to be seen. Here is what the inventor himself claims for his label:—"Interchangeability and simplicity, combined with durability; as zinc, or any other metal, wood, &c., labels or tablets, may be placed into the clips or springs. The shank or stem can be always in use, thus saving storage and expense; this is an inconvenience connected with the present system of imperishable labels. Both sides of the tablet can be used for different names, thus ensuring a great saving in labels. On the score of economy, this label will be found particularly suitable to nurserymen and large establishments, where a succession of variety in planting is continually taking place. This fact will strongly recommend the use of this label for herbaceous and alpine planting. These labels can be placed on the market at prices which will compare most favourably with those at present selling."

The Preparation of Cocoa in Caracas.—Caracas Cocoa (Theobroma Cacao) is such a well-known and highly-valued variety, that it may be interesting to know, from the pen of the British Consul, how it is actually prepared for the European markets. The pods or fruits of the Cocoa after gathering are taken to outhouses and spread in the shade, where they are left for eight days, in order that they may become mellow. They are then opened with a knife, the beans taken out and placed upon tables exposed to the sun until they become red. To ferment or sweat the beans they should be placed in a cellar or in boxes and barrels, in a cool place, for four or five days, covering them with Banana leaves, with weights above, but must be stirred and aired every morning and evening, after which they are spread out in the sun and dried, until they sound hollow on being stirred, when they are ready to be put into sacks for the market. These beans roasted or boiled for some time will make an inferior kind of chocolate, destitute of any fatty principle, but very agreeable to the taste. This process is resorted to amongst the poorer classes. The ordinary class of Cocoa comes from Rio Chico and Higuerote, and the better class from Caracas. Prices range from £3 to £3 5*s.*, and from £5 to £6 per 100 pounds.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (—) the Mean for the week ending September 29.	Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 —	43	2	+ 301	— 53	9 —	168	37·9	34	23
1	2 —	47	1	— 66	+ 3	5 —	153	26·8	29	34
2	1 —	64	0	+ 22	— 56	4 —	154	18·7	40	33
3	2 —	70	0	+ 24	— 101	3 +	149	19·2	32	36
4	2 —	60	0	+ 27	— 84	1 +	143	18·3	28	32
5	1 —	84	0	+ 74	— 120	1 —	144	21·4	35	36
6	2 —	51	1	+ 23	— 69	11 —	157	34·6	33	33
7	2 —	65	0	+ 155	— 121	8 —	155	24·8	39	33
8	0 aver	83	0	+ 85	— 81	3 —	159	28·7	28	38
9	2 —	55	1	+ 14	— 33	7 —	174	27·4	44	30
10	1 —	69	0	+ 55	— 68	7 —	159	29·5	51	32
*	1 +	116	0	+ 228	— 18	3 —	163	28·4	36	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending September 29, is furnished from the Meteorological Office:—

"The *weather* was rather unsettled during the earlier days of the period, with rain in many places. Over the southern parts of the Kingdom the rain was very general, and unusually heavy locally. During the latter part of the week the conditions were generally fair and dry, but slight showers were experienced along our eastern and south-eastern coasts.

"The *temperature* continued a little above the mean in the 'Channel Islands,' and just equalled it in 'England, S.W.,' but in all other districts it was rather below the normal. The height of the maxima which were recorded either on the 23rd or 24th, ranged from 68° in 'England, S.,' to 60° in 'Scotland, N.' The lowest of the minima were registered during the latter part of the period, and ranged from 26° in 'Ireland, N.,' 29° in 'Scotland, W.,' and 30° in the 'Midland Counties and England, N.W.,' to 37° in 'England, N.E.,' and to 47° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in the 'Midland Counties and England, E,' but was less in all other districts, the deficit in most places being considerable. The rain experienced during the first day or two over our southern counties was very irregularly distributed. The newspapers report that at High Wycombe on the 23rd, 2·75 inches fell in an hour and a half.

"The *bright sunshine* was in excess of the mean in most of the western and northern, but was rather deficient in the eastern and southern districts. The percentage of the possible duration ranged from 51 in 'Ireland, S.,' and from 44 in 'Ireland, N.,' to 29 in 'Scotland, E.,' and 28 in the 'Midland Counties and England, S.W.'"

MARKETS.

COVENT GARDEN, *October* 4.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Fuchsias, per dozen	4 0	6 0
Aspidistra, per doz.	12 0	30 0	Heliotropes, per doz.	3 0	6 0
— specimen, each	7 6	21 0	Hydrangeas, per doz.	9 0	18 0
Asters, per dozen ...	3 0	6 0	Lilium Harrisii, per dozen ...	12 0	24 0
Campanulas, p. doz.	6 0	12 0	— lancifolium, pr. dozen ...	9 0	12 0
Chrysanthemums, p. dozen	6 0	15 0	Marguerites, p. doz.	6 0	12 0
Cyperus, per dozen...	4 0	10 0	Mignonette, per doz.	3 0	6 0
Dracæna, each ...	1 0	5 0	Palms, various, each	2 0	10 0
Evergreen Shrubs, in var., per dozen ...	6 0	24 0	— specimens, each	10 6	81 0
Ferns, various, doz.	4 0	12 0	Pelargoniums, scarlets, per doz. ...	3 0	6 0
— small, per 100	4 0	6 0	Primulas, per doz....	4 0	6 0
Ficus elastica, each	1 0	7 6	Solanums, per doz...	12 0	15 0
Foliage plants, doz.	9 0	24 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl....	4 0	6 0	Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Asters, doz. bun. ...	2 0	4 0	Pansies, 12 bun. ...	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	0 9	2 0	Cattleya, 12 blms.	6 0	12 0
— doz. bun. ...	9 0	24 0	Odontoglossum crispum, 12 blms.	2 0	4 0
Chrysanthemums, p. 12 blooms ...	1 6	6 0	Geraniums, scarlet, p. 12 bun.	6 0	9 0
— p. 12 bunches	4 0	8 0	— 12 sprays ...	0 4	0 6
Eucharis, per dozen	3 0	6 0	Pyrethrums, 12 bun.	2 0	4 0
Gaillardias, dz. bun.	1 6	2 0	Roses, Tea, per dozen	1 0	2 0
Gardenias, per dozen	3 0	4 0	— coloured, p. doz.	2 0	4 0
Gladiolus, doz. bun.	18 0	24 0	— yellow (Maréchals), per doz.	1 6	4 0
Lapageria, 12 blooms	1 0	2 0	— red, per dozen ...	0 6	1 0
Lavender, 12 bunches	4 0	6 0	— outdoor, per doz. bunches... ...	2 0	6 0
Lilium Harrisii, doz.	4 0	6 0	Stephanotis, dozen sprays	2 0	3 0
— lancifolium, p. bunch	1 0	2 0	Tuberoses, 12 blms.	0 4	0 6
— — p. 12 blooms	0 9	1 6			
Maidenhair Fern, per 12 bunches ...	4 0	6 0			
Marguerites, 12 bun.	1 0	3 0			
Mignonette, 12 bun.	1 0	3 0			

ORCHID-BLOOM in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, per sieve ...	4 0	6 0	Grapes, Muscat, 2nd quality, per lb. ...	0 9	1 0
,, Dessert, half-sieve	3 0	5 0	,, Guernsey, per lb.... ...	0 5	0 9
Cobs, per 100 lb. ...	25 0	30 0	Melons, each ...	1 0	2 0
Damsons, half-sieve	1 6	2 0	Peaches, large, per doz.	4 0	8 0
Figs, per dozen ...	1 6	3 0	,, small, per doz. ...	1 0	2 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	Pears, p. sieve, small	1 6	2 0
,, English, 2nd quality, p. lb.	0 6	1 0	,, (Dessert), half-sieve	2 0	4 0
Grapes, Muscat, per lb.	1 6	2 0	Pine-apples, St. Michael, each ...	2 0	5 0
			Plums, half-sieve ...	2 0	5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, French, half-sieve	2 0	2 6	Cucumbers, per doz.	1 6	2 6
,, Runners, sieve	1 0	1 6	Marrows, per doz. ...	1 3	2 0
Cauliflowers, p. doz.	1 0	1 6	Mushrooms, per lb.	1 0	1 3
			Tomatos, per lb. ...	0 4	0 5

POTATOS.

Trade slow, except for best samples. Prices:—Snowdrops and Main Crops, 80*s.* to 90*s.*; Hebrons, 70*s.*; Giants, 50*s.* to 60*s.*; Blacklands, 45*s.* to 50*s.* per ton.

SEEDS.

LONDON: *October* 3.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now a good demand for new English Winter Vetches, handsome samples of which can be bought on very tempting terms. Seed Rye keeps steady at the recent advance of 1*s.* per qr. Scarcely any attention is yet devoted to Clover seeds. As regards Canary seed, although the demand for same off the stands is in small compass, values continue wonderfully firm. There is no change in Hemp seed. Linseed is quiet. New Mustard and Rape seed offer at moderate rates. The new Haricot Beans just landed meet a ready sale. Peas unchanged.

POTATOS.

BOROUGH AND SPITALFIELDS: *October* 2.—Quotations ranged from 45*s.* to 85*s.* per ton.

FARRINGDON: *October* 4.—Quotations:—Snowdrops, 80*s.* to 95*s.*; Magnums, 50*s.* to 60*s.*; Hebrons, 65*s.* to 75*s.*; Regents, 65*s.* to 75*s.*; Early Rose, 50*s.* to 55*s.*; Blacklands, 45*s.* to 55*s.*; Kidneys, 60*s.* to 70*s.*; Rounds, 45*s.* per ton.

STRATFORD: *October* 3.—Quotations:—Magnums, Dark-land, 45*s.* to 50*s.*; do., Light-land, 50*s.* to 65*s.*; Sutton's Abundance, 60*s.* to 70*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 135*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 65*s.* to 130*s.*; do., specially picked, 135*s.*; do, inferior, 30*s.* to 60*s.*; Mixture, 90*s.* to 120*s.*; and Straw, 25*s.* to 40*s.* per load.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BLUE BEANS: *Silly Season.* There is nothing unusual in this. The variety is well known as the "purple podded Bean." The flowers are also of a lilac colour. It is a very productive variety. Some specimens were shown at the Crystal Palace on Saturday last.

BOOKS: *Anxious to Learn. Choice Stove and Greenhouse Plants*, and the *Orchid Manual*, both edited and published by Mr. Williams, Victoria and Paradise Nurseries, Holloway; *Trees and Shrubs for English Plantations*, by Augustus Mongredien, published by John Murray, Albemarle Street, London, W.

EUCHARIS: *W. M.* Yes; certainly there are a few Eucharis-mites, but as they have not penetrated far, you may save your bulbs. Wash them, dust them thoroughly with Pyrethrum powder (flea-powder), and then grow them on vigorously. Keep them in a house away from other bulbous plants.

FRUIT: *Bon Chrétien.* The imperial bushel contains about 42 lb. of Apples. Pears may be slightly heavier. The Covent Garden sieve contains 28 quarts, and is therefore 4 quarts less than an imperial bushel. The price for good Williams' Bon Chrétien may be about 2*s.* 6*d.* per half-sieve. Why not inquire of the salesman? Thank you for the donation of 2*s.* 6*d.* for the Gardeners' Orphan Fund.

GARDENERS' ORPHAN FUND: Received with thanks, W. T. H. Clenwick, 4*s*; Bon Chretien, 2*s.* 6*d.* Sent to Secretary.

INSECTS ON LAWN: *J. W. T.* The larvæ arrived dry and shrivelled. It is apparently that of the Fern Chafer (Rhizotrogus solstitialis). By all means encourage the birds; the grass will soon recover from their operations in search of the grubs. *R. McL.*

INSECTS: *A Subscriber, Worksop.* The grubs are those of a common weevil (Otiorhynchus). They feed on a variety of different plants, and it is thus impossible to say how they were introduced. You might try gas-water or some other insecticide; it is always difficult to deal with these underground larvæ. Search for the perfect beetles at night with a light in the spring, by shaking the plants over sheets of paper. *R. McL. F. Martin.* It would have been more satisfactory to have had specimens of the perfect beetles, but there can be little doubt the grubs are those of the Fern Chafer (Rhizotrogus solstitialis). Use gas-water copiously, or petroleum emulsion. The birds, if not molested, will probably do more good than any insecticide, and the grass will speedily recover from any damage caused by them when in search of the grubs. *R. McL.* The formula for the above emulsion is as follows:—Dissolve ½ lb. hard soap in 2 quarts of boiling water, and mix thoroughly till it forms a creamy liquid; dilute with water to 2 gallons before using it. This is too strong for some kinds of plants, and experiments should be made at various strengths, so as to kill the insects and not injure the vegetation.

LARVÆ ON APPLE TREES: *Cherry Ripe.* The larvæ in the bark of the Apple are those of some small beetle, impossible to identify without seeing the perfect insect. The other creatures are a young wood-louse, and a "red spider." *R. McL.*

NAMES OF FRUITS: *J. A.* Grape, Gros Maroc.—*J. R. Smith.* Pear Brown Beurré.—*W. H.* Apple Small's Admirable.—*A. E. C.* 1, Easter Beurré; 2, White Doyenné; 3, Beurré Diel; 4, Beurré d'Amanlis; 5, Beurré Superfin.—*R. C. H.* 1, Hessle; 2, Beurré d'Amanlis; 4, Colmar d'Été; 5, Doyenné Gris.—*J. R. H.* 1, Beurré d'Amanlis; 2, Bergamotte d'Esperen; 3, Bonne d'Ézée; 4, Marie Louise; 5, Verulam; 6, Maréchal de la Cour.—*A. E. F.* 1, Beurré Diel; 2, Aston Town; 3, Beurré d'Amanlis; 4, 5, Williams' Bon Chrétien; 6, not recognised.—*H. W. H.* Pear Beurré Bosc.—*George Davison.* 1, Beurré d'Amanlis; 2, Bergamotte Espèren; 3, Hacon's Incomparable; 4 and 6, Duchesse d'Angoulême; 5, not recognised.—*D. McD.* 1, Winter Redstreak; 2, Tom Putt; 3, Autumn Pearmain; 4, King of the Pippins.—*Nomenclature.* Long, Beurré Bachelier; round, Doyenné Boussoch.—*W. B. V.* 1, Doyenné Gris; 2, Duchesse d'Angoulême; 3, Brown Beurré; 4, Duchesse d'Angoulême; 5, Vicar of Winkfield; 6, Uvedale's St. Germain.—*No name.* (Great Western consignment note at bottom of box, fruit packed in hay). 1, Beurré Diel; 3, Maréchal de la Cour; 4, Van Mons Leon le Clerck; 6, Marie Louise d'Uccle; Easter Beurré and Gansell's Bergamot numbers.—*J. Sheppard.* Apple, Dumelow's Seedling; Pear, Swan's Egg; Damson, probably Farleigh.

NAMES OF PLANTS: *C. W.* Saponaria officinalis, double fl. var.—*W. A. S.* Saponaria officinalis, double fl. var.—*J. S. S.* The Composite is Chrysanthemum coronarium. The blue flower is Nicandra physaloides, a Solanaceous plant, which often comes up in such situations, being probably introduced in soil from the greenhouse.—*W. T., Bath.* Yours is Dendrobium moschatum, which is not a variety of D. fimbriatum. It is not unusual for it to flower twice from the same growth, but your plant with nineteen spikes must be a very fine one.—*J. L. & S.* Grammatophyllum Fenzlianum. *Wm. W.* Orchids, next week; 2, Aster, Robert Parker, or an allied form; 3, Centaurea atropurpurea; 4, Chelone barbata.—*A. W.* Leucophytum Brownii.—*A. D. L.* 1, Rudbeckia californica; 2, Rudbeckia laciniata; 3, Melilotus cœrulea; Melilotus officinalis.—*C. K. Brighton.* Staphylea pinnata, the Bladder-nut, native of Southern Europe. —*C. G.* 1, Portugal Laurel in fruit, Cerasus lusitanica; 2, Bidens cernua, a waterside weed, allied to the Sunflower.

NOMENCLATURE QUESTIONS: *Nomenclature.* Retinospora, as a genus, has no separate existence. It is represented by certain stages of growth of various species of Cupressus and Thuya. (1) It is a matter of opinion. Bentham and Hooker placed them in Thuya, and the *Kew Index* follows suit. For botanical reasons, which we need not give here, we think they are more appropriately placed in the genus Cupressus, section Chamæcyparis, or some prefer to consider the latter section as a distinct genus. (2) The rule is to take the oldest *available* name in the genus to which the plant belongs; but there is rising a new school which enjoins us to take the oldest specific name, whatever it may be. The succeeding volume of the *Kew Index* will probably settle the points you raise. We cannot devote the necessary time and research to the matter, but we should think Prunus Armeniaca (Linn.), and P. Persica, for the Apricot and the Peach respectively, would be very appropriate, not forgetting to spell the specific name with an initial capital, to indicate that the name was once of generic value. (3) Azalea pontica and Rhododendron ponticum. The same rule applies as in case No. 2. We must wait and see what *Kew Index* will do. Our opinion is, that we shall do well in gardens to follow the *Kew Index* as closely as possible; *Nicholson's Dictionary*, though antecedent, is based on the same principles. We also think changes in nomenclature should only be accepted at the hands of competent monographers, who have, or have had, all the possible materials before them. For instance, we do not think it would be wise for anyone to alter names, merely because a change may seem to him (and perhaps is really) desirable. The change should be effected, if at all, by some responsible botanist after, and as the result of actual comparative examination of the genus, and the literature relating to it. Again, there are certain cases where garden exigencies may necessitate, or at least render desirable, a departure from strict botanical usage. In such a case, we must consider what is the object in view. Is it strictly scientific? Then stick to scientific usage, as that which tends most directly to the establishment of the truth, so far as we can grasp it. Is the object merely a matter of convenience, to enable us to know what our friends are talking or writing about, and with no desire to study the plant botanically? Then we

need follow no other rules than those of priority and good taste. It is a great mistake to apply Latin names to garden varieties under such conditions, and gives rise to great confusion between forms as they exist under natural conditions, and forms which owe their existence to the art of the gardener.

Potato Onion: *F. H.* It usually forms under ground a cluster of bulbs of irregular shape, and not a single bulb, as yours has done. Usually a weak bulb or clove will grow into a single bulb only.

Rose: *G. M.* Send your Rose to some grower.

Runner Beans: *A Weekly Reader.* It is no uncommon thing for cross-breds and selections to run back in form, colour, and other points to some more or less remote progenitor. Constant weeding out of stocks by the seed-growers does much in keeping strains true, but some plants, perhaps 2 or 3 per cent., revert.

Sunken Vine Border: *J. B.* The present is the best time in which to replant the Vines, or at least lift the roots to a higher level in the sunken part. If the border is old, get some new materials, and make a new border outside, just 1 foot or so wider than the root extend. See our Calendar this week for full directions.

Vegetable Teratology: *Aster.* Was published by the Ray Society several years ago, and is now rarely to be met with. A German revised edition has been published within the last few years.

Vinery, Cold Frames, Plum Trees, Bulbs: *X.* First of all buy a manual on *Vine Culture*, say Barron's, Thomson's, Molyneux's, or some other modern treatise. The information afforded by a perusal of a manual will prevent any great departure from proper practice. The cold frames can in winter be used for the cultivation of Violets, Freesias, Calceolarias of the herbaceous section, Brompton and Intermediate Stocks, Mignonette. Auriculas and Strawberries in pots can be protected in them. Of course, with plenty of air admitted when there is no frost. Salading, such as Lettuce, may be planted in them. With a mild bottom-heat early Lettuce, Carrots, Radishes, &c., may be raised, also Potatos, Turnips, but none of these vegetables should be sown till after the New Year. Whether used for forcing or cool culture, the side should be banked round with turves or litter or hot manure as the case may be. The Plum tree, if not very aged, may be transplanted forthwith, and for directions see this week's Hardy Fruit Calendar. If an old tree be treated, lift one half of the roots this year, the other half being lifted next autumn. Bulbs out-of-doors may consist of Daffodils in variety, especially the trumpet, Incomparabilis and Poeticus sections; Tulips, single, double, Parrot, Florentine and late Florists' varieties. Hyacinths, giving preference to single-flowered varieties; Lilies of all species; Frittilaria (Crown imperialis), F. uniflora, Gladiolus in the summer, great variety. If you have a warm border facing south with buildings on the north side, plant Montbretias, Sparaxis, Ixias, Tritonias, Crocosmas, &c.

Communications Received.—Alex. McKay.—Jas. A. Smith.—J. G. S. S.—M. Chapman.—H. G. H.—Basile.—D. Crombie. W. K.—C. E. L.—Rosa.—H. M.—R. M.—D. T. F.—H. M.—J. A.—A. E. G.—J. B.—A. C. F.—W. W.—Dr. Cooke—J. V.—J. H.—W. B.—W. E. G.—H. P.—C. C. H.—W. M.—W. T. T. D.—C. H. Wood.

Specimens Received.—A. C.—A. M. D., Alnwick.—A. W.—Colosal.—A. W. G.—D. & Co.—W. N.—W. S.—G. A.—Constant Reader.

DIED.—At 25, Daneville Road, Denmark Hill, September 30, 1894, Walter Charles Tedder, aged 42 years, the youngest and dearly-loved son of James and Emma Deffner Tedder, of 149, Kingsland Road, who return their sincere thanks to his many sympathising friends for their kind inquiries during his protracted illness.

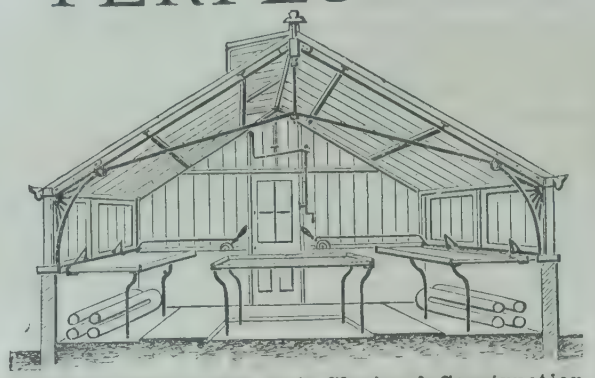
CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

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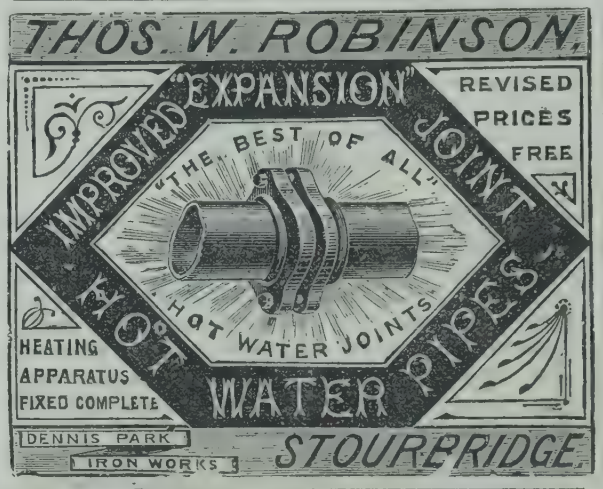
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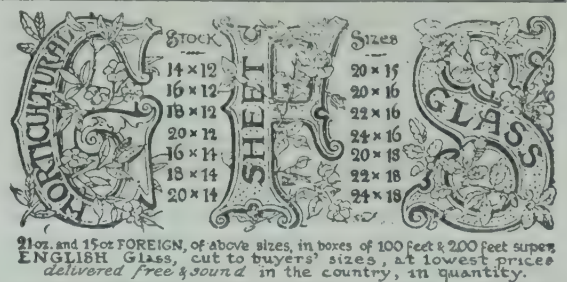
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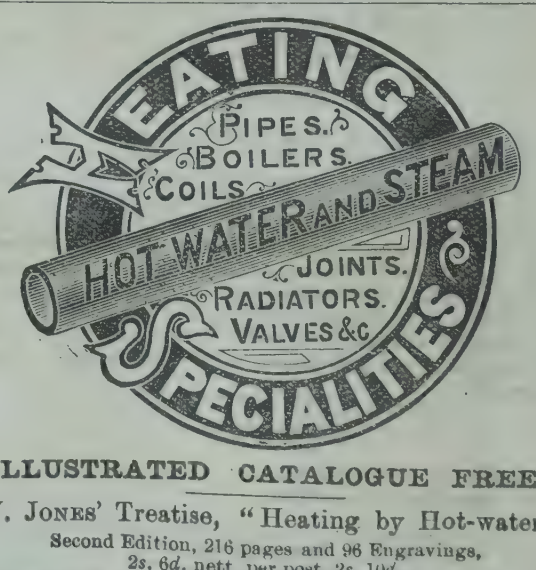
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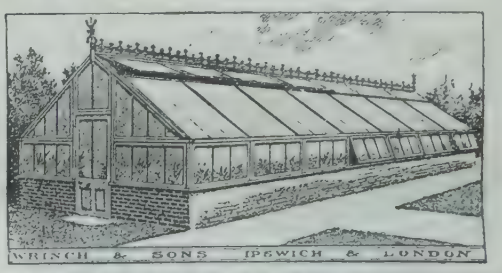
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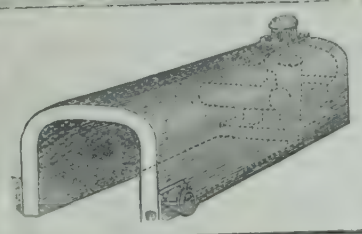
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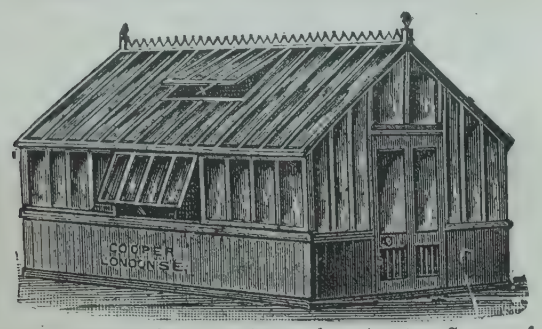
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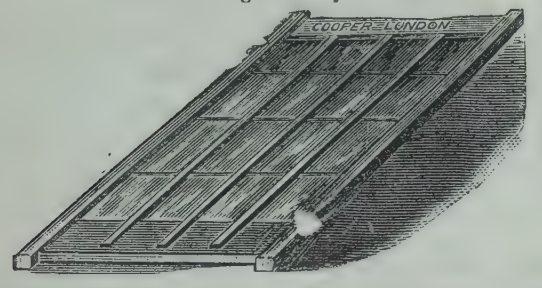
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9 ft.	6 ft.	7 ft. 3 in.,	4 ft. ,,	4 0 5 10
10 ft.	7 ft.	7 ft. 6 in.,	4 ft. 6 in. ,,	5 0 6 15
12 ft.	8 ft.	8 ft.,	5 ft. ,,	6 0 8 0
15 ft.	10 ft.	8 ft. 6 in.,	5 ft. ,,	8 10 12 0
20 ft.	10 ft.	9 ft.,	5 ft. 6 in. ,,	12 0 16 0
25 ft.	10 ft.	9 ft.,	5 ft. 6 in. ,,	16 0 21 0
50 ft.	10 ft.	9 ft.,	5 ft. 6 in. ,,	30 0 40 0
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These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

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,, Brown Fibrous Peat	,,	0 2 0
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,, Loose Peat	,,	0 1 9
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Open.	*s.* *d.*	Open.	*s.* *d.*
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12 ft. by 2 ft.	3 0	12 ft. by 4 ft.	5 6
12 ft. by 2½ ft.	3 6	12 ft. by 5 ft.	6 6
12 ft. by 3 ft.	4 0	12 ft. by 6 ft	8 0

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The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

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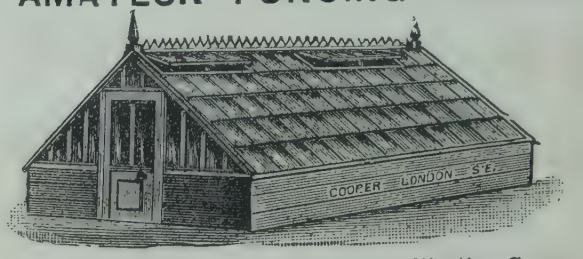
Well and substantially constructed, are warranted waterproof, complete with door, ventilator, and slide, from 20*s.*



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7 ft. by 5 ft.	36*s.*
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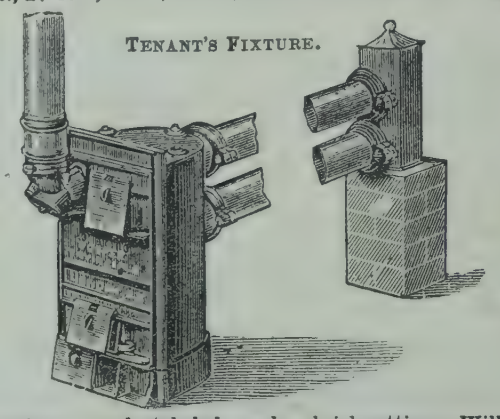


The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

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Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft., £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s*; No. 6, 500 ft., £9; of 4-in. pipes.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

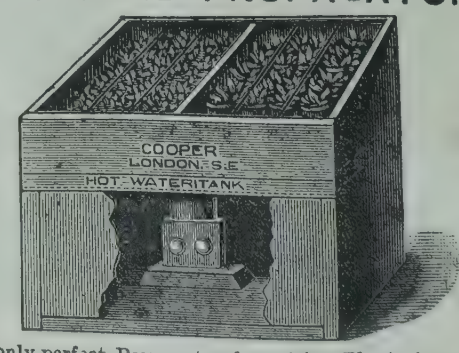
Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 45 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

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The only perfect Propagator for raising Plants from seeds, slips, or cuttings:—

1 ft. 8 in. by 1 ft. 6 in.	£1 0 0
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4 ft. by 2 ft.	1 8 0

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10s. per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
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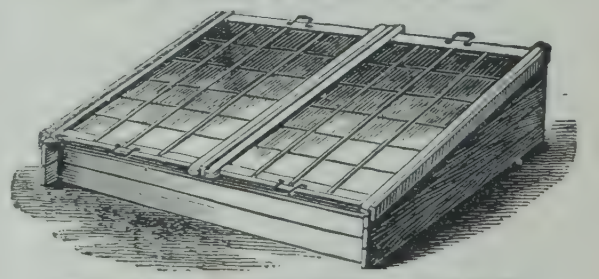


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Barking Side.

IMPORTANT to GENTLEMEN, FLORISTS, and Others.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Carlton House, Red Bridge Lane, Barking Side, two miles from Leytonstone, Ilford, and Snaresbrook Stations, on MONDAY NEXT, October 15, at 12 o'Clock, by order of Mr. Baylis, who is leaving the neighbourhood, a quantity of STOVE and GREENHOUSE PLANTS, 1000 Cinerarias in pots, 100 Pelargoniums, Callas, &c. Also 20 Specimen Palms, a few Orchids, Azalea indica, Camellias, 300 choice Chrysanthemums, best sorts, in large pots; 850 Echeveria secunda glauca, and other Plants. Also 50 Cast Flower-pots, Mowing-machine, Water-barrow, &c.

May be viewed. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Feltham, Middlesex.

CLEARANCE SALE of unusually well-grown NURSERY STOCK, by order of Messrs. Charles Lee & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Lee's Nursery, Feltham, Middlesex, ten minutes' walk from Feltham Station, on TUESDAY NEXT, October 16, at 12 o'Clock, thousands of splendid specimen CONIFERS and EVERGREENS, all beautifully grown and recently transplanted—Golden Yews, Silver and Golden Hollies, Cupressus, Retinosporas of sorts, Green and Variegated Aucubas, 2 to 4 feet; Oval-leaf Privet, 2 to 3 feet; Green Hollies, 15 inches to 10 feet; 600 Cupressus erecta viridis, Argentea variegata, their splendid new silver variegated Cypress; RHODODENDRONS, best named sorts, from 2 to 5 feet. Also hundreds of Standard and Pyramid APPLES and PEARS, best Dessert and Kitchen kinds; and a quantity of NUTS and FILBERTS of the best sorts.

May be viewed any day prior to the Sale. Catalogues had on the Premises; at the Royal Vineyard Nursery, 34, Hammersmith Road, W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Westerham, Kent.—Wednesday Next.

ABSOLUTE CLEARANCE SALE of NURSERY STOCK, PLANTS, SEEDS, TOOLS, &c., by order of Mr. Arthur Jeffkins, who is relinquishing the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Hosey and Darenth Nurseries, Westerham, on WEDNESDAY and THURSDAY NEXT, October 17 and 18, at 12 o'Clock each day, a large quantity of well-grown EVERGREENS and CONIFERS, in great variety; 1000 Privet, 2000 Standard, Dwarf, and Climbing ROSES of the best-named Teas and Hybrid Perpetuals: 1200 Black and Red CURRANTS, FRUIT TREES, FLOWERING SHRUBS, 3000 QUICK, 1000 bushy Portugal and other LAURELS, LIMES, HORSE CHESTNUTS, THORNS, POPLARS, IVIES in pots, CLEMATIS, GREENHOUSE PLANTS, 60 LIGHTS and FRAMES, TOOLS, and SUNDRIES. Vegetable and Flower SEEDS lotted in collections. FLOWER SHOW BOXES, &c.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Loughton, Essex.

Three-quarters of a mile from Loughton Station, G.E.Ry.

TWO DAYS' SALE of exceptionally well-rooted NURSERY STOCK, grown to the greatest perfection, and now in splendid condition for removal, by order of Messrs. Wm. Paul & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the premises, the Sale Nurseries, Loughton, on THURSDAY and FRIDAY NEXT, October 18 and 19, at Twelve o'Clock each day, large quantities of green and variegated HOLLIES, fine specimens; LAURELS, thousands of CONIFERS in great variety, Golden and other Yews, specimen Aucubas, hundreds of Rhododendrons, including Ponticums, hybrid Seedlings and named sorts, Standard Ornamental Trees, Limes, Elms, Poplars, &c.; also Standard and Dwarf Fruit Trees, consisting of Apples, Pears, Cherries, and Plums; Standard Dwarf and Climbing Roses of the best named sorts, and other Stock.

May now be viewed, catalogues had on the premises; of Messrs. Wm. Paul & Son, the Nurseries, Waltham Cross, Herts; and of the Auctioneers, 67 & 68, Cheapside, E.C., and Leytonstone.

Sunningdale, Berks.

Close to the Railway Station.

THREE DAYS' ABSOLUTE CLEARANCE SALE of beautifully grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Sunningdale, on TUESDAY, October 23, and TWO FOLLOWING DAYS, at 12 o'Clock each day, by order of Mr. Charles Noble, a splendid lot of best named kinds of RHODODENDRONS, for which these Nurseries are noted, AZALEAS, KALMIAS, thousands of flowering Shrubs in great variety, a large quantity of Mahonia aquifolia, useful for Cover planting; many thousands of Conifers for Ornamental Planting, Evergreens for Hedges, &c., from 3 to 9 feet in height; several thousands of oval-leaved Privet, 2 to 4 feet; a fine Collection of Standard and Pyramid Apples, Pears, and other Fruit Trees, Gooseberries, Currants, Ornamental Trees for Street, Avenue, or Park Planting, and other Stock, the whole in capital condition for removal.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Wednesday Next.

1000 LILIUM AURATUM, just received from Japan; extra-fine Selected Bulbs.

MESSRS. PROTHEROE AND MORRIS will include the above in their BULB SALE on WEDNESDAY NEXT, October 17, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

HIGHLY IMPORTANT SALE

Of the Remaining Portion of the Famous

PICKERING LODGE COLLECTION

OF

ESTABLISHED ORCHIDS,

Together with the

GARDEN TOOLS, GREENHOUSE PLANTS, CARRIAGES, and a portion of the

WELL-KNOWN CELLAR of CHOICE WINES

formed by the late George Hardy, Esq. The Orchids are reputed to be the Grandest Lot of Plants in the North of England, having won the Highest Honours at Manchester and other leading Shows.

By Order of the Executors, without the slightest Reserve.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION on the Premises, Pickering Lodge, Timperley, near Manchester, on TUESDAY NEXT, October 16 and TWO FOLLOWING DAYS, at half-past 12 o'Clock precisely each day, the Remaining Portion of this far-famed

COLLECTION of ORCHIDS.

The whole of the plants are in the best possible health, and are remarkable alike for their size and the grandeur of the varieties. For upwards of twenty years the late Mr. Hardy was an enthusiastic buyer and a keen judge, and made a practice of discarding from his collection all varieties that did not reach the highest standard of excellence. In order that intending buyers may judge for themselves of the beauty of the varieties, an effort will be made as far as practicable to offer everything in flower.

Amongst the numerous items to be offered will be found the following:

- Cypripedum œnanthum superbum
- ,, Statterianum
- ,, Swinburnii
- ,, Leeanum gigantum
- ,, Lathomianum giganteum
- ,, Io Grande
- ,, Arthurianum
- ,, insigne Studleyana
- ,, ,, giganteum
- ,, Godseffiana superbum
- ,, insigne aureum
- ,, Amesiana
- ,, insigne Sanderæ
- ,, javanico superbiens
- ,, Leeanum giganteum
- ,, Morganiæ
- ,, insignæ Ernestii
- ,, Bartetii
- ,, insigne Wiottii
- ,, ,, albens
- ,, Patersonii
- ,, Sallierii
- Lælio-Cattleya calystoglossa
- ,, bella
- Lælia anceps Schroderii
- ,, Schroderiana
- ,, Tressideriana superba
- ,, anceps Dawsoni
- ,, ,, Schroderæ
- ,, ,, Schroderiana
- ,, Gouldeana
- ,, anceps Prothercæana
- ,, elegans Turnerii
- Cœlogyne cristata alba
- ,, Lemoniana
- Eulophiella Elisabethæ
- Dendrobium Dominianum Stand Hall var., two plants
- Dendrobium splendidissimum Leeanum, three plants
- ,, Schroderianum, three plants
- ,, nobile nobilius, several
- ,, ,, giganteum, Stand Hall var., three plants
- ,, nobile Cooksonii, several
- ,, Wardianum album
- ,, Dominianum
- ,, nobile Backhouseana
- ,, ,, Wallichianum
- ,, crassinode alba
- ,, nobile nivalis
- ,, splendida grandis
- ,, nobile, Hardy's var.
- Odontoglossum Edwardi
- ,, Wilckeanum
- ,, Halli
- ,, Ruckeriana
- ,, Hebraicum
- ,, Andersonianum, Stand Hall var.
- Cattleya Hardyana
- ,, Massiana
- ,, Bluntii
- ,, Claesianum
- ,, Reichenbachiana
- ,, Trianæ alba
- ,, Schroderæ alba
- ,, exoniensis
- ,, aurea
- ,, Dowiana
- Cymbidium eburneum
- Lycaste Skinneri alba
- Sobralia, pure white
- Vanda Sanderiana
- Dendrochilum glumaceum

150 PHALÆNOPSIS SCHILLERIANA, AMABILIS, SANDERIANA, P. GLORIOSA, amongst which are extra fine plants, numerous Cattleyas, Odontoglossums, Oncidiums, Dendrobiums, Vandas, Aërides, Masdevallias, Lælias, Sophronites, &c.

STOVE AND GREENHOUSE PLANTS.

PALMS, FERNS, CROTONS, AMARYLLIS.

Garden Implements, Tools, Frames, Hand-barrows, Mowing Machines, Grindstone, capital Barouche, and a Mail Phaeton.

Together with a portion of the late Mr. Hardy's

WELL-KNOWN CELLAR OF CHOICE WINES,

comprising 22 doz. Claret Château Kerwen, vintage 1884; 11 doz. Claret Château Leoville; 7 doz. Port, Sandeman's; 24 doz. Port, 1 doz. Bots.; 20 doz. Champagne, Deutz and Gueloerman Gowlac; 34 doz. Do., Veuve Clicquot; 3 doz. Magnums; 11 doz. Bots. Hennessey's old Brown Brandy, 1875; 17 doz. Bots. Geo. Roe's old Irish Whisky.

May be viewed. Catalogues may be obtained of Mr. HOLMES, the Head Gardener, on the Premises, and of the Auctioneers, 67 and 68, Cheapside London, E.C.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

Tuesday, October 23.

The well-known BINROCK COLLECTION OF ESTABLISHED ORCHIDS, many of which are exceptionally fine specimens, several of them being from 2 to 3 feet through. By order of John M. Keiller, Esq., who is leaving Dundee.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, October 23, at half-past 12 o'Clock, the above important collection of ESTABLISHED ORCHIDS, amongst the principal plants special attention is called to the following:—

- Angræcum sesquipedale
- Cattleya Bowringiana
- ,, crispa, grand specimen
- ,, Dowiana aurea
- ,, Sanderiana
- ,, Lawrenceana, 20 bulbs
- ,, Mendeli, 8 growths, exceptionally fine variety
- ,, Skinneri alba, 9 bulbs
- ,, Schroderæ, fine variety
- Cymbidium Lowianum, fine specimens
- ,, eburneum
- Dendrobium Leechianum
- ,, nobile Sanderiana
- Dendrobium Phalænopsis
- Dendrochilum glumaceum
- Lælia anceps Hillii
- ,, ,, Sanderiana
- ,, ,, Stella
- ,, ,, Williamsiana
- ,, purpurata Brysiana
- Masdevallia Chelsoni
- Odontoglossum Alexandræ, including several fine varieties
- ,, Andersonianum
- ,, Wildseanum
- Oncidium Marshallianum
- Thunia Marshalliana
- Phalænopsis, in variety

And many others.

On view morning of Sale. Catalogues are now ready and may be had on application to the Auctioneers, 67 and 68, Cheapside, London, E.C.

Groombridge, near Tunbridge Wells.

HOLLAMBY'S NURSERIES.

TWENTIETH GREAT ANNUAL SALE of beautifully-grown NURSERY STOCK, comprising about 400,000 CONIFERS, ORNAMENTAL TREES, SHRUBS, and FOREST TREES. By order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, as above, close to Groombridge Railway Station, on THURSDAY and FRIDAY, October 25 and 26, at 12 o'Clock precisely each day,

- 45,000 Larch, 2 to 3 feet and 3 to 4 feet
- 50,000 Ash, 2 to 4 feet
- 50,000 Spanish Chestnut, Birch, Hazel, and Alder
- 100,000 strong transplanted Quick
- 148,000 Thuja Lobbii, Cupressus, Firs, Abies, Aucubas, and other Conifers; also Rhododendrons, Roses, and flowering Shrubs
- 5,000 Laurels, of sorts
- 2,000 English Yews, 2 to 3½ft.

May be viewed any day prior to Sale. Catalogues can be obtained at the Nurseries, or on application to the Auctioneers, 67 and 68, Cheapside, London, E.C.

Stapleford, near Nottingham. Absolute clearance.

SALE of thirty acres of well-grown NURSERY STOCK, without the slightest reserve, the freehold estate having been sold.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION on the Premises, Frettingham's Nurseries, Stapleford, near Nottingham, ten minutes from Sandiacre and Stapleford Station (Midland Railway), on MONDAY, October 29, and THREE FOLLOWING DAYS at 12 o'Clock precisely each day, the FIRST PORTION of this extensive STOCK, comprising 3,000 Gold and Silver HOLLIES, for which this Nursery has been noted, Aucubas, Rhododendrons, and Laurels in large quantities, 20,000 Conifers, a wonderfully fine assortment in various sizes, a grand stock of Golden Yews, a remarkably fine lot of Cupressus Lawsoniana, including the best varieties, 5000 Fruit Trees, principally Standard and Pyramid APPLES (many large fruit-bearing trees amongst them), also Pears, Plums, Ornamental Trees, &c.

May be viewed any day prior to the Sale. Catalogues may be had of Mr. Frettingham on the Premises, of ARTHUR T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The STOCK is particularly well-rooted, and the NURSERY bears a high reputation for the safety with which the STOCK can be transplanted.

Perry Hill, Cliffe, near Rochester.

Adjoining Cliffe Station, S.E.R.

GREAT ANNUAL SALE of FRUIT TREES.

By order of Mr. W. Horne.

IMPORTANT to MARKET GARDENERS, FRUIT GROWERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises as above,

100,000 FRUIT TREES.

Fuller particulars will appear.

Hounslow, Middlesex—Preliminary Notice.

EXPIRATION OF TENANCY.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. S. Spooner & Sons, Hounslow Nurseries, Middlesex, to SELL by AUCTION, on the Premises, early in November, the GREATER PORTION of the STOCK now growing on their Nursery adjoining the Hounslow Station (S. W. R.), including about 20,000 Fruit Trees. Date and further particulars will shortly appear.

Monday Next.

PALMS, in variety; DRACÆNAS, CLIVIAS, DAPHNES, 100 FERNS (two sorts), 60 AZALEA INDICA, EUONYMUS, LAURUSTINUS, RETINOSPORAS, &c., from Belgium. Also ORNAMENTAL PLANTS, 20 lots DECORATIVE PALMS, Hardy Border BULBS and PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, October 15, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

An IMPORTATION of ESTABLISHED and SEMI-ESTABLISHED ORCHIDS, comprising:

Angræcum sesquipedale	Eulophiella Elizabethæ
,, superbum	,, new species
,, citratum	Phajus Humbloti
,, metallique	Grammatophyllum Ellersi,
,, polystachium	and others.

Also an IMPORTATION, Mr. A. Vander Bogaerde, comprising:

Cattleya labiata	Lælia autumnalis
,, citrina	,, anceps
,, Trianæ	Odontoglossum Rossi majus,
,, Skinneri	and others.

Epidendrum vitellinum majus.

Also IMPORTATIONS from Messrs. F. Horsman & Co., of Lælia harpophylla and Cattleya Schilleriana, and ORCHIDS in FLOWER.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, October 16, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.—Without Reserve.

VALUABLE ESTABLISHED CYPRIPEDIUMS,

The cream of an extensive collection, whose varietal names do not fully represent their high-class merit, comprising—

Cypripedium Niobe, Short Hills variety	Cypripedium Greyanum
,, magniflorum	,, Pelias
,, Germinyanum superbum	,, Mrs. W. A. Roebling
,, Hebe	,, Miss Emma M. Roebling
,, Allanianum	,, Seedling Lawrenceanum × Marshallianum

And many others mostly superior to the type of the variety known. All are in perfect condition.

Also the following Duplicate CYPRIPEDIUMS from a well-known Private collection, comprising—

Cypripedium insigne Ernestii	Cypripedium Arthurianum
,, Brownii	,, Chas. Canham
,, Dominiana albens	,, Fascinator (F.C.C.)
,, Fraserii	,, Harrisianum superbum
,, ganesa	,, lucidum
,, Buchanianum	,, Morganiæ
,, microchilum	,, Orphanum
,, Lawrenceanum Hyeanum	,, T. B. Haywood

And MILTONIA FASTAVA (very rare), CATTLEYA × CALUMNATA, and a quantity of rare MASDEVALLIAS, PLEUROTHALLIS, and Unflowered SEEDLING CYPRIPEDIUMS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, October 19, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

Splendid Importations from Holland.

A fine Collection of beautifully-grown small ORNAMENTAL SHRUBS, for Pot and Border Culture; AZALEA MOLLIS, RHODODENDRONS, 5000 SPIRÆA JAPONICA, S. PALMATA, DIELYTRA SPECTABILE, FRUIT TREES, 700 choice-named Dwarf ROSES, a collection of PÆONIES, 3000 Dutch LILIUMS, a collection of choice NARCISSUS, 70,000 Best Berlin LILY of the VALLEY CROWNS, PALMS from Ghent, 40,000 FREESIAS, 50,000 French FORCING BULBS, LILIUM CANDIDUM, L. HARRISI, L. SPECIOSUM ALBUM, ROSEUM, and RUBRUM; CARNATIONS and PICOTEES, GLADIOLI, 10,000 South African TUBEROSES, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 17.

On view morning of Sale, and Catalogues had.

Third Annual Sale.—The Nursery, Downham Market.

Close to the Railway Station.

To MARKET GARDENERS, FRUIT GROWERS, and OTHERS.

IMPORTANT and EXTENSIVE SALE of valuable NURSERY STOCK, comprising 15,000 FRUIT TREES, specially grown for Market Gardeners and Fruit Growers, including the best and most profitable Market Sorts, viz., 600 ORNAMENTAL SHRUBS, 1,500 ROSES, 1000 CARNATIONS, 100 BEGONIAS, 3500 SPRUCE, FIR, and BEECH, 5000 MYROBELLA, &c., which

MR. CHARLES HAWKINS is favoured with instructions from Messrs. Bird & Vallance, to SELL by AUCTION, at the Nursery, Downham Market, on FRIDAY, October 19, 1894, commencing at half-past 10 o'Clock precisely, in consequence of the number of lots.

Catalogues will be forwarded upon application to Messrs. BIRD AND VALLANCE, Bridge Street, Downham Market; or of the Auctioneer, Downham Market, and Bank Chambers, King's Lynn.

Thursday Next.

CONSIGNMENT FROM BELGIUM.

200 AZALEA INDICA, 100 A. MOLLIS, 36 DRACÆNAS, 24 ASPIDISTRAS, and 24 CAMELLIAS from Belgium.

MESSRS. PROTHEROE AND MORRIS will include the above in their BULB SALE on THURSDAY NEXT, October 18, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

In the Royal Exchange Sale Rooms, Glasgow.

On WEDNESDAY, October 24, at 12 noon. Important Public Sale of Collection of RARE ORCHIDS, formed by the late Thomas Dunlop Findlay, Esq., of Easterhill and Bonnington, Lanark. Removed from Bonnington for convenience of Sale.

MESSRS. ROBERT M'TEAR AND CO. will SELL the above by AUCTION in their Rooms, North Court, Saint Vincent Place, Glasgow, on WEDNESDAY, October 24, at 12 o'Clock noon prompt.

On view on Tuesday, October 23, from 10 A.M. to 5 P.M., and morning of Sale. Catalogues on application to the Auctioneers, Royal Exchange Sale Rooms.—October 8, 1894.

ORCHIDS! ORCHIDS!

JOHN COWAN & Co.

(LIMITED),

Have recently received large and splendid importations of the following and other Orchids:—

CATTLEYA CRISPA, C. HARRISONIÆ, C. SCHILLERIANA, C. SCHOFIELDIANA, C. LABIATA WARNERII.

LÆLIA HARPOPHYLLA, L. XANTHINA, L. PUMILA, L. CINNABARINA.

ONCIDIUM FORBESII, O. CRISPUM.

MILTONIA CANDIDA GRANDIFLORA, M. CLOWESII, M. MORELLIANA, M. CUNEATA.

SOPHRONITIS GRANDIFLORA, S. G. ROSEA, S. COCCINEA, and many others.

Descriptive and Priced Catalogues post-free on application.

The Co. have at present a large and splendid lot of CATTLEYA LABIATA AUTUMNALIS in sheath, all of which were imported during the past spring, and are consequently flowering for the first time in this country.

The Co. have also a grand lot of DENDROBIUMS in great variety, all of which have made fine growths, and will flower freely in their season.

The Co. have also a large and fine GENERAL STOCK of ORCHIDS, consisting of tens of thousands of fine healthy plants.

INSPECTION IS EARNESTLY INVITED.

DESCRIPTIVE and PRICED CATALOGUES Post Free on application to—

JOHN COWAN & CO., Ltd.,

THE VINEYARD and NURSERIES,

GARSTON, near LIVERPOOL.

To Nurserymen and Florists.

BUSINESS for SALE, in wealthy country town. Long Lease. Good Houses, well stocked. Fine opportunity for Business Man. Rents moderate.—Full particulars of Mr. TURRALL, Auctioneer, Tunbridge Wells.

NURSERY, LONDON, N., FOR SALE.

Eight Greenhouses, Sheds, Van, Stock, &c.

Good supply of Water; Long Lease, Low Ground Rent, no Taxes; a Bargain.

No reasonable offer refused. Full particulars, B. A., 8, Fore Street, Edmonton, London, N.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

COVENT GARDEN MARKET.—To Fruit and Potato Salesmen, Seed Merchants, &c.—TO BE LET, with Immediate Possession, in rear of Piazza, with entrance from James Street, and covered yard for loading and unloading, Two extensive Basement Warehouses, fitted for Bananas, but suitable for other purposes; Store or Sale Room on Ground Floor, 28 ft. 6 in. × 26 ft. 6 in.; Extensive Warehouses, 2nd, 3rd and 4th Floors, with Hydraulic Lift throughout.

Apply to Messrs. S. CHADWICK AND PILDITCH, 17, Parliament Street, S.W.

Luton, Beds.

FOR IMMEDIATE DISPOSAL.

FLORIST'S, SEED, and FRUIT BUSINESS, centrally situate in one of the best streets of the thriving and rapidly-growing town of Luton. Turnover between £400 and £500. Stock, Utensils, Fixtures, and Goodwill only £95. —Further particulars of H. HOLYOAK AND SON, Auctioneers, Surveyors, &c., Luton, Beds.

Royal Kitchen Gardens, Hampton Court.

TO BE LET, 12 acres, 24 Glass Houses, thoroughly heated with Hot Water; Dwelling House, and Shop.—Particulars to E. BENNETT, as above.

EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.

The SEVENTH ANNUAL EXHIBITION will be held in the Rink Hall, Blackheath (opposite S.E.R. Station), on WEDNESDAY, October 31, and THURSDAY, November 1, 1894, when prizes amounting to upwards of £100 will be offered for competition. Schedule of prizes and all particulars may be obtained on application to—

Mr. FRED. J. GARWOOD, Hon. Sec., 37, Turner Rd., Lee, S.E.

CRYSTAL PALACE.

THE GRAND

EXHIBITION of CHRYSANTHEMUMS,

FRIDAY and SATURDAY, November 2 and 3, 1894.

Schedules and Entry Forms post-free, on application to Mr. W. G. HEAD, Superintendent, Garden Department, Crystal Palace, S.E.

Entries close on Friday, October 26.

TO CHRYSANTHEMUM GROWERS,

PROFESSIONALS and AMATEURS.

NEWBURY CHRYSANTHEMUM WINTER FLOWER and FRUIT SHOW.

SECOND ANNUAL EXHIBITION, Corn Exchange, Newbury, on WEDNESDAY, November 7, 1894. Last day for entries, October 30. Schedules to be obtained of—

H. S. HANINGTON, Hon. Sec.

THE SECOND ANNUAL SHOW of the DONCASTER and DISTRICT CHRYSANTHEMUM SOCIETY, "OPEN to ALL ENGLAND," will be held in the Corn Exchange, Doncaster, on NOVEMBER 7 and 8, 1894. —Schedules can be had on application to the Secretary,

J. W. HARESIGN, 31, Scot Lane, Doncaster.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FOR SALE.—Terminal-end flued SADDLE BOILER and FITTINGS complete, 7 feet 6 inches long × 2 feet 9 inches wide × 3 feet height. Condition almost equal to new. Original cost £72 10s., price £15 15s. on rail.—Apply ALEX. WRIGHT, 241, South Norwood Hill, S.E.

PTERIS TREMULA, cristata, cretica, Polypodiums and Cyrtomium in 48's; also Pteris tremula in 32's, good Stuff.—Apply W. PATEMAN, Florist, Hertford Road, Lower Edmonton, and 353, Flower Market.

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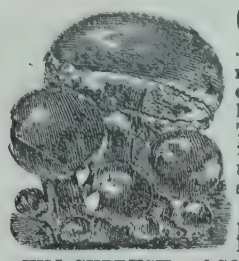
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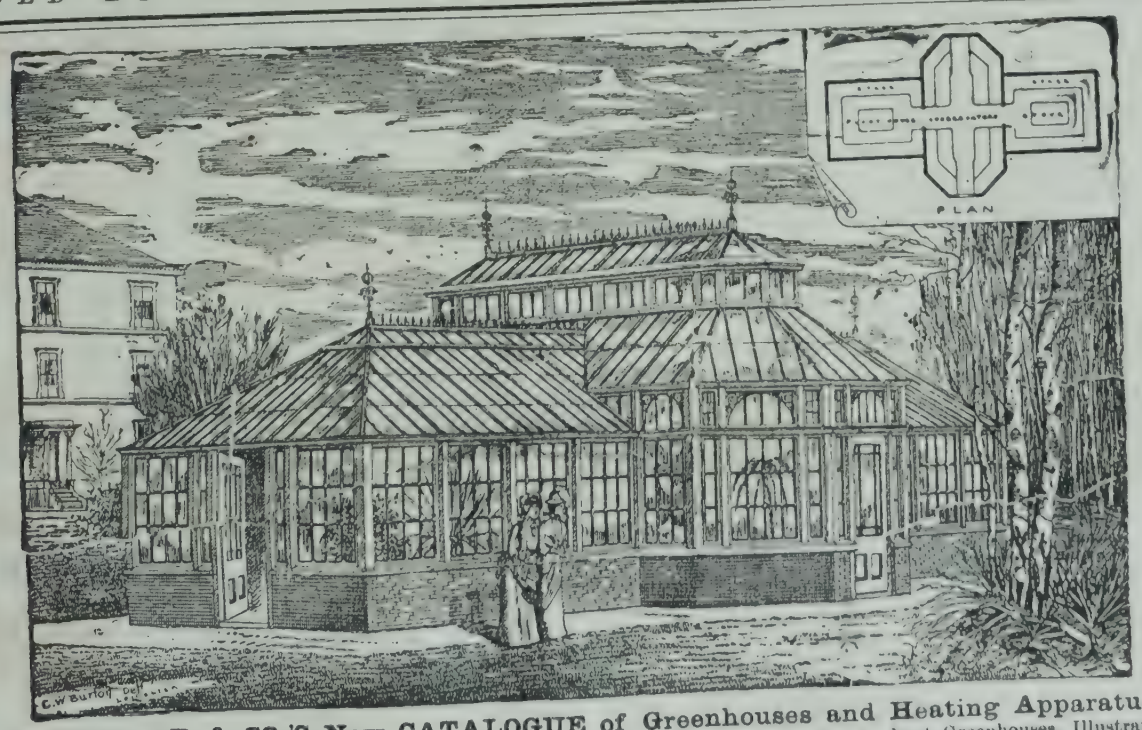
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25 Crocus, Blue	4 ,, Double
25 ,, White	12 Scilla Sibirica
25 ,, Striped or Yellow	5 Anemones
	12 Snowdrops.

No. 3.—175 Bulbs for 3/6.

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25 ,, Blue	20 Scilla Sibirica
25 ,, Striped or Yellow	20 Snowdrops

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3 Hyacinths, Red	for pots
3 ,, White	for pots
3 ,, Blue	for pots
3 ,, Red	for glasses
3 ,, White	for glasses
3 ,, Blue	for glasses
35 Crocus, choice, for pots	30 Crocus, Yellow
	30 ,, Striped
30 ,, White	6 Tulips, Single, for pots
30 ,, Blue	

No. 4.—Bulbs—(*continued*).

6 Tulips, Double, for pots	12 Scilla Sibirica
12 Ranunculus	12 Snowdrops, Single
6 Anemones, Double	12 ,, Double
6 ,, Single	5 Polyanthus Narciss.

No. 5.—396 Bulbs for 7/6.

6 Hyacinths, named, for pots	
4 ,, Red	for pots or glasses
4 ,, White	for pots or glasses
4 ,, Blue	for pots or glasses
6 Tulips, Single, for pots.	50 Crocus, White
	50 ,, Blue
6 ,, Single, for borders.	50 ,, Striped
	25 Iris, English
6 ,, Double, for pots	12 Ranunculus
	12 Anemones
6 ,, Double, for borders	25 Scilla Sibirica
	25 Snowdrops, Single
24 Crocus, for pots	25 ,, Double
50 ,, Yellow	6 Polyanthus Narciss.

No. 6 Collection, 10/6.

6 Hyacinths, choice, named, for pots	
6 ,, ,, ,, ,, glasses	
12 ,, for borders	
100 Crocus, White	25 Winter Aconites
100 ,, Blue	25 Ranunculus
100 ,, Yellow	12 Single Anemones
20 Tulips, Single	12 Double ,,
20 ,, Double	25 Single Snowdrops
25 Daffodils, Single	25 Double ,,
25 ,, Double	10 Polyanthus Narciss.

No. 7 Collection, 15/-.

9 Hyacinths, choice, named, for pots	
8 ,, ,, ,, ,, glasses	
9 ,, Red	for borders
8 ,, White	for borders
8 ,, Blue	for borders
150 Crocus, White	20 Anemones, Double
150 ,, Striped	25 Scilla Sibirica
150 ,, Blue	30 Snowdrops, Single
25 Tulips, Single	30 ,, Double
25 ,, Double	30 Ranunculus
50 Daffodils, Single	25 Narcissus Poeticus.
20 Anemones, Single	

No. 8 Collection, 21/-.

20 Hyacinths, selected, named, for pots	
12 ,, ,, ,, ,, glasses	
30 ,, for borders	
200 Crocus, White	50 Daffodils, Double
200 ,, Striped	25 Anemones, Single
200 ,, Blue	25 ,, Double
50 Tulips, selected, Single	50 Aconites
	50 Ranunculus
50 ,, selected, Double	50 Snowdrops, Single
	50 ,, Double,
50 Daffodils, Single	

No. 9 Collection, 30/-.

30 Hyacinths, extra selected, named, for pots	
15 ,, ,, named, for glasses	
15 ,, ,, Blue	for borders
15 ,, ,, White	for borders
15 ,, ,, Red	for borders
200 Crocuses, selected, White	

No. 9.—Bulbs—(*continued*).

200 Crocuses, selected, Striped	
200 ,, selected, Blue	
75 Tulips, extra selected, Double	
75 ,, extra selected, Single	
75 Daffodils, Single and Double	
50 Anemones, Single and Double	
75 Aconites, Winter	
50 Ranunculus	
75 Snowdrops, Single	
75 ,, Double	
35 Polyanthus Narciss	
75 Narciss Poeticus	

No. 10 Collection, 42/-.

40 Hyacinths, choicest selected, named, for pots	
20 ,, ,, ,, named, for glasses	
50 Hyacinths, selected Colours, for borders	
550 Crocuses, selected, White	
220 ,, selected, Striped	
250 ,, selected, Blue	
100 Tulips, extra selected, Double	
100 ,, extra selected, Single	
100 Daffodils, Single and Double	
75 Anemones, Single and Double	
100 Aconites, Winter	
50 Ranunculus	
75 Snowdrops, Single	
75 ,, Double	
45 Polyanthus Narciss, named	
100 Narciss Poeticus	
50 Spanish Iris	
25 English Iris	

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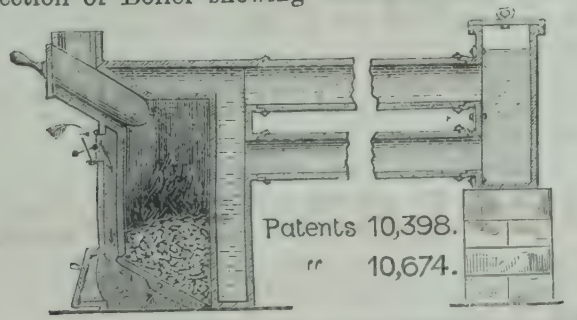
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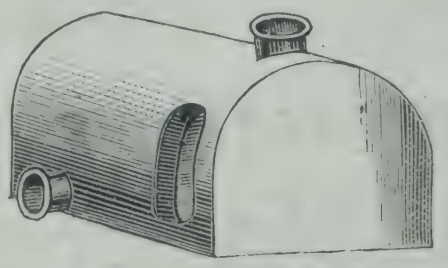
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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 13, 1894.

"THE PAMIRS."

ONE of the most remarkable journeys of which we have recent record, is that undertaken by the Earl of Dunmore through Kashmir, Western Tibet, Chinese Tartary, and Russian Central Asia. The record is in two volumes, published by Murray. For a great part of this most adventurous journey Lord Dunmore was accompanied by Major Roche. The journey was made in the winter, and the travellers sojourned at such high elevations, and traversed such lofty passes, that Mont Blanc and the Matterhorn seem mere hills in comparison. Lord Dunmore is a keen sportsman of the better sort, one loving the sport rather than the slaughter. Unfortunately, neither he nor his companion were naturalists, and thus a grand opportunity was lost. Nevertheless, a few incidental remarks are valuable as showing the great altitudes at which even flowering plants may be met with. It is true there is constant complaint as to the wayward action of aneroid barometers, so that the heights given cannot in all cases be literally depended upon, but even as approximations they are valuable. The book is one which we recommend to the lover of adventurous narrative, and to those desirous of obtaining some information on one of the least known regions of the earth; but as interest in the book, so far as this journal is concerned, centres in the plants, we shall content ourselves by making a few extracts from it. The first extract relates to a Cypress which is certainly not C. macrocarpa, a Californian species, but probably C. torulosa. Unfortunately, neither of the travellers collected even scraps of the plants they met with, so that it is not possible to know what they are writing about.

"At Chanagund, on the frontier of Baltistan. . . . after some hours of this wilderness, it was a certain relief to the eye to pass through a grove of the Cupressus macrocarpa, for, small and stunted as they were, yet anything green was welcome, and these Cypresses can never be ungraceful." p. 74.

Here is an account of the origin of evergreen trees, somewhat different from that which a naturalist would propound!:—"In regard to the doctrine of Immortality, the Tibetans have a curious legend, in which they thoroughly believe. An angel once brought a pitcher filled with the 'Water of Life' (Doortshey-i-choo) down to the earth. One man drank a little of it, and in consequence, although he grew old and infirm, he could not die. The angel seeing this, returned to heaven and reported the circumstances to the Deity, who came to the conclusion that immortality was not suited to this world. So he ordered the angel to remove the 'Water of Life,' and the angel fearing if he

*

emptied it out, some animal might drink it, took the pitcher containing the water to the top of a Fir tree, where he fastened it to a branch and left it. A little while after some crows began to peck at the pitcher and broke it, and spilled the 'Water of Life' over the spines of the Fir, which became from henceforward evergreen; at the same time the crows' beaks were also splashed with the 'Water of Life,' the result being that a crow's lifetime extends over hundred years."

We now give two passages showing the great altitudes at which vegetable and insect life may exist:—

"We were now near Changlung, West Tibet, at an altitude of 17,000 feet, and all among frozen rivers, frozen lakes and glaciers, the whole way for miles; therefore I was much astonished at finding flowers growing all amongst ice, snow, and gravel. I passed four species: one was a small purple Foxglove (?); another was so like a Violet, that I mistook it for one; the third was a blue Daisy, and the fourth a sort of yellow Cowslip. I dismounted, and gathered one of each as a specimen, but was so disgusted with the exceedingly nasty smell that one of them had, that I took no further interest in them."

In the vicinity of the Karakoram Pass, "He (Major Roche) appealed to me as to whether I had ever heard of such a thing as a Painted Lady at an elevation of 17,380 feet above the level of the sea, but as I was not aware that there existed any such a thing as an altitudinal limit to the peregrinations of these fascinating females, I held my peace and awaited the elucidation of the mystery, which was cleared up by his saying he had gone out in search of entomological specimens with his butterfly-net, and this "Painted Lady" was the name by which a certain gaudy butterfly was known to those conversant with that interesting science."

"It was in picking up one of these dead birds (in the same neighbourhood) [pigeons], that I saw growing under a rock a very pretty little mauve flower with purple petals, a yellow centre, and a small green leaf; close to these flowers were masses of light green velvety mosses. We took the altitude in which these flowers were growing, and it was 17,680 feet."

In making the ascent of the Terek Pass in the Alai Mountains, extreme cold was experienced. Here the temperature has been "constantly known to fall as low as 40° below zero F., yet here about 3000 feet from the summit (14,430 feet), the author met" stumped (*sic*) Pines growing out of the rocks which tower on either side of the Pass. At 4000 feet from the summit the trees were larger and of various kinds, mostly of the Juniperus, Cedrus, and Cupressus tribes. I stopped to examine some of them minutely, as I was anxious to discover what they were, but found they were mostly strangers to me. Altogether I should say there were seven species, the first bearing a very close resemblance to the Thuiopsis borealis (?), the second a decided Cupressus, much resembling Cupressus macrocarpa (?) (probably C. torulosa); the third a Cryptomeria, something like the japonica; the fourth a Taxodium of sorts (*sic*); the fifth a Cedrus, not unlike the Deodara of the Himalayas; the sixth a wild, straggling Juniperus; the seventh an Abies, so like the Abies canadensis or Hemlock Spruce, that I classified it as such in my mind" [probably Tsuga Brunoniana].

That is a sort of extract to irritate the botanist, for the exact determination of these Conifers would be a matter of very great interest in many ways.

The entire journey from the Punjab to Andijan in Russian Turkestan amounted to about 2,500 miles, over forty-one mountain passes, crossing sixty-five rivers, in Kashmir, Baltistan, Ladak, Western Tibet, Chinese Tartary, Sarigol, the Pamirs, to Ferghana.

Arrived in Russian territory, Lord Dunmore experienced the greatest kindness and hospitality from the Russian officials. At Marghilan he found even in that remote place a tailor to provide him with evening dress, and once more was subjected to the ways and manners of civilization. Lord Dunmore was the guest of General Karalkoff, whose name is well-known to plant lovers. Of him we are told:—"The Governor is a great gardener, and besides being the happy possessor of a marvellous collection of Roses, has a very good assortment of Coniferæ and other ornamental trees in his beautiful and well-kept garden and grounds round the house. So I spent the whole of the following morning with him in his garden and forcing-houses. His collection of Roses, I should say, was unique, comprising, as it does, considerably over a thousand different varieties."

Among the trees, Lord Dunmore mentions the Paulownia as a stranger, but that tree is not very uncommon in British gardens, though it only flowers in hot summers; and some of the Parisian streets are lined with it.

New or Noteworthy Plants.

PHYSALIS FRANCHETI, *Mast., sp. nov.** (fig. 57).

This is a relatively gigantic species of Bladder Cherry, the seeds of which were brought from Japan by Mr. James H. Veitch. As will be seen by the engraving, this is very closely allied to the European P. Alkekengi, so closely indeed, that M. Franchet in the *Enumeratio Plantarum in Japonia sponte crescentium*, vol. ii. (1879), p. 454, describes it as a variety of P. Alkekengi, but without attaching any name to it. Botanically, there can be no question that it is an offshoot from P. Alkekengi; nevertheless, for garden purposes it is abundantly distinct, and that being so, it will tend to avoid confusion by giving it a distinct name. It differs from P. Alkekengi in being an unbranched annual not a perennial, with a fibrous root, with erect branches, not creeping at the base, glabrous instead of setose, in its much larger size, in the leaf-stalks being considerably shorter in proportion to the blade than in P. Alkekengi—all points separately of minor importance, but which for garden purposes give it a distinct value. It is very striking in appearance (fig. 57), and the Cherry-like fruit is edible, though some practice is wanted to make it palatable!

It was shown by Messrs. Veitch at the Royal Horticultural Society on Tuesday last.

P. Alkekengi is a native of Central Europe, the Levant, Persia, Turkestan, China, Corea, a fact, which of course strengthens the notion that the present plant is a direct offspring from Alkekengi.

Alkekengi is said to be derived from the Arabic name for the plant. *M. T. M.*

Lupinus fallax, *Greene, Erythea*, ii., 119 (July 2, 1894).

This makes a finely ornamental bush, being from 3 to 5 feet high, of neat, symmetrical outline and silvery foliage, bearing in the flowering season an abundance of spikes of violet-coloured flowers. A good supply of seed has been obtained this summer from the type-plant, which will be available for exchange in the fall. The description, copied from *Erythea*, is as follows:—

Shrubby, 3 to 5 feet high, branching from above the base of the trunk-like stem, the branches ascending; branches, foliage, and inflorescence, all silvery, with a velvety-silky pubescence; stipules linear-subulate, ½ inch long or more, deciduous; petioles hardly as long as the seven to nine linear-lanceolate acute leaflets, these 1½ to 2½ inches long; racemes distinctly peduncled; bracts slender, straight, very long and conspicuous before flowering, caducous; flowers distinctly whorled; banner and wings about equal, the latter deep violet, the former with middle portion white, changing to red; keel woolly-ciliate above the middle; pods spreading, velvety, about six-seeded; seeds small, dark-coloured, scarcely compressed. . . . Its only known habitat is Mount Tamalpais, west of San Francisco Bay.

Lupinus Micheneri, *Greene*, l. c.,

is an herbaceous perennial Lupine of prostrate, spreading habit as regards foliage, quite pretty in the spring and early summer, though the flowers are not very ornamental, turning, soon after opening, to a dull purplish or brownish-green. It is from Fort Bragg, Mendocino co., Northern California, and is named after its collector, Mr. Charles Michener.

Delphinium Emiliæ, *Greene*, l. c., 120.

This is one of the dark blue species, 1½ to 2 feet high, near to D. hesperium and D. variegatum; it would make a pretty addition to the perennial border. In its native haunts—open, sunny slopes of Knight's Valley, Sonoma co., Middle California—it is found in full flower in the middle of June, and, along with the large and handsome Calochortus luteus var. oculatus, and a showy species of Eriophyllum, makes a very pleasing sight.

Eschscholtzia cucullata, *Greene*, l. c.,

is a remarkable species, which will make a useful addition to the garden if seed can be obtained in sufficient abundance for distribution, but here it proves very shy at maturing seed, and I have failed to collect any up to the present. When young, the leaves are strongly cucullate-incurved, and this character being more or less retained in age, gives a compact, tufted appearance to the plant. The flowers are borne on long, depressed branches, are somewhat small for the size of the plant, and approach true californica in colour. Professor Greene describes them as lemon-yellow, with orange spot at base. The pods are remarkably stout towards the middle. This is another of the plants brought from Fort Bragg by Mr. Michener.

The other species described by Professor Greene in the above-mentioned number of *Erythea* are Hemitomes pumilum, Stachys velutina, and S. stricta. *J. Burtt Davy, University of California, Department of Botany, Berkeley, California.*

* *Physalis Francheti*, Mast., sp. nov.—Annua, bipedalis et ultra robusta glabrescens, caulibus erectis, nec basi repentibus, crassitie pennæ cygneæ, ad nodos valde incrassatis, vix ramosis, prominenter angulatis; foliis amplis longe petiolatis, petiolis 4—5 cent. long, comparate brevioribus quam in P. Alkekengi, laminis amplis 10—13 cent. long. 7—8 cent. lat., ovatis abrupte acuminatis sinuatis basi sub rotundatis seu cuneatis; calycis tubo imprimis cylindrato, sepalis oblongis obtusis; corollâ diametro fere pollicari, albo-flavescente late aperta rotata; antheris luteis; pedunculo fructifero 5 cent. long, glabro; calyce accrescente pallide rubro-aurantiaco, circa 6—7 cent. long, 6 cent. lat. et ultra valde inflato, 5 angulato, angulis subalatis nervis intermediis minoribus, ovato vel suborbiculari basi intruso; fructu globoso magnitudine cerasi, aurantiaco.

Vidi specimina exsiccata a cl. Bisset et a Maximowicz lecta nec non plantas in hort. Veitch cultas e seminibus a Japonia a cl. J. H. Veitch allatis.

Fruit Cultivation in Cornwall.

Conspicuous among the county gentlemen is the Rev. J. Daubuz, of Killiow, Kea, Cornwall, who loses no opportunity of gaining and circulating sound practical instruction by means of lectures and experimental planting on his own estate. Recently Mr. Daubuz paid a visit to Messrs. Bunyard & Co.'s nurseries at Maidstone, where over 100 acres are devoted to the production of all the best and most approved varieties of fruits, many of them carrying fine samples. M. Daubuz secured numerous samples of the best and most suitable sorts to grow for market. On their arrival at Killiow he invited the neighbouring gentlemen and all interested to come and inspect the Kentish samples, and at the same time to bring with them any good samples of fruit grown by themselves. Saturday, September 1, at 4 P.M., was the time fixed for this novel fruit conference. Unfortunately, the great pressure of harvest operations prevented many from

attending, but those who were able to be present enjoyed a great treat. Amongst those who attended were Mr. Davies Gilbert (who sent numerous and very fine samples of Apples, Pears, and Plums), Mr. John Magor, Mr. John Gunn (who brought samples of Plums from Coombe), Mr. T. Gunn, and Mr. Sangwin of Trelissick.

Mr. Bunyard's contribution consisted of fine specimens of various varieties of Plums, and Mr. Daubuz had samples from his own gardens, which altogether formed a good collection of choice fruit. The whole were arranged on tables in a tent in front of the mansion, and the fruits were all correctly named. After closely inspecting the fruits and discussing their respective merits, the host escorted the party through the richly-stocked gardens and grounds of Killiow, special interest being taken in the experimental grounds, planted last winter. Each visitor was presented with a printed list of all the sorts and varieties planted. Among the Apples were Cox's Orange Pippin, Cox's Pomona, Bramley's Seedling, Ecklinville Seedling, Lane's Prince Albert, Lord Grosvenor, Lord Suffield, and Warner's King. Cherries were represented by Amber-heart, and Werner's Black-heart; Pears by Pitmaston Duchess, Beurré de Capiaumont, Doyenné Du Comice, Williams' Bon Chrétien, Beurré Diel, Marie Louise D'Uccle, Louise Bonne of Jersey, Winter Nelis, Gansell's Bergamot, Bishop's Thumb, Vicar of Winkfield, Clapp's Favourite, Souvenir du Congrès and Hazel; Plums by Rivers' Early Perfection, the Czar, Victoria, Pond's Seedling, Pershore, Coe's Golden Drop, Green Gage, Belle de Louvain, King of Damsons, and Prune Damson.

Each variety was represented by from ten to twenty trees, forming a very choice collection in perfect health, some of them heavily laden with fruit—too much so, perhaps, for the first year. Though the proprietor said he had thinned them considerably in the spring, some thought the trees a little too long in the leg for such a stormy county as Cornwall. *Pomifera. Extract from Cornwall Gazette.*

ARACHNANTHE MOSCHIFERA.

Our illustration (fig. 55) gives a representation of this singular "spider flower," the species on which Blume founded the genus, and which was exhibited by Messrs. Heath & Son, of Cheltenham, at the Royal Horticultural Society's meeting of the Orchid Committee on August 14, when it was awarded a Botanical Certificate. This singular Malayan Orchid is like a Renanthera in habit, and its pungently-fragrant flowers, which are greenish-white blotched with reddish-chocolate, are very singular in form, and are produced in succession from the same spike for a considerable period. It should be grown with Aërides, Vandas, &c., in the warm house.

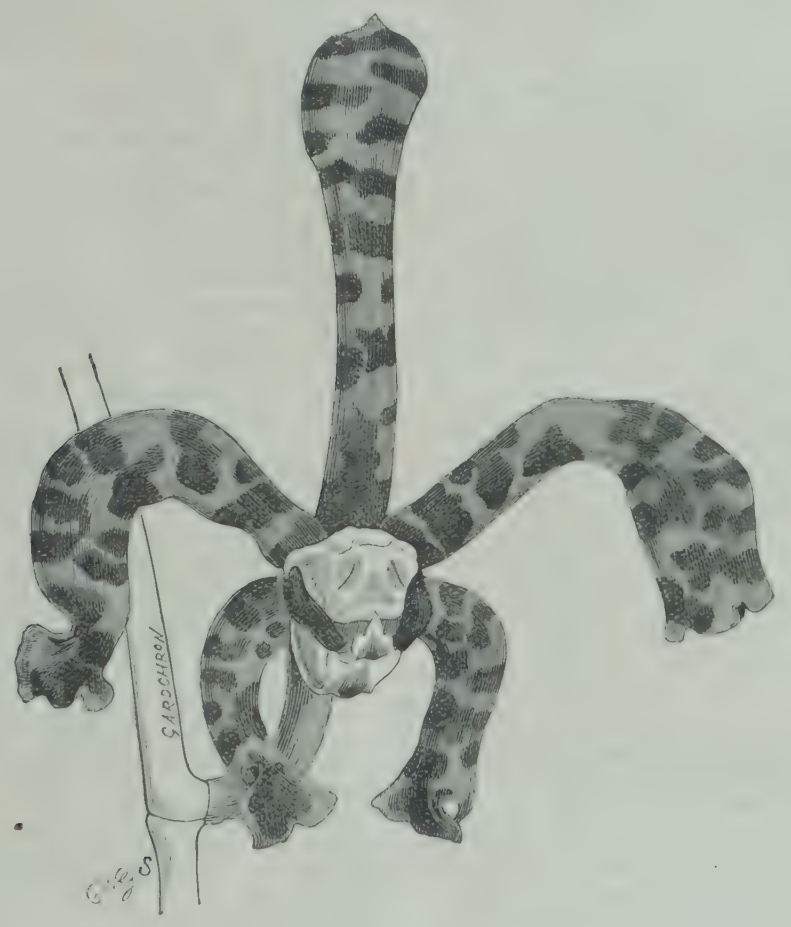


Fig. 55.—Arachnanthe moschifera.

A TRAVELLER'S NOTES.

(*Continued from p.* 401.)

The Sydney Botanic Gardens.—The exceeding beauty of the natural situation of the Sydney Botanic Gardens is proverbial. Covering 44 acres of ground, they are surrounded on three sides by the imperial domain of 150; whilst the fourth, the southern end, skirts Farm Cove, and affords a fine view of the low hills and wooded bays of Port Jackson. The whole extent is divisible into three main portions, the original garden, the grounds devoted to the exhibition of 1879, since added, and a large moon-shaped curve reclaimed from the bay, opposite the anchorage of the British fleet.

Most, especially of the last two named portions, is under Buffalo Grass or Buffalo Couch mixed; though highly ornamental, it cannot be recommended for tennis or cricket purposes.

The main entrance faces due north; it is but a few yards from the private gate to Mr. Moore's house, the office with Bougainvillea-clad walls, and the museum. The walks are either tarred, asphalted, or gravelled, the two former being employed to a very large extent, as much from motives of economy as to prevent the destructive effects of the wash of sudden and heavy rains.

Tarring is the simplest, but it is apt to wear away, and frequently cracks; whereas, asphalt, carefully applied in three layers, will stand for many years, and bear the weight of heavy carts. The gardens and glass are clean and neat, and the luxuriant vegetation in the borders kept within bounds. To attain this end, Mr. Moore finds it necessary to remove hundreds of cartloads of thinnings annually.

Within a few yards of the main entrance are two long beds of shrubby Euphorbias, Phyllocactus, Cereus, and Opuntias, divided by a smaller one, devoted to Strelitzias. Statuettes line the path, and a handsome fountain, a private gift, reaches to one edge. On either side are long beds of flowering perennials, &c. Phloxes, Antirrhinums, Vincas, Bouvardias, Poinsettias, Tea Roses, Cannas, Statice, Iris florentina, and various Sunflowers. On and scattered about the lawns behind are various single specimens, Robinia pseudo-Acacia, Grevillea robusta 40 feet high, Pinus pinea of still greater dimensions, a good English Oak, and the well-known Metrosideros tomentosus. Mr. Harwood, the superintendent, considers it when in flower one of the handsomest shrubs in the garden.

Near a Ficus rubiginosa, retaining its foliage longer and hence more suitable for gardening purposes than F. macrophylla and other species, is a good regular well-formed specimen of the Queensland Tristania conferta. A good Madagascarian shrub, largely represented in the garden, is Astrapæa Wallichii, bearing long, flexible, pendent stalks, with heads of rose-coloured flowers, which emerge from the stem amid the handsome cordate foliage, which is often of great size.

An isolated specimen of Taxodium mexicanum retains its foliage throughout the winter, being superior to T. distichum in this respect.

At the lower end of the old garden are two rows of broad oblong beds, containing many hundreds of interesting trees and shrubs.

Meryta is naturally one of the most striking genera in the borders. M. undula and M. macrophylla from the South Sea Islands, M. Sinclairii from New Zealand, and M. latifolia from Norfolk Island, are amongst the best representatives of the genus—the latter with huge obovate leaves, 1½ to 2 feet in length, aggregated in masses at the end of the branches, is very noticeable. Theophrasta imperialis, a specimen some 25 feet in height, has even foliage of greater size, thick, coriaceous, and closely set—an imposing plant. Toxicophlæa spectabilis is often met with, at this season, crowned with innumerable fruits of the size of a pigeon's egg, and flushed with red. Jacaranda mimosæfolia is at home, a broad spreading piece, the ground round its base in the flowering season being described as blue with fallen blossoms. Franciscea are numerous and good. Near a F. eximia is a noble Camellia facing Magnolia grandiflora, an even, well-formed specimen, 35 feet high; in the same border M. acuminata is full of bud, also Rogieras and Rondeletias, the various species represented by tall bushes, flower freely.

Hippomane spinosa, from tropical America, is noteworthy on account of its long, sinuate, deeply-serrated foliage; in its vicinity, Brexia spinosa from Madagascar, and Viburnum Tinus from the south of Europe, are in full vigour. Such a vivid contrast is not the only one. In an adjacent border, within 50 yards, is an Elm close on 80 feet high; Arabian Coffee, loaded with berries; a Lime, Mango, Chestnut, and common Laurel. The individual waxy-white blossoms of Franciscea americana are good, but the invariably-sickly appearance of its foliage is against it. Tabernæmontana dichotoma is a fine thing; several bushes in various parts are from 8 to 12 feet in diameter; thousands of buds nestle amongst the large decussate foliage of the richest hue, but a few have as yet developed into the large white fragrant flowers. Gardenia Thunbergii, not unlike it in general aspect, though its individual blooms are far larger and finer, is also to be seen. Mr. Harwood finds it a most useful stock for the other species. A good flowering shrub is Chænesthes (Jochroma) gesnerioides; although now in its second growth, it is bearing many hundred bunches of brick-red tubular blooms. Vangueria velutina, from Madagascar, has fruit about the size of, and not unlike a Date. A small-foliaged, thick-set shrub from the Mauritius, Eugenia buxifolia, is neat and effective, though its individual foliage is dwarfed by the large Randia macrophylla, and the Queensland species, Randia Fitzalani, both magnificent shrubs. A curious tree is a species of Schizolobium from Brazil, with bare stem and branches tipped by a few bipinnate leaves, each 4 to 5 feet in length. Erythrinas are various, numerous, and good; a plant of E. indica, its stem's diameter 2 feet, should be magnificent in a few months' time. The graceful

drooping foliage of Panax elegans makes it as effective as in the Hong-Kong Gardens, where it may be seen in similar perfection. All species of Arbutus grow with great rapidity; one, A. canariensis, freely fruiting, is now over 30 feet high—a noble bush. Aleurites triloba, another great tree of the Hong-Kong Garden, will ever be difficult to beat for landscape work. Monodora Myristica and Eugenia Moorei are both handsome shrubs; whilst the Indian evergreen Quercus incana, with long oval foliage; Xylophylla angustifolias, a mass of bloom; Coprosma Baueriana, from New Zealand; Nephelium Litchii, growing, but not fruiting well; the Queensland Brassia actinophylla, and Tripidanthus calyptratus, from Bengal, are equally interesting. Stenocarpus sinuatus grows to 80 feet; apart from the large circular heads of brilliant scarlet, the deeply-lobed foliage is in itself ornamental. Populus alba attains 100 feet, a truly fine tree; P. nigra, still higher; P. angulata and P. betulifolia are also represented. The Bombax is at home. Kentia Canterburyana is found in the shade on Lord Howe's Island, resisting the sun but poorly, but during the winter months picks up considerably. Aralia Veitchii, 30 feet in height, is a good tree, with a round even head of rich, glossy, lobed foliage.

Amongst New South Wales trees, very many of which are naturally represented, I noted Achras australis—its fruit like a large Plum in all but its fitness for human food; it has handsome oval foliage 6 to 8 inches long. Tarrietia is also a fine native genus—the sp. Argyrodendron and Achinodendron in particular. The long pinnate foliage of Dysoxylon Muelleri, the pencil Cedar, the creamy-white long stamened blossoms of Capparis nobilis, Sterculia lurida, good, though not equal to the Flame-tree; Sterculia acerifolia, which, when entirely deciduous, bears at the end of the shoots racemes of brilliant scarlet tubular flowers, are all noteworthy.

Liquidambar styraciflua does well, and Streptosolon Jamesonii in a neighbouring border exhausts itself in a few years with the rapidity of its growth. A rare tree is Sciadophyllum actinophyllum from New Caledonia. Quercus suber is represented by several good-sized specimens, though Q. virens is found to be the most rapid grower of the genus; a Q Ilex, near the Lily bank is, however, very fine, and of exceptional size. As planting trees for general purposes in this colony, Mr. Moore considers the two last-named valuable. The large white flowers, 3 to 4 inches in diameter, of Pterospermum acerifolium, surmounting broad handsome foliage on young stems clothed in down, may now be seen. The giant Nettle tree from East Australia, Laportea gigas, with foliage over 10 inches across, is showy. Catalpa speciosa does well, too well, in fact, and is accordingly clipped within bounds annually; Escallonia montevidensis is in the same condition, it is difficult to estimate its probable dimensions, as it is relentlessly cut every winter—just now its tall bushes are a mass of white bloom. Turning from the older portion towards the steps leading to the Palace Garden, the Palmetum, the Dammaras, and Araucarias (described later), are passed. Amongst the Conifers planted in this direction are Abies firma, Nordmanniana jezoensis, Smithiana, Torreya grandis, Sciadopitys verticillata, a fine specimen 20 feet high; Podocarpus bracteolata from the South Sea Islands, Frenela Macleayana, a beautiful mass of pale slender foliage, Podocarpus dacrydioides, from New Zealand, and P. cupressina, from Java, their foliage more resembling Taxodium than Podocarpus; and many others. *James H. Veitch.*

(To be continued.)

OUR FRUIT SUPPLIES.

Within the last two years the Board of Trade has began to analyse more carefully our imports of foreign fruit, and hence we are able to arrive at a tolerably correct classification of the various kinds we receive from abroad, which were formerly lumped together. Oranges and Lemons, Cherries, Plums, Pears, and Grapes, are now separately enumerated, so that we can form a more correct idea of the competition which our home fruit-growers have to contend with.

Even as far back as fifty years, our trade returns were more carefully kept and methodically published, and the classification more distinct. For this there was probably a reason, in that a duty was levied on most kinds of fruit, but the heading of "other articles" has long since been swept away, from which even such minor articles as Medlars, Quinces, Cranberries, &c., could be traced as to quantities.

The sums we have paid for foreign-grown fruit at decennial periods have been as follows:—

	£		£
1860	1,900,000	1880	5,500,000
1870	2,200,000	1890	7,287,000

If we take the estimate at other periods, we find the classification as follows:—

	1845.	1855.	1865.
	£	£	£
Apples, Oranges, and Lemons	158,098	658,197	1,131,183
Nuts, Almonds, &c. ..	80,683	314,231	424,861
Currants, Raisins, Figs, dried, &c. ...	648,108	1,108,454	1,629,935
Unenumerated ...	.....	20,151	128 925
	886,888	2,100,836	3,314,879

	1875.	1885.	1893.
	£	£	£
Apples, &c.	1,341,704	2,198,041	2,550,155
Nuts, &c.	584,525	701,910	.....
Currants, &c.... ...	2,794 047	3,265,825	1,635,172
Unenumerated ...	1,614,973	1,421,747	1.849,715
	5,840,249	7,587,523	6,035,042

Let us trace the progress made in the imports of individual fruit, taking only the temperate-grown fruits. Some of these, from the absence of reliable data, we cannot compare.

In 1855 we imported only 210,513 bushels of Apples, and the Continent of Europe was then our chief source of supply, North America sending us only 17,000 bushels. There was then a duty levied of 2*d.* or 3*d.* a bushel, according as they were from foreign States or British Possessions. Up to 1881, in the official returns, Apples were included under the head of "Raw Fruit Unenumerated;" since then they have been separately given, and the annual imports show as follows:—

Year.	Bushels.	Value £.	Year.	Bushels.	Value £.
1832 ...	2,388,805	783,906	1888 ...	3,796,592	1,030,160
1833 ...	2,251,925	553,488	1889 ...	3,612,316	974,405
1884 ...	2,479,870	786,415	1890 ...	2,574,957	786,072
1885 ...	2,337,685	717,031	1891 ...	3,147,373	1,033,997
1886 ...	3,261,460	857,095	1892 ...	4,514,700	1,353,812
1837 ...	1,944,460	563,919	1893 ...	3,463,917	844,312

Our supplies are now chiefly drawn from North America. Canada and the United States are running a race as to which can send us the largest quantity.

In 1892 Canada sent us 1,259,000 bushels, and the States 1,750,443 bushels. The separate returns for last year have not yet been issued. But three-fourths of our supplies of this fruit now come from America. From small beginnings of about £50,000 in value, the export trade in Apples from the States has risen to over £520,000.

In 1890 the United States exported also 21,000,000 lb. of dried Apples, value £210,000, chiefly to the continent of Europe. In France they also carry on a large trade in drying Apples, which are used in the restaurants in compotes and stewed fruits.

Canada has also entered into this trade, having exported 257,000 lb. of dried Apples in 1892. The Apple crop can only be depended on in alternate years. Australia has recently put in an appearance in the supply of Apples, and Tasmanian and other kinds are now common in our shops.

In the Rhine districts, Apples and Pears are cut into pieces and strung on pack-thread. They are then hung up to dry, and serve as vegetables to eat with roast meat or with pancakes through the winter. In America also, Apples for domestic use are first peeled or pared (by machine, in most cases) and cut into four or six pieces, strung upon lines, and hung up to dry; they keep for any length of time. By putting these dried parts of Apples along with a little boiling water and sugar, a delicious dish is readily obtained, equal in every respect to stewed Apples. For the sedentary man, the use of fresh fruits becomes a necessity.

The Peach and the Apricot are not extensively grown in this country, but in North America the export of canned Peaches reaches about one and a quarter million cases (each of twenty-four tins), using about fifteen million bushels of fruit. The value of the export of canned fruits was averaged, in the four years ending with 1891, at £160,000.

Fruits of various kinds form a very pleasant and wholesome part of human food, and wild and cultivated fruits are largely consumed by different people, both in temperate and tropical countries. There is nothing in which Nature has been so bountiful to man, in whatever climate he may be found, temperate or hot, as in the supply of fruit.

The importance of Apples as food has not hitherto been sufficiently estimated in this country, nor understood. Besides contributing a large proportion of sugar, mucilage, and other nutritive matter, they contain such a fine combination of vegetable acids and extractive matter, as to act powerfully in the capacity of refrigerants, tonics, and antiseptics; and when freely used at the season of ripeness by rural labourers and others, they prevent debility, strengthen digestion, correct the putrefactive tendencies of nitrogenous food, avert scurvy, and probably maintain and strengthen the powers of productive labour.

Cherries. In 1885 we imported but 18,055 bushels of Cherries; last year we received 346,148 bushels from abroad, besides those home-grown.

Of Plums we imported 413,000 bushels from the continent in 1892, and nearly double that quantity last year.

Of Grapes we imported but 7000 bushels in 1855, and last year we received 978,500 bushels.

Of Pears there were no imports in 1855, and we had to be contented with a couple of hundred bushels of dried Pears; last year we received 915,000 bushels, in addition to those grown at home.

It is not necessary here to speak of berry fruits, nor of Currants, Gooseberries, &c., of which our home supply is sufficient. The import of tropical fruits and nuts I may touch upon on some future occasion. *P. L. Simmonds.*

FOREIGN CORRESPONDENCE.

SOUTHERN CALIFORNIAN NOTES.

Referring to Lathyrus splendens, which has flowered recently in the Isle of Wight, it seems strange that so splendid a plant should be so little known. Here, in California, one hardly ever sees it; owing however to the enthusiasm of a few amateurs, attention has been directed to it lately, and so we may hope to see it oftener. In the writer's garden it came into flower the second year from seed; little water is required during summer, as naturally growth occurs during cool weather, when the rains occur, the flowering-season being early spring, extending over a period of two months with us (other cultivators report some variation from the above). I suspect perfect drainage, moderately light warm soil, and a sunny situation are indispensable conditions; cold damp soil being likely to cause the destruction of the roots during the dormant period. In most instances, under cultivation, seed is produced very sparingly, while the wild plants are so scarce in California proper, that we may say that seed is not to be procured in any quantity. In the peninsula of lower California, the plants are reported to be more abundant. I suspect seed of L. coccinea, an inferior species, is what is most often offered for L. splendens. As it is with the Lathyrus, so it is with a number of charming native plants, they are almost unknown here in gardens; such, for instance, as Romneya Coulteri, Dendromecon rigidum, and the charming little Heath-like shrub, Gilia californica, the latter often seen in its native wilds completely covered with satiny-pink flowers.

Lately, our local horticultural society has procured the use of a tract of suitable land, on which

water has been piped, and the nucleus of a botanical garden has been started. About 150 species have been planted, including the following Palms: Livistona australis, L. sinensis, Chamærops excelsa, Washingtonia filifera, Phœnix canariensis, Cocos australis, C. plumosa, Jubæa spectabilis, Erythea edulis, E. armata, and Sabal palmetto. Later, as tree growth is acquired, Seaforthias and Kentias will be added, both doing fairly well when protected by trees. A number of interesting trees have also been planted, such as Persea gratissima, Anona Cherimolia, Casimiroa edulis, Eugenia jambos, Calodendron capense, Castanospermum australe, Aleurites triloba, and others. It is also intended to make, as far as circumstances will permit, a feature of the most attractive species of the native flora.

Looking about gardens, one sees, among a few striking things, some plants of Eucalyptus ficifolia in flower; some are of a rich crimson, while others, as noted and compared, are an orange-scarlet—a tree in full flower is certainly a fine sight. Jacaranda trees are especially fine this summer, being well covered with large trusses of pale purple flowers. With us, growing in the open, Murraya exotica, Stephanotis, Schubertia grandiflora, Passiflora princeps, Crinum Mooreii, and Michelia fuscata have been much enjoyed this season. *J. C. Harvey, Los Angeles, California, August* 1, 1894.

Truffles.

On Monday, September 10, M. Chatin communicated to the Academy of Sciences, in Paris, the results of his investigations relating to two kinds of Truffles, lately forwarded to him for identification by M. Hanotaux, the Minister for Foreign Affairs. The Minister had just received them from the Resident-General at Tunis and the French Consul at Tripoli. The Truffle found in Tunis has turned out to be the Terfezia Claveryi, a species already described by M. Chatin, and named by him after M. Clavery, who had sent them from Damas, when he was Director of Consulates.

The second specimen, from Tripoli, also belongs to a species not unknown. M. Chatin identifies it with the Terfezia Boudieri of Algeria and Arabia The Truffle from Tunis was accompanied by its *plante nourricière* (foster-mother), a very small kind of Cistacea, designated by the inhabitants by the name of "Arong Terfas," or root of Terfas.

In Tripoli and in Tunis, as also in Algeria and Arabia, both these sorts of Truffle, without taste or smell, are consumed daily. Did they possess the aroma and taste of the much-prized Perigord Truffles, they could only be eaten now and then. It might be worth while for some of our Covent Garden dealers to import them for stuffing turkeys, &c, next Christmas-time. With a little Mushroom ketchup, these tasteless Truffles would prove uncommonly good substitutes for the more expensive French Truffles, whilst they can be procured in large quantities. *S. Pasfield Oliver, Capt.*

THE ROSARY.

SINGLE ROSES.

The demand for these increases, and when we call to mind the beautiful collections staged at the various exhibitions of the National Rose Society, there can be little wonder at their increasing popularity. If we include a few of the semi-doubles, it is quite possible to have a charming and varied collection without any of those usually classed among the exhibition varieties. I am not contemplating any derogatory remarks against the double kinds, but I wish to draw more general attention to the natural grace and beauty of many singles.

Our own native Briars are simply exquisite, varying as they do in colour and form. What can possibly be prettier than Paul's Single White, Hebe's Lip, Lowe's variety of Rosa indica, R. rubrifolia—with its deep-coloured growth, Rosa macrantha, and Paul's two newer introductions Allister Stella Gray and Carmine Pillar? All of these are excellent; but we are now favoured with a new departure, and one which seems likely to develop into a very numerous class. I allude to the hybrid Sweet Briars raised by Lord Penzance. We all accord praise to the soft beauties of colour and perfume belonging to the best type of our Sweet Briar; but here we have the perfume intensified, vigorous growth, and the bushes are so free in blooming that the whole presents one sheet of colour. I had heard a good bit about their wonderful growth, but scarcely expected to find such remarkable vigour. About the middle of June I saw Messrs. Keynes, Williams, & Co.'s collection at Salisbury, and was most agreeably impressed with their beauty and health.

I think it was in 1892 that a grand collection of these was shown at the Crystal Palace. All who

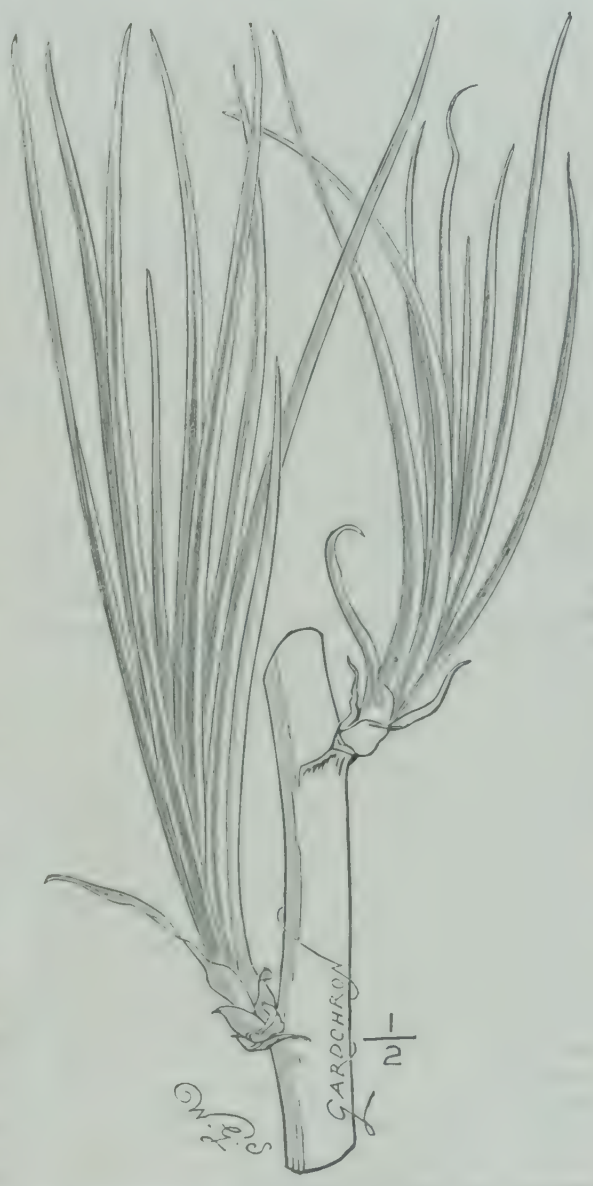


Fig. 56.—Kniphofia, adventitious buds from flower-stalk.

saw, admired; but it is not everyone who can form an idea of their growth and beauty, unless favoured with an invitation to view them in a state of nature. Messrs. Keynes & Co. have worked up a large stock, and evidently expect a brisk demand. They are worth it, and one can hardly plant them in the wrong spot. Of how few new Roses can we say the same? Lady Penzance is evidently a trifle earlier than the remainder, a point probably derived from its being a cross with the Austrian Copper, itself one of our very earliest Roses. There is a distinct shade of coppery-red, and that peculiar metallic lustre retained in this cross. A distinct halo of bright yellow in the centre of the flower has a very pretty effect when seen through the deep golden anthers. This and Lord Penzance are among the sweetest, both in flower and foliage. Lord Penzance is soft fawn, with a clear yellow centre; some of the blooms were shaded with a delicate pink. Lucy Ashton, a white variety with pink edges, also carries a large number of showy hips; the blooms are a little smaller than the remainder, but the whole plant is very taking. A beautiful bright crimson is found in Anne of Gierstein a wonderful grower with large foliage, of the Bourbon class, but with all the perfume of Sweet Briar, and one of the largest flowers in the whole collection. Meg Merrilies is more of a scarlet than crimson, and was growing some 12 to 15 feet high; it is simply beautiful. A third deep-coloured variety was named Isabella Wardour, a kind not catalogued by the raisers, but one we are sure to require later on; it is almost a perpetual bloomer. For the matter of that, I believe these new Briars will be more perpetual than the majority of our single Roses, which, unfortunately, only give us one good crop early in summer. This season's maidens were blooming, and old plants were producing grand shoots from the main stems, which will probably flower during a favourable autumn. A few strong blooms are certain to be secured all through the season, while at all times the delightful perfume of our favourite Sweet Briar is present. I did not see them early in the morning, a time when this scent is most pronounced, but even at mid-day it was very prominent.

There is one more variety I must name, and which is not mentioned in the list of those to be distributed in November; that is, Lucy Bertram, a semi-double form of Meg Merrilies. I am under the impression it will not be so fleeting as the single form. A collection of nine varieties is to be distributed this season, and all gardens should at least possess the following four, Anne of Gierstein, Lord and Lady Penzance, and Rose Bradwardine.

After the severe frost at the end of May, and the heavy hailstorm early in June, I did not think to see this lovely race of Briars so completely unharmed as they were. What splendid objects of beauty they will form for a lawn may be imagined by those who saw the Crystal Palace collection of 1892, if they will picture to themselves plants 10 to 15 feet high, bushy in proportion, and as thickly covered with flower as the clusters then exhibited; indeed, I think I may safely say that they flower more freely, while the graceful half-drooping shoots have a charming effect. I will close with one word of warning. Do not prune; never let the knife touch them unless to bodily remove encroaching growths, although I venture to say that in the majority of cases other subjects will have to make way for the Briars. *Visitor.* [These cross-bred Briars should make beautiful materials for garden hedges, and bear the shears as well as the common Briars. Ed.]

KNIPHOFIA, ADVENTITIOUS BUDS.

The production of buds in unusual places is not sufficiently rare to excite much attention. In many hardy perennials the stems instead of drying up after flowering, produce leaf-buds in the autumn, and thus in a measure assume the condition of shrubs. It is, however, rare for the flower-stalk of such a plant as Kniphofia to produce any leaves beyond the bracts at the base of the flowers. In fact, the definition of a "scape" such as Kniphofia usually has, is a leafless flower-stalk. Alas for definitions! Kniphofia frequently produces buds from its flower-stalk, such are shown in fig. 56, and by means of which the plant may readily be propagated.

NEPENTHES.

Nepenthes, well grown as they are at Oakholme, Sheffield, are splendid and interesting objects for the decoration of the stove. Suspended from the roof, grown in baskets, are some nine or ten varieties, of which Mastersiana and Curtisii stand out very conspicuously. These were both sent out by Messrs. James Veitch & Sons. The former is a hybrid between the beautiful N. sanguinea and N. Khasiana, known also by the name of distillatoria. There are some half-dozen plants of Mastersiana suspended in the manner described, well furnished with from eighteen to twenty-four well-coloured pitchers on a

plant, an intense bright red. Mr. Outram tells us he measured one of the many, and its dimensions are fully 14 inches long, girth fully 11 inches, lid nearly 4 inches by 4. Of N. Curtisii there are two dozen fine pitchers, some of which are nearly 12 inches long; the pitchers are a dull green, most beautifully blotched with brownish-purple. N. Dicksoniana, N. Rafflesiana, N. Hookeri, and others are likewise well done, reflecting great credit upon the grower, Mr. Hannah, who has had charge here over thirty years.

Florists' Flowers.

SELECT JAPANESE DECORATIVE CHRYSANTHEMUMS.

It is not always easy to know what some cultivators of Chrysanthemums mean to convey by the words decorative plants, but from the notes which sometimes accompany the names of some of the varieties, it is, as I take it, the large-flowering ones chiefly. No one would dispute that these are "decorative;" but what I myself regard as coming strictly under that denomination, are plants which when grown as bushes are meant to give a large quantity of flowers rather than a few of remarkable size and fine quality. Some varieties are better adapted for bushes than others, and of these are Avalanche and W. H. Lincoln, mentioned by a correspondent some time ago. The former has numerous side-shoots on the main stems, which are really the great charm of bush plants; but in this case the flower-stems are far too short, and the result, instead of long graceful shoots clothed with blossoms, is a lot of short stemmed ones, that render the plant mop-headed and ineffective. W. H. Lincoln, late flowering, as a bush, the flowers not opening till late in December. Many persons favour bushes because they provide abundance of blooms for cutting; and a really good list of suitable varieties in all sections would be most welcome to those who have not the opportunities of judging for themselves. *E. M.*

VEGETABLE PRODUCTS OF GENOA.

The following interesting account of the vegetable products of the country around Genoa and in Piedmont, is given in a recent report on the district. Fruit is said to be very plentiful, and Peaches are wonderfully abundant, hills and valleys being in early spring all flushed with their delicate pink bloom, while Apples of excellent quality are also abundant and cheap.

The principal objects of cultivation on the surrounding hills and the lower slopes of the Apennines, and the more level ground between the foot-hills and the sea, are the Olive and the Vine, the latter being grown in this neighbourhood mostly on terraces and trellises, while in broad valleys, such as the one at the *embouchure* of the Entella, near Chiavari, the Vines are gracefully trained, according to the old Roman fashion, to Elms, Poplars, and other tall trees, and it is said that, with the higher elevation thereby attained, they yield better results. Although the Olives are small, they yield good oil, and it is said that wherever the Olive-tree grows well, people can live on the land; and as to the Vines, though they do not produce as large and luscious Grapes as those of the warmer south, a large quantity of rather rough wine is made in the district, and extensively consumed; while a good deal of dark red table wine comes from Piedmont, but the better qualities from the south, notably from Tuscany and Sicily, the "Chianti" being particularly appreciated, while excellent sparkling wines are produced at Asti. Wine to the working-classes represents the British workman's beer, and doubtless suits the climate better than the latter would do, and it is equally cheap, table-wine being retailed at about 4*d*. per quart, and it can be bought cheaper in the cask; while the burly rush-bound flasks of good red Chianti, holding about five pints each, are sold from one shilling upwards. The numerous large Chestnut woods, which clothe the neighbouring mountains, furnish an immense quantity of Chestnuts, which are extensively used as food in various forms. Pine kernels are largely consumed, principally in cakes and confectionery. In addition to the Peaches and Apples before mentioned, the environs of Genoa produce a large quantity of Cherries and other summer fruits, and plenty of the juicy "Nespole," or Japanese Medlars, which are of comparatively recent introduction. Oranges and Lemons are extensively grown, especially in the warmer and more sheltered neighbourhood of Nervi, and the former include both the ordinary Orange and the fragrant little Mandarin.

Near Genoa itself great damage is sometimes done to the Orange crop, which seems to ripen from December to April, by severe spells of cold weather, a lot of the fruit having been ruined by the severe frost with which the present year commenced. Manure is extensively used, and largely imported. Cultivation in general appears to be assiduous and thorough. Vegetables are largely grown on the lower lands, especially where irrigation can be applied, and are of fairly good quality. Green Peas grown in the open air may be eaten in December The Genoese are very fond of flowers, of which enormous and graceful bouquets and extraordinary devices are carried on various festive occasions. Rich flowers are varied and abundant, and their cultivation appears to be a remunerative industry.

Trees and Shrubs.

A VARIEGATED ELDER.

I send you some sprays of a variegated Elder which was found near here, and which competent judges considered the best they have seen. Its history is this:—Two years ago my coachman, whilst fox-hunting, saw a variegated plant in one of my woods at Shirenewton. I sent him back for it, and it proved to be an Elder; it was 12 inches high, and much variegated, the variegation being a pure white. It is now 4 feet high, and as much in diameter, the leaves smaller than the common form, and the branches much more numerous, forming a dense bush. *E. J. Lowe, Shirenewton Hall, Chepstow.*

Syringa pekinensis.

A good illustration of this new introduction is given in *Garden and Forest*, September 26. Though a rapid grower, it was considered to be a shy bloomer, but it appears that it only requires time, and that after it has grown to a good size it flowers freely. It is spoken of as a "very beautiful, very desirable and perfectly hardy small tree, requiring moist soil and plenty of room in which to display the graceful sweep of its branches."

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

Owing to the almost sunless character of the past week the management of the houses will require modification made in the general practice. Although the season has been favourable to Odontoglossums, Masdevallias, and other cool Orchids, the tendency to undue elongation of growth is apparent in some collections, and the lack of heat and light has not tended to the consolidation of growth in Cattleyas, Lælias, Dendrobiums, many of the Mexican and Brazilian species, &c. Thunias also may be included; in fact, some of our plants of this species are as green as they were when growth for the season was finished. Every cultivator of experience knows too well the evil effects produced on immature growths during the winter months. The best measures to take at this season in regard to this matter are to afford a drier atmosphere and a free circulation of air during the warmer parts of the day, which if steadily adhered to, will assist the ripening up of the pseudobulbs, and check the development of spot and other diseases. The external air being cool and moist, there is no need to damp the paths, &c., so often or so heavily as in summer, and unless fire-heat has to be made use of, a moderate amount of damping morning and afternoon will suffice in either division. It is also important that the greatest amount of light be obtained, and this can only be by washing the glass, especially if situated near a large town. Very few plants now require to be potted, and many species are at rest, which afford the grower a good opportunity to overhaul the entire collection, and clean and re-arrange. In the cool houses slugs must be hunted for, as these creatures are now most troublesome, having been introduced to the houses in the sphagnum moss used in the repotting. They are concealed by day low down in the moss or in the axils of the leaves, but at night they come out and should then be diligently sought for and killed. Numbers of slugs may be caught by placing small shallow pans half filled with bran about the stages; young Lettuce and Cabbage leaves, &c., are also useful for entrapping them. Some few of the Odontoglossums that are pushing their spikes, should be protected by wrapping a piece of wadding round the base of the spikes. The lovely rose-scented Odontoglossum (Miltonia) Roezlii, now in full growth, should be frequently afforded water in large quantities at the root, especially if growing in small pots. I have failed several times with this species, owing, I believe, to having grown it in too warm a house; our plants are at present at the warm end of the Cattleya-house, where they certainly succeed better than when they were in the East Indian division. Other beautiful Orchids which do well under identically the same cultural conditions as M. Roezlii, are Miltonia, Warscewiczii, M. Schroderiana, and Phaius Humbloti. The following species which have passed the summer in the cool house should, if not already done, be removed to warmer quarters in the intermediate division, where they will get plenty of light and air: Miltonia vexillaria, Oncidium bifrons, Odontoglossum Krameri, O. Insleayi, Masdevallia tovarensis, M. Schlimi, M. ephippium; also those of the Chimæra section, not forgetting two such pretty little species as M. ionocharis and M. Wendlandiana.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PINES: SUCCESSION PLANTS.—Those intended to fruit early next season should now be in a well-matured state, and kept at rest until the time arrives to start them. A lower temperature may now be afforded them, viz., 70° to 75° by day, with a free admission of air when the weather is mild, and a night temperature of 60° to 65°, with bottom-heat not greater than 80°, very little water being afforded at the roots if the material of the bed in which they are plunged is in a moist condition. It is advisable to water this rather than to supply much water at the roots, which would tend to excite them into growing before the proper time. Any suckers which may show on the plants should be removed as soon as they can be seized by the hand. The house should be kept moderately moist by damping the floors, but syringing the plants should cease, and steaming the pipes be avoided, as the moisture thus evolved condenses on the glass and drops as water on to the plants.

THE FRUITING-HOUSE.—Keep a moist atmosphere, with a night temperature of 70°, and a day temperature of 75° to 85°; the higher figure at closing time, with sun-heat; the bottom-heat may stand at about 85°, and in bright weather damp the plants overhead with a fine-rose pot. Afford air in small quantity in the morning, closing early after noon. A good amount of water will be required by these plants up to the time when the fruit begins to change colour.

SUCKERS.—Those growing strongly may be repotted if the pots are full of roots, and likely to suffer by being too much pot-bound. Ventilate freely to prevent drawing up of the leaves. A night temperature of 60° will be sufficient for the present; day temperature 65° to 70° according to the state of the weather; but it may run higher with sun-heat and a good circulation of air; overhead damping being avoided for some time to come. The re-arranging of plants in pits and houses to suit the requirements of the plants at different stages may now be done, at the same time giving attention to the bottom-heat, bearing in mind that strong bottom-heat will not be required before the New Year. When the bottom-heat is obtained from tan, or Oak and Beech leaves, which kinds are the most lasting and trustworthy, they should be put into heaps to ferment, being fre-

quently turned in readiness for use. Care must be taken when using fresh tanner's bark, as it quickly heats if used by itself; it should be mixed with old leaves or one-third half-spent tan, so as to give a gentle heat for the season. For the linings of pits, leaves and stable-litter afford lasting and uniform heat if well mixed together.

VINES.—The present is a good time for renovating exhausted borders of the early vineries. If the Vines are free from mealy-bug, and it is desirable to put new life and vigour into them, carefully lift the roots, re-draining and re-making the border, as recommended in my last Calendar. There is not the least danger to the Vines if this be done with ordinary care. Some years ago I lifted a very old Black Hamburgh Vine, that was considered at that time to be in the last stage of existence. This filled one lean-to vinery, and the roots were outside. These were carefully taken up, the work being begun by taking out a deep trench at the front of the border, and forking out the old soil from amongst the roots, wrapping them in damp hay and mats as they were taken out, and pruning those that were broken, or where they lay thick together, and gradually working right up to the wall of the vinery. When the new border was made, the roots were spread all over it, about 12 inches below what would be the level of the border. This work was performed in January, and when it was finished, a gentle hotbed was placed on the border, and the house started forthwith. A nice crop of well-coloured fruit was obtained the same year; and the improvement for several years after—as long indeed as I had the management of it—was remarkable. Vines for fruiting next spring may now be pruned, and the Vines and house put in order. Do not strip off the old bark; many of our Vines have not been peeled close for fifteen years, and if there is mealy-bug on Vines, it must be got rid of by washing with soft-soap and water, and giving them the tar-mixture, painting the walls and wood-work of house with neat parafine, and removing 3 inches of the top-soil of border. The best remedy is to clean the Vines and border out, and plant afresh. Pot-Vines for very early work should now be started, keeping the house close, without firing, for a fortnight. Do not prune them now.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

THE EARLY WINTER LETTUCES.—The mild weather has hastened the development of Lettuce of all ages; those it is resolved to store should be lifted and planted in light soil in cold frames, and near to the glass, but not touching it. All should be lifted except those ready for present use, which may be protected where they grow. In the frames plant thickly, just leaving each plant clear of its neighbour; and afford one good watering after planting, the lights being left off the frames during the day, unless rain falls, when they should be put over the plants, and tilted fully at the back. Do not close the lights at night, unless frost threatens, in which event mats may be laid on them, and during hard frosts thatched hurdles or litter. If it appears advisable to sow Lettuce seed, let the sowing be made in a cold frame.

CELERY.—The earthing-up of the midseason crop should be pressed forward during dry weather, and the final banking-up should be done before severe frosts occur. The leaves left above the top of the ridge may be saved from injury by frost by tying little bundles of straw together at one end, these being opened out and placed athwart the ridges. Other simple contrivances of a like kind will occur to most men. No earthing up of later crops should be done for the present, as it is quite safe so far; a little soil should, however, be added every ten or twelve days, or as fast as the leaves grow out of the soil last given. Afford this crop manure-water at times, and thorough waterings whenever the soil has become dry.

ENDIVE.—The final plantings may now be made on warm dry borders, or at the foot of south walls. In any case, protection of some efficient kind will be needed in frosty weather. Endive may be placed in cold frames, where the plants will continue to make growth, and prove useful in the winter for salads and stewing. Full-grown Endive may be blanched where it is growing, or it may be placed in the Mushroom-house, or other dark room. I prefer to cover the plants on the borders with inverted flower-pots, stopping up the holes so as to exclude light, and when frost occurs covering them with litter, &c.; they are thus safe from injury by frost, and may be used as needed; but if covered up for more than a week, rotting commences. Under slates or roofing-tiles laid flat on the plants, this decay does not occur.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HARDY ANNUALS.—In order to have these useful flowering-plants fit for transplanting into the beds in the early part of the new year, early attention is requisite. Where it is found impracticable to enliven the beds during the winter with Aubrietias, Arabis, Daisies, Polyanthus, &c., or on the other hand, by the use of the many kinds of hardy shrubs well adapted for this purpose, a list of which may be found in one of my earlier Calendars, recourse may be had to the sometimes neglected hardy annuals, which, when they are judiciously chosen, enable the gardener to escape some of the anxieties and disappointments which often attend the deferred planting of the summer bedders, by reason of an unwillingness to disturb the hardy flowering occupants of the beds. The annuals chosen should be of proved hardy nature; early in coming into flowering, and of suitable height, &c., for the beds. The first thing to be done is to select the site for the seed beds, which should lay warm, dry, and exposed to the sun as much as possible, and not be overhung by trees. Having dug some garden refuse, leaves, &c., into the soil, tread it evenly and regularly all over, and then build a low wall of sods or boards round each bed which may not be less than 4 feet wide, and of any desirable length, bend over some Ash or Hazel rods, connect these with others laid longitudinally, and you have a framework easily covered with mats or tiffany in the event of hard weather. In these shallow pits place some light and friable soil to a depth of 5 or 6 inches, and make it firm. The seeds may be sown in lines thinly and in quantity to meet probable demands. The drills in which the seeds are sown must vary in depth according to the size of the seeds; those for the finest being made shallow and flat, the seeds being barely covered, and none may be more than half an inch deep. It is a good plan to put various seeds of about one size by themselves, and cover them by sifting fine sandy soil over them. The seeds being sown, water the beds gently with a fine rose watering-can, and when germination takes place stir the soil amongst the seedlings, and give air freely in all but frosty weather.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

THE PLANTING SEASON: PREPARATIONS FOR PLANTING.—Judging from the manner in which the majority of fruit trees are changing the colour of their leaves, the planting season is likely to commence earlier than usual, and all rearrangements should be decided upon and carried out at once. Although gardeners can generally depend upon ordinary bush, pyramid, or orchard trees supplied by nurserymen of repute in fulfilment of an order, being true to name and well found in roots and branches, it is more satisfactory to visit the nursery and select trees suitable in height of stems, &c., for the various positions they may be required to fill, and also to note that the stocks on which the trees are worked are swelling kindly with the scions. In the case of cordon Pears it should be particularly ascertained if the varieties desired succeed on the Quince stock, for many of our best Pears do not. Such varieties should either be on the Pear stock or have been double grafted.

GATHERING THE CROPS.—The gathering of all but the latest ripening kinds will have been general during the past week or two; and although this is earlier than usual for some of the varieties of Pears and Apples, the foliage having assumed a yellow colour and the fruit parting easily from the wood, it would not benefit it much to leave it longer on the trees. In the case of Blenheim Orange Pippin, Cockle Pippin, Rosemary Russet, Braddick's Nonpareil, Claygate Pearmain, and some other late Apples, these may be left till the end of the month, unless sharp frosts occur, when gathering should not be delayed. Such late Pears on walls as Winter Nelis, Easter Beurré, Beurré Rance, Jean de Witte, Olivier de Serres, Bergamotte d'Esperen, Josephine de Malines, Knight's Monarch, &c., should not be gathered for at least a fortnight, or before the beginning of next month if the weather keeps mild. Two or three thicknesses of fish-netting hung over the trees at night would protect the fruit from slight frost, as well as from tom-tits. Do not let fallen fruits remain on the ground, as we assume that the bulk of these are infested with grubs, which, escaping from the fruit, hibernate in the ground. All fallen fruit, if fit for consumption, should be taken care of, and what is unfit given to the pigs, or put where the grubs cannot escape into the soil.

PLUMS AND DAMSONS.—The in-gathering of Coe's Golden Drop, Belle de Septembre, and some other varieties should now be finished. These fruits may be kept fit for use for two or three weeks if laid out in a single layer on shelves or tables in a dry and somewhat warm room. Damsons treated similarly can also be kept for the same length of time.

MEDLARS AND QUINCES ripen better if left ungathered till the frosts come, or till, in the case of Quinces, they begin to fall; a few degrees of frost will not injure either fruit. Medlars are likely to shrivel if gathered early, and rendered thereby useless for jelly-making and the dessert; and they should not be gathered so long as the foliage is fresh and green.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

MIGNONETTE.—The supply from outside having now failed, any further cutting must be from pot-grown stuff. If plants have been prepared for this purpose, they should now be given liberal treatment; and liquid manure from the farm may be afforded twice weekly. Slender supports, such as may be got from worn-out birch-brooms will be necessary, and should be afforded them at once. Arrange succession and spring batches in a position near the glass in airy light houses, and carefully water them. Thin out seedlings in 3-inch pots to five, if spikes of a medium size are desired, but, where very fine spikes are in demand, three plants will be sufficient, these being flowered in 5-inch pots.

SEASONABLE HINTS.—In the majority of private gardens the principal stock of winter flowering plants having been put under glass protection, the dangers of sudden frosts are guarded against. The success or otherwise of the various subjects will unmistakeably show whether the necessary care and attention have been bestowed on them. Success is coveted by all, but it can only be achieved by the greatest care now and at all subsequent stages in their development, and, as was pointed out in my last calendar, the grouping of the various subjects plays a very important part in producing the best results. This is a most difficult matter where a large number of plants of different requirements have to be packed into a house not suited for them. I do, however, urge that, where space will admit, the subjects should be classed and placed according to their wants generally. The right way of doing this is only to be acquired by practice; plants which have been growing in the open should, when placed under glass, be treated as naturally as the changed conditions will permit. Abundance of air should be afforded on all suitable occasions, both day and night, and a slight heat in the water-pipes is necessary at this season to dispel excess of moisture, or the fleshy growths formed under more natural conditions soon become a prey to damp, mildew, &c. Water is another important factor in maintaining a healthy condition, and it must be applied at the roots, only at such times as the plants require it.

GARDENIAS.—Spring-struck plants now growing in 5-inch pots should be well-rooted, and they will now require a tea-spoonful of "Standen's Manure" to each pot weekly, which should be well watered in with soft-water. The last pinching having now been given, a strong, stocky growth should be aimed at; any weak shoots should be cut out. To keep the foliage clean, dip the plants once a fortnight into Murray's Electric Mildew and Insect Destroyer diluted, and prepared as directed.

GLORIOSA SUPERBA.—Less water at the root is now required, but the supply should be very gradually diminished, so that the ripening of the tubers may not be unduly hastened.

ARISTOLOCHIA ELEGANS.—Plants which have had a long flowering season, will now be showing signs of exhaustion, and will require less water at the root, only sufficient being supplied as will keep the wood from shrivelling.

CLERODENDRON BALFOURIANUM.—Plants, if grown in pots, should be placed in a position commanding the greatest amount of sunshine, so that the wood may become thoroughly ripened, failing which an indifferent show of flower will result next season.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	Oct. 15	Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, &c., at Protheroe & Morris' Rooms. Stove and Greenhouse Plants, at Carlton House, Red Bridge Lane, Barking Side, by Protheroe & Morris.
TUESDAY,	Oct. 16	Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms. Clearance Sale of Nursery Stock, at the Nursery, Feltham, by order of Messrs. C. Lee & Son, by Protheroe & Morris. Highly important Sale of the remaining Portion of the famous Pickering Lodge Collection of Established Orchids; also Carriages and Wines, by Protheroe & Morris (three days).
WEDNESDAY,	Oct. 17	Dutch Bulbs at Protheroe & Morris' Rooms. Unreserved clearance sale of Nursery Stock at the Hosey and Darenth Nurseries, Westerham, by order of Mr. A. Jeffkins, by Protheroe & Morris (two days).
THURSDAY,	Oct. 18	Dutch Bulbs, at Protheroe & Morris' Rooms. Nursery Stock, at the Sale Nurseries, Loughton, by order of Messrs. Paul & Son, by Protheroe & Morris (two days).
FRIDAY,	Oct. 19	Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	Oct. 20	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—50°.4.

A Vegetable Exhibition.

VEGETABLE culture is a matter of such importance to the community, that we are glad to welcome the suggestion that a large exhibition be held at the Crystal Palace next year. Vegetables of all sorts can be, and are grown in this country to a degree of perfection rivalling, if not surpassing, anything that is done elsewhere, and foreign competition in this case is not a thing to be seriously apprehensive of. Vegetable culture, moreover, is pre-eminently an art for the cottager and the allotment-holder. They can scarcely grow too many, and their quality when grown, providing they have good varieties to begin with, depends essentially on the very qualities which a labourer should possess. County Council lecturers and demonstrators have here a fine field as instructors before them, and their work in this department is sure to be generally appreciated. We attach more importance from this point of view to vegetable culture than to fruit culture. The questions relating to marketing and distribution are, of course, much the same as in the case of fruit. Wherever water-carriage can be adopted, it would be desirable to make use of it, as railway rates are in this matter, and, we fear, are likely to be, prohibitive for all but the earliest and finest samples grown by a different class of growers.

If a large show of this kind be held, we hope the promoters will also take into consideration the unnecessarily narrow selection of vegetables we have now to put up with. Each season brings with it its new varieties of Potatos, Peas, and the like, the differences between which it demands a skilled expert to see; but an absolutely new vegetable is a rarity indeed, and worse still, when it does make its appearance, it is generally received with indifference, if not something worse. A great society, which does not look exclusively to commercial interests, can do something towards giving us novelties such as we are speaking of, by encouraging them by handsome prizes and other means. We can hardly expect a private organisation of growers to take this view of the subject. For progress in this particular direction we must look to some body which has broader knowledge, wider sympathies, and more far-reaching opportunities.

The cooking of vegetables in this country is also a matter urgently demanding improvement. In no country, we are disposed to say, are there, as a rule, better vegetables than in our own, and in no country are they worse cooked.

Appended is the circular we have received, with the general purpose of which we sympathise entirely:—

We beg to inform you that at a well attended meeting of persons interested in vegetable culture, held in the Board Room of the Crystal Palace, on Saturday, September 29, 1894, it was unanimously resolved, that "It is desirable to hold next year at the Crystal Palace a great National Exhibition of Potatos and other Vegetables."

A thoroughly representative list of members of the horticultural seed trade, gardeners, amateurs, allotment holders, market traders, the Press, &c., was read, and it was further unanimously resolved: "That subject to their approval, these persons do form the General Committee of the Exhibition, with power to add others."

Having been appointed by the meeting treasurer and secretary respectively *pro tem.*, we beg most respectfully and urgently to invite you not only kindly to allow your name to be added to the general committee, but also promise support for so important an Exhibition.

Should you consent, you will be invited to attend a meeting of such general committee, which will be held in London at an early date.

Rest assured that every effort will be made to make the proposed Exhibition not only a great success, but also a vital force in connection with vegetable culture in the United Kingdom." *H. Balderson, F.R.H.S., Treasurer; Alexander Dean F.R.H.S., Secretary*, 62, *Richmond Road, Kingston-on-Thames.*

Oliver Wendell Holmes.

WHEN all the literary world and all readers of taste are mourning the recent death of the greatest of American *littérateurs*, Dr. OLIVER WENDELL HOLMES, it may be interesting to the readers of the *Gardeners' Chronicle* to recall his "most intense, passionate fondness"—we use his own words—for trees. In what is, perhaps, his greatest prose work, *The Autocrat of the Breakfast Table*, he speaks of putting his wedding-ring on his tree-wives, and says he has almost worn out this 30-foot tape on the rough bark of the old New England Elms and other big trees. "Now, if you expect me to hold forth in a 'scientific' way about my tree-loves," he continues, "to talk, for instance, of the Ulmus americana, and describe the ciliated edges of its samara, and all that—you are an anserine individual, and I must refer you to a dull friend, who will discourse to you of such matters. . . . No, my friends, I shall speak of trees as we see them, love them, adore them, in the fields, where they are alive, holding their green sun-shades over our heads, talking to us with their hundred thousand whispering tongues, looking down on us with that sweet meekness which belongs to huge, but limited organisms." The passage is perhaps too long for further quotation here. It goes on to speak of "old Daddy Gilpin," the mother-idea in each particular kind of tree and many of the first-class Elms, trees over 20 feet in clear girth 5 feet above the ground, in New England. Every tree-lover should read it, and, as there are not indexes to every edition of the *Autocrat*, it may be added that it is in the tenth paper of the series. In acknowledging the receipt of the first part of my *Familiar Trees*, sent him nine years ago, by Professor BOULGER, Dr. HOLMES wrote: "I have long had Evelyn and Strutt upon my shelves, and am still a faithful tree-worshipper. . . . It would be a good idea to give pictures of famous trees, such as the Cowthorpe Oak, which you mention, the Yardley Oak, the finest Elms and Lindens, the Burnham Beeches (if they are not too commonly figured), the grandest old Yews, &c." This shows that his enthusiasm for trees was not limited to those of the country of his birth; for, like all the New England writers of his time, IRVING, LONGFELLOW, EMERSON, not forgetting ASA GRAY, and the others, he always looked upon Old England as the mother country.

THE GREAT FRUIT SHOW.—Leaving to others to note the results of the success of this great venture, I would like, writes Mr. D. T. Fish, to note a few of its surprises. To those who had the privilege this summer at the National Rose Society at Windsor, of observing in the Royal Gardens at Frogmore that all things horticultural were possible to Mr. Owen Thomas, the Royal Trophy of Fruit at the Palace Show could hardly be a surprise (see fig. 58, p. 445). The Royal exhibit was alike regal in its quality and quantity, and specially at the present time, when certain classes seem disposed to throw cold water on fruit-growing. It was pleasing also to note that amid all the Grapes grown at Frogmore, the venerable giant at Cumberland Lodge, in its 110th year, and furnished with 2200 bunches, was not forgotten. Next to this, the quality all round of the display of Apples and Pears from the Royal gardens at the close of such a sunless summer excited surprise. A list of the varieties of fruit shown was printed on a card. Next to the Royal Trophy of fruit I would place the Scotch Grapes, sent from Allos, grown with a new manure, as the greatest surprise. Grapes altogether were of good quality, and Mr. McIndoe and others have by no means lost their cunning. But Mr. Kirk, either through his skill, his stimulants, or the youthfulness and vigour of his Vines, has stolen a march in regard to size and colour on the veterans. The "Duke" was never shown in such condition before as at the Palace. The bloom was also perfect. Of the flavour I can give no opinion. Enquiring of one of the judges on this point, I found that it was not the rule now to apply this old-fashioned test of quality. The next and most pleasing surprise was the abundance and high quality of the Apples and Pears. The sensible system adopted by the Royal Horticultural Society of offering prizes for special varieties enables most hardy sorts to compete only, or chiefly, with its peers, and leads to a grand display.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The eighth anniversary dinner of this Institution (founded twenty-eight years ago) was held at the Cannon Street Hotel, City, E.C., on October 9. ARNOLD MOSS, Esq. (Messrs. Wrench & Sons, Seedsmen) presided, he being supported by Sir Stuart Knill (ex-Lord Mayor), Clarence Smith, Esq, M.P., H. J. Veitch, Esq., W. Y. Baker, Esq., W. Marshall, Esq, and other gentlemen. Covers were laid for 110 guests, and 109 sat down. Mr. Moss, in proposing the "Toast of the Evening," said that the society he represented deserved well of all the gardening community. The chairman



FIG. 57.—PHYSALIS FRANCHETI: JAPANESE BLADDER CHERRY—REAL SIZE. (SEE P. 434.)

furthermore urged all who were not members of this or kindred institutions to lose no time in joining it; the position of the gardener during the past few years of depression not being any too bright, it was incumbent on all to make that provision necessary to ensure assistance in times of sickness, calamity, and old age. The chairman stated that the total membership now was about 520, and the invested funds to date amounted to close on £10,000, no better guarantee than this being needed of its stability and sound management. Mr. Hudson (Treasurer) responded, saying the executive were determined that this Society should be second to none for the advantages it offered to the gardener. He quoted the remarks made by a new member who had joined the Society at the last committee meeting, which showed the deplorable condition of the branch to which he had hitherto belonged of one of the largest mixed benefit societies in the country. Mr. Clarence Smith bore testimony in his remarks, when proposing "The Visitors," to the sound condition of the Society's investments; and Sir Stuart Knill, in responding, alluded to the Gardeners' Company being granted the Livery during his term as Lord Mayor, and bore testimony to the admirable floral arrangements, and the handsome dessert furnished for the guests, both being characteristic of the Institution. W. Marshall, Esq, replied on behalf of the Honorary and Life Members, stating how gratified he, as one of the originators, was at the progress that had been made, urging also that the carefully drawn up rules at its formation thirty years back be studiously guarded. The tone throughout the meeting was excellent, a keen interest being evinced in the proceedings, which bodes well for the immediate future of this worthy Society. The financial results were also of a gratifying character. The chairman announced his intention of becoming a life member, at the same time stating that Sir Stuart Knill had much pleasure in doing the same, several new honorary members were also announced by the chairman; among others, N. N. Sherwood, Esq., sent a donation of £5 5*s.* to the voluntary convalescent fund, from which grants are made to members during convalescence, a noteworthy departure in benefit societies. This fund was augmented early in the past spring by a donation of £50 from the same gentleman, and previously by the then recorded munificent gift of £100 from Mr. and Mrs. H. J. Veitch on the occasion of their silver wedding. Further particulars can be had of the Secretary, Mr. W. Collins, 9, Martindale Road, Balham, S.W.

Professor Pringsheim.— On September 6, died, at Berlin, Professor Dr. Nathaniel Pringsheim, Geheimrath, in his seventy-first year. He was one of the most eminent botanists in Germany. He was born on November 30, 1823, at Wziesko, in Silesia; studied medicine, then botany, at Breslau, Leipzig, Berlin, and Paris; became Privatdocent of Botany in Berlin, 1851; Member of the Royal Academy of Sciences, 1856; Professor of Botany at Jena, as successor to Schleiden, 1864, and lived since 1868 as private botanist at Berlin. He was the first who gave, in 1855, the exact proof that the spermatozoids of the Algæ unite with the female cell. A great many of his studies concern the Crytogamous plants, and those of the most general interest are those concerning the Potato disease. Another field of his researches was the development of axes and leaves. The third and last series of his researches concerned chlorophyll. Contrary to the opinion of the greater number of physiologists, Pringsheim said that it is not the chlorophyll which assimilates the carbonic acid, but the protoplasm itself. The chlorophyll, he says, has only the function of protecting the plasma against the too energetic rays of the light in a like manner as the anthoxyan protects the young leaves in early spring. And, indeed, this interpretation, theoretically as well as practically, is well founded. The plasma must have assimilated before the chlorophyll existed. It would be very astonishing if the plasma were deprived of one, if not the most important, function which it has. And, indeed, there are known a great many cases in which plasma assimilates without chlorophyll. Each hair of a plant, containing plasma but no chlorophyll, assimilates the carbonic acid as well as a cell with chlorophyll. It is true, to make this out, most exact experiments are requisite, and it is significant, that all the researches of Prof. Pringsheim were made with the most scrupulous exactness. Besides this, Pringsheim never was content with one or two experiments, if even they gave the same result. For months he would make daily the same experiment until he had absolute certainty that the results were exact. Pringsheim founded the first physiological botanical institute at Jena. After this plan all the other physiological institutes were established. Though not teaching in the Berlin University, yet a great many botanists were assistants in his private laboratory, i.e., Strasburger, Pfeffer, Vochting, Reinke, &c. Since 1857 he edited the *Jahrbücher für wissen schaftliche Botanik*.

National Chrysanthemum Society.— A fully attended meeting of the general committee took place at Anderton's Hotel on the 8th inst, Mr. B. Wynne in the chair. The Hon. Secretary reported that the prize-money awarded at the September show had been paid, and the medals were forwarded to their several owners. An interim financial statement was made, showing the finances of the Society were in a very satisfactory condition. Some amendments to the rules recommended for adoption at the next annual general meeting were approved by the committee, one of the most important being that elections to the general and Floral Committee shall be by means of balloting papers. Twenty-three candidates for membership were elected, and the Launceston Horticultural Society, Tasmania, and three others admitted to affiliation. It was resolved that as the Society would attain to the fiftieth year of its existence in 1896, that measures be taken to celebrate its Jubilee in a suitable manner, and a sub-committee, consisting of the officers of the Society, and Messrs. H. B. Ironside, J. Wright, G. Gordon, H. J. Jones, T. W. Sanders, and T. Bevan be appointed a sub-committee to prepare a scheme, and submit the same to the general committee.

Agricultural Education in Aberdeenshire.—A meeting of the Institute of Agricultural Education was held in Aberdeen University Buildings recently. The Institute consists largely of public school teachers in Aberdeenshire who have gone through the University courses on agriculture, which were supported chiefly by the Aberdeen County Council. The first business was the consideration of the new syllabus of the Science and Art Department. An examination of this syllabus showed that it is essentially on the lines of the syllabus suggested by the Institute by the Department, and it was agreed to intimate to the Department full satisfaction with the change. It was felt that most important work had been done by the Institute in thus improving materially the character of the agricultural education that will now be given throughout the whole country, and bringing it into harmony with what has all along been taught at Aberdeen University. The Institute then considered the desirability of bringing the agricultural syllabus of the Scotch Education Department into co-ordination with the new national syllabus, and steps were taken with this intent. The Circular of the Aberdeen County Council recently issued to public school teachers was then brought under review, and a unanimous feeling was strongly expressed resenting paragraphs numbered 2 and 3 of this circular, which seems to give a preference to teachers who happen to be qualified by the Science and Art Department over those who are qualified by going through the special courses at Aberdeen University, sacrificing the holidays of two successive years for this purpose. When it is remembered that a graduate whose course has included any subject in which he may have passed with little merit, is regarded as qualified by the Science and Art Department, and when, besides, the same qualification may be got by any youth passing an examination preceded by twenty to forty hours' attendance at lectures, it does seem extraordinary not to place on a higher stage, or at least on a footing of equality, those tried men who have spent over 200 hours, and passed four of six examinations which were approved and controlled by the Technical Instruction Committee. It was doubted whether the Committee really meant what the Circular seemed to imply, and the subject was remitted to the Committee of the Institute as a matter demanding urgent attention.

Scottish Horticultural Association.— The specimens exhibited by Mr. M. Chapman, Easter Duddington Lodge, at the monthly meeting of the above Society, held on Tuesday evening the 2nd inst. at 5, St. Andrew Square, Edinburgh, consisted of Polygonum vaccinifolium, one of the best late-flowering rock plants; P. amplexicaule, Lobelia syphilitica, L. tupa, Phygelius capensis, Tricyrtis hirta, Rosa bengalensis viridiflora, Ceanothus Gloire de Versailles, Physalis Alkekengi, ripe fruit; Pernettya alba, ripe fruit.

South Birmingham Gardeners' Mutual Improvement Society.—The first meeting of the autumn session of the South Birmingham Gardeners' Mutual Improvement Society was held on Thursday, October 4, when Mr. J. Udale, the horticultural lecturer for the county of Worcestershire, gave an interesting and practical lecture on small fruits. In the course of his remarks, Mr. Udale warned his hearers against accepting the statements made by some writers in the horticultural press which are only likely to mislead. His advice was, do not be misled, and maintained that the enormous fruit crops and great profits sometimes seen on paper should be taken with some amount of reserve, for mostly they are isolated cases, and if not isolated, occur only in districts where the climatic and other conditions are favourable for certain kinds of fruits.

The "Botanical Magazine."—The October number contains coloured figures and descriptions of:—

Uraria crinita, Desvaux, t. 7377.—An erect hairy under-shrub, with equally pinnate leaves and long erect many-flowered spikes. Flowers small, papilionaceous, rosy-purple. East Indies, Malaya. Flowered at Kew.

Senecio laxifolius, Buchanan, t. 7378.—This is the New Zealand shrub to which the name latifolius was inadvertently given in a recent number of the *Gardeners' Chronicle*. The description there given from the *Handbook of the New Zealand Flora*, applies to quite a different plant. It was grown by Mr. Gumbleton, near Cork.

Iris atropurpurea var. atrofusca, Baker, t. 7379.—This is the plant described in our columns last year as I. atrofusca, but which is now considered by Mr. Baker to be a variety of atropurpurea. It is a native of Palestine.

Trichocentrum tigrinum, Lind. et Reichenb., t. 7380.—Described in our columns by Linden and Reichenbach, 1869, p. 892. It is a native of Central America, and has decurved peduncles; flowers 3 inches across in the longest diameter. Perianth segments lanceolate sub-equal, yellow, finely spotted with purple; lip larger than the segments, cuneate with two rounded lobes on the anterior portions pure white, slightly suffused with pink at the base.

Impatiens auricoma, Poisson, t. 7381.—A handsome perennial Balsam, with lanceolate leaves tapering at the base into a short grooved stalk provided with glands at its edge. Flowers yellow streaked with red. Native of the Comoro Isles.

Diseases of Fruit Trees.—Mr. D. T. Fish has delivered the first of two lectures on this subject at Bournemouth. The following is the syllabus of these lectures:—Lecture 1, "Causes and characteristics of Disease:" Climatal—Constitutional—Cultural—Insect Agency—Insanitary State of Fruit

Trees and Bushes; Fungi—Canker—Mildew—Gum—American Blight, or Woolly Aphis—Ligatures and Bruises; General Preventative Measures. Lecture 2, "Special Preventatives and Specific Cures:" Thorough Drainage—Improved Soils—Warmer Root Runs and Improved Roots—Avoidance of Extremes in Manuring—Pruning—Cropping—Better Matching of Stock and Scion—Greater Cleanliness of Leaf, Branchlet, Bole; Special Sprayings—Smearings—Dustings—Dressings—against Aphides, Spiders, Mites, Maggots, Caterpillars, Scale and Scab.

MARKET PRODUCE IN MATABELELAND.—A temporary sojourner in Buluwayo, writing home a letter of warning, includes the following items in his communication:—"Vegetables fetch a big price because there are so few. Recently 1 lb. of fresh butter was sold by auction for 13*s*. Onions are fetching 2*s*. 9*d*. each, and 2*s*. 3*d*. is the price for two small Cabbages." It does not, however, follow from this that market gardeners are to take wing for South Africa. It is not stated how many intending consumers competed for the vegetables, and if they were "settlers."

CHRYSANTHEMUMS IN VICTORIA PARK, LONDON.—Mr. Moorman, superintendent, writes to the effect that the display of Chrysanthemums in bloom in this Park was opened to the public on Wednesday last, 10th inst. The collection, numbering from 2000 to 3000 plants, includes the finest exhibition varieties, and a large number of novelties of 1894. Probably the plants will, as a whole, be at their best three weeks hence.

ISLE OF WIGHT.—The monthly meeting of the Horticultural Improvement Association was held at Ryde on Saturday, the 6th inst., when a large number assembled to listen to an address on "Orchids for Amateurs," by Mr. T. W. Barker, gardener to J. Woods, Esq., Matlock Villa, Ryde. The chair was occupied by Dr. Groves, B.A., Newport. Mr. Barker staged a collection of plants, including Orchids, Ferns, and Caladiums. As this Association becomes better known, members are constantly being enrolled. The next meeting will be held at Newport, when the "Cultivation of Hardy Fruits" will form the subject of a paper. A vote of thanks was accorded Mr. Barker for his lecture.

SHIRLEY, SOUTHAMPTON.—An extra special meeting of the Shirley and Surrounding District Gardeners' and Amateur's Improvement Association was held at the Philharmonic Hall, Southampton, on the 1st inst., with a view of extending the operations of the Society, and holding fortnightly meetings during the winter months. The President, Mr. W. F. G. Spranger, presided over a large attendance of the members, and Mr. W. B. Hill, who kindly lent the hall for the occasion, also offered it for the winter months, if fortnightly meetings were decided upon. Mr. E. Molyneux, of Swanmore Park Gardens, gave an excellent address on "Fruit Trees for Walls and Espaliers," and detailed the proper method of pruning, training, root-pruning, &c., also diseases the trees are liable to, and the remedies for the same, besides a list of the best varieties to plant on different aspects. There were exhibited hardy fruits from Mrs. Day, Polygon (gr., Mr. J. Jones), twenty-four dishes; Mr. W. Perkins, J.P., Partswood (gr., Mr. J. Miles), forty-three dishes; and Col. W. S. Sinkins (gr., Mr. J. E. Wilcox), thirteen dishes of Pears, &c. There was a good collection of hardy perennials from Mr. B. Ladhams. The meeting terminated with votes of thanks to the lecturer, and the election of several new members.

HANLEY PARK.—Mr. T. H. Mawson has published an interesting account of the park at this town in the Potteries, where the conditions are anything but favourable to vegetation. He lays down the principles by which he is actuated, and considers that the plan of a public park should be based on the principles of design, and not merely on the imitation of Nature. No doubt for small places with architectural features all round, this is the right course to follow. Equally right is, that lodges, fountains, gates, and other structures should be designed in harmony with the general plan of the park. The pamphlet is interesting to read, and the illustrations are numerous and pleasing. It may be had from Mr. Mawson, Wenderholme, Windermere.

STOCK-TAKING: SEPTEMBER.—The Revenue Returns for the first half of the financial year, having shown a great increase as compared with those for the same period in 1893-94, the new American Tariff having got fairly into work, and the number of estates in "liquidation" having fallen off in September, we might have been led to the conclusion that trade and commerce were improving, notwithstanding the War in the East, the Scotch coal strike, unsettling news from France, and the condition of the Czar's health. The Board of Trade Returns for the past month show that trade is improving, because it is better than it was in the preceding month of August, though the comparison does not hold with respect to the corresponding period of 1893, but then there was one working-day less than in September last year, there being five Sundays, and this signifies a great deal indeed in making up a balance-sheet. The falling off in the imports is almost all owing to the items introduced in the general heading food-supplies—sugar, flour Wheat, &c. Those who have noted the corn averages in our columns during the past month, will have been prepared for a great fall in values under this heading; but without further particularising, we give here our usual excerpts from the "Summary" tables of the Returns noted, as follows:—

Imports.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	31,378,830	30,249,136	—1,129,694
(A.) Articles of food and drink—duty free	12,008,558	10,684,372	—1,324,186
(B.) Articles of food and drink, dutiable	2,225,199	2,281,674	+56,475
Raw materials for textile manufactures	2,417,330	2,247,272	—170,058
Raw materials for sundry industries and manufactures	4,034,494	4,271,530	+237,036
(A.) Miscellaneous articles	1,229,683	1,027,125	—202,558
(B.)—Parcel Post ...	46,764	61,667	+14,903

It may not be out of place to note that the value of timber imported during the month is in excess by £152,000 of the amount entered for the same period last year; and we are reminded that the consumption of timber in the great Ural district in Russia is gradually and surely affecting the output of iron—a great industry there. Forests in other districts of Russia sadly lack conserving and replanting—in fact, an "Arbor-day" is much wanted in that vast country, as is acknowledged in the United States. Coming now to the imports of fruits and vegetables, &c., we take the following from the general mass of figures:—

Imports.		1893.	1894.	Difference.
Fruit, raw:—				
Apples	bush.	307,642	567,117	+259,475
Cherries	,,	...	...	...
Plums	,,	116,483	148,607	+31,921
Pears	,,	207,303	394,400	+187,097
Grapes	,,	214,299	191,702	—22,597
Unenumerated ...	,,	106,449	134,128	+27,679
Onions	,,	555,248	693,206	+137,958
Potatos	cwt.	37,303	29,470	—7,833
Vegetables, raw, unenumerated	value	£ 89,609	£ 106,530	£ +16,921

These figures are certainly calculated to "give pause" to British growers. It is interesting to know that the Board of Trade is moving in the matter of marking foreign fruits placed for sale on the English market. The authorities have shown that they had the power to interfere; but one would like to know why it was not put into operation long ago, and saved the expense in time and money of a Parliamentary inquiry into the subject, the Lords' Committee not having yet finished its labours! We turn now to

THE EXPORTS

For September, which amount to £17,599,320, or a decrease amounting to £834,809, as compared with the corresponding period last year. The coal strike and the extra idle day are quite sufficient to account for this difference, for trade with America has improved under many items; but the trail of the serpent is over everything just now; actual warfare and rumours of war are exercising their baleful influence over all the arts of peace; gallant though the struggle is in our plucky land. Trade with Japan is much affected, and the greater part of its imports are in British hands; nor can much be expected of China when the screw is being put on wherever money is to be had for military and naval purposes. To conclude, it may not be quite out of place here to note that rates of carriage by rail having been re-arranged, and lowered considerably, Silesian coals are now brought to the Western European seaboard, and sold at prices which renders competition with Scotch and English coal a very simple matter. Probably our market may soon be considered as very nearly lost.

DEVON AND EXETER GARDENERS' ASSOCIATION.—The work of the session was commenced last Wednesday evening (Mr. A. Hope presiding) with an excellent paper on "Present Day Gardening," by Mr. W. Swan, gardener at Bystock. The essayist reviewed the present state of gardening, and what was required at the hands of the modern gardener, as compared with what gave satisfaction to the employer of sixty years ago. He showed that while then we could wait with patience until Nature filled our apron with the products of the floral or vegetable kingdom, we now wrested from her choice fruits and flowers months before their natural time, all this being a more severe tax upon the skill and resources of the gardener of to-day. Referring to the sudden springing up of gardeners' associations all over the country, with memberships more or less numerous, according to the numbers in the respective neighbourhoods who were employed in the craft, he thought that any good centre in Devon, such as Exeter, for instance, would be a good place to inaugurate and carry on the system of allotment gardening as practised by the County Council of Surrey. At the close of the paper a discussion ensued, the chairman claiming that much of the popularity of present-day gardening had been brought about by the services rendered by the gardening press, which had done great service to gardeners and gardening. A hearty vote of thanks was awarded to Mr. Swan for his excellent paper.

THE PRINCIPLES OF HORTICULTURE.—On Tuesday evening Professor G. S. Boulger, F.L.S., delivered the first lecture of a course on the principles of horticulture, at Bruce Castle, Tottenham. The subject was "The Relation of Theory to Practice," and "The Life of a Plant." The lecturer began by referring to the fact that Lindley's *Theory of Horticulture* was not successful until re-named *The Theory and Practice of Horticulture*, as illustrative of the popular misapprehension of the meaning and value of theory. Starting from the economical principle that we should utilise to the full the powers of Nature, or produce the right thing in the right way, he insisted that the art or practice of horticulture is so dependent upon the science or theory that it might be called applied vegetable physiology. He then pointed out that the best results as to quantity and quality of produce were most likely to be obtained where the immediate object was profit, as in our market gardens, where not only soil and treatment had to be considered, but also the exigencies of the market. The science of horticulture, being merely the rational theory deduced from successful practice, it was essentially such science that the recent movement in favour of technical education demanded. Supposed opposition between theory and practice means either only unsound theory or unsound

practice. The successful cultivator, though perhaps unconsciously so, is essentially a man of science, basing his practice on his rational theory; but if he is to have confidence in his own action, he should have some acquaintance with the structure of plants and the chemistry of plant life. Science, however, is not only the interpreter of practice, generalising, systematising, and explaining the results of the observations of the practical man; but is also a guide, confirming, simplifying, or rejecting old rule-of-thumb methods. Every department of botanical science has its bearing upon horticultural practice, and one of the difficulties of the cultivator which is perhaps liable to be overlooked is that our garden plants, especially our vegetables, are necessarily under unnatural conditions, being, in fact, hypertrophied, and cannot, therefore, be judged by the canons of the physiology of normal health. Every species cultivated in our gardens demands separate study as to its physiological requirements; but there are broad principles of vegetable hygiene common to all. The life of the plant is a cycle from seed to seed, from the seedling just bursting from the germinating seed with its primary root and leafy shoot to the flower, the fruit, and the ripe seed ready for germination. In this cycle there are two marked and contrasted phases both of the highest interest to the cultivator: the nutritive stage, when root and shoot are actively engaged in the taking-in and utilisation of food for the development and growth of the individual plant, and the reproductive stage, when gay and sweet-scented flowers, and in some cases their insect visitors co-operate in the production of fruit "whose seed is in itself." This plant life, throughout both these cycles, is dependent upon food, upon temperature, upon moisture, and upon oxygen, and, therefore, soil, heat, ventilation and moisture, each demand careful attention. The next lecture will be on the soil and its treatment.

New Publications.—*Fertilisers and Feeding Stuffs.* By Dr. Bernard Dyer. (Crosby, Lockwood & Co.)—*Agricultural Journal of the Leeward Islands.* Edited by C. A. Barber.—*The Forester.* By James Brown; sixth edition, by J. Nisbet D. Œc, 2 vols. (Blackwood & Sons).—*A Popular Summary of the Law Relating to Parish Councils.* (Stevens & Sons).—*Journal of the Scottish Meteorological Society,* 1892 (Blackwood & Sons).—*Dictionnaire Pratique d'Horticulture, liv.* 30 (Hellebore to Humulus), O. Doin, 8, Place de l'Odéon, Paris.—*Monographie des Amaryllidaceæ, Bromeliaceæ et Iridaceæ, par* H. Baillon (Paris, Hachette).—*Flora of Mount Desert Island, Maine.* By E. J. Rand, and J. H. Redfield, Cambridge, Mass. (John Wilson & Son).

Home Correspondence.

The failure of the mulberry to ripen its fruit this year.—I should like it to be on record in your paper which is filed in all botanical gardens in different parts of the world, that in England this year the season has been so wet that although the Mulberries grew to a very large size, they did not ripen, but a mould fungus connected the fruits together and these fell to the ground in lumps as large as a fist. I ought to add that the Mulberry tree I refer to stood on a lawn on high ground quite open on all sides. *Thos. Christy.*

The fruit packing competition at the Crystal Palace.—Your correspondent writing under the signature "A. D.," p. 403, seems to be very desponding in regard to the fruit-packing competition at the late fruit show of the Royal Horticultural Society. I for one must say that I was pleased with the manner in which the winning exhibits were packed, and cannot see where "A. D." finds reason for grumbling. Take, for instance, the basket of Gros Colmar Grapes that won for Mr. Gore 1st prize, what fault can "A. D." really find with that exhibit? Not only was the method adopted simple, but it was decidedly the best, for scarcely one berry was rubbed; and what more, then, was needed? The materials employed were cheap and lasting. Take again, for instance, the 1st prize box of Peaches sent by Mr. Woodward from Barham Court, what could have been more perfect than the method adopted? The box in this case was decidedly cheap, costing but 1½*d.*, it being part of a butter-box, this costing but 3*d.*, which when sawn in two, makes two boxes similar to that used with the addition of a light lid. Surely there is no reason for complaint as regards the cost in this case. For the benefit of readers of this journal, will "A D." inform us in what manner these examples of fruit packing were at fault, for although fault-finding may be easy, it will be difficult to suggest any reasonable improvement, and decidedly more perplexing to put into practice a safer kind of package. *E. M.*

Peach and pear packing at the Big Fruit Show.—The method of packing adopted by the competitors, and Mr. Woodward in particular, was so good, it seems invidious to propose any improvement. Still, to guard against damage, by the package being violently dropped on to its sides or ends, I would suggest some such subdivision of the interior into square receptacles as that adopted by provision dealers when packing small lots of eggs. The material for this purpose should be very light, yet sufficiently strong not to give way, tin or perforated zinc, fine wire netting, thin white deal, or cardboard, the last-named will probably have the preference, it being cheap, light, and easily manipulated. Of course, wood-wool should be used as well. I think "A. D.'s" strictures on the packing on this occasion were uncalled for. *One of the Crowd.*

Peaches on open walls.—The note on p. 254 on the above subject prompts me to allude to the common assumption that Peaches will only succeed out-of-doors on walls with a southern aspect, and it is owing to this that they are seldom seen with other aspects. I hold that it is an advantage to the gardener to have Peach trees, where they succeed, on various aspects, as the Peach season is much lengthened, even with the same variety. For instance, Alexander, on a west aspect, will be fully a fortnight longer in ripening its fruit than against a south one. This is only one instance of the difference in the time required, and the advisability of variety. In this respect, I always make quite certain of a full crop of fruit from a tree of Late Admirable growing against an eastern aspect, and similar crops from a west wall of such varieties as Dymond and Grosse Mignonne. Walburton's Admirable is just the variety for a south wall, as the ripening is hastened by fully three weeks compared with what it would be on other aspects. What is said by the writer of the note anent the insufficient moisture at the roots is much to the point, especially such trees as carry full crops. The method, too, adopted by some gardeners in deferring the pruning of the trees till March is contrary to common sense. [We are not so sure of that, excellent crops being obtained from trees so managed, other things being rightly done. Ed.] I would ask what is the use of leaving surplus branches and shoots intact until the time named, and then cut them out? Far better to prune the trees directly the fruit is gathered, and thus give the remaining shoots the best chance of becoming matured. The out-of-door Peach cultivator must always be on the alert to subdue insect attacks, never allowing the trees to suffer more than he can avoid; and with the various insecticides now at command, this should be an easy matter. Do not plant Peaches on aspects exposed to the east wind, the trees suffering every year in the spring from curl and blister, and these attacks end in chronic ill-health. *E. M.*

The fruit show.—There is no denying that this three days' show was a grand object-lesson, showing the progress of British fruit culture. Unfortunately, however, it is feared that the very class that most needed such solid facts to convince them took little note nor interest of or in the fruit show. The *Times,* for example, which devoted considerable space to discussion of the question, had not a word to say, nor an inch of space to devote to an account of this great exhibition of one of the most important of our home industries. And though a call was made for Mr. Blackmore or other opponents at the close of Mr. Wise's able lecture in the Garden Hall at the Crystal Palace, not a voice in opposition was raised, just when and where it could have been at once and most fully answered. For the meeting-room at the Palace was packed on each day to its utmost capacity, mostly with practical fruit-growers, men of shrewdness and common sense, and of special skill, who are making fair livings though not colossal fortunes, out of the rising industry of British fruit-growing. But neither the show itself nor the most useful lectures on fruit growing in small gardens on Saturday, nor in large ones on Monday, had a word of sympathy from the *Times. D. T. Fish.*

Planting out forced strawberries.—Any doubts that I might have entertained concerning the success of planting Strawberries which have been forced, were set at rest upon viewing recently a patch of them at Gunnersbury House Gardens, the variety Vicomtesse Héricart du Thury being one of the most trusty for the purpose. It was not represented merely by a few plants nursed with an amount of care entirely out of keeping with the probable returns, or for furnishing a dish of fruit at a fixed date, but on a level piece of ground that had been heavily manured and deeply dug last May; the forced plants were put out at 2 feet apart in the rows, and 18 inches from plant to plant in the row—700 plants in all. In conversation with Mr. Hudson, I gleaned that he had removed all the flower-trusses as they had appeared till July 15, after which date they were allowed to remain, and at the time of my visit the plants were carrying flowers and fruits in profusion. The flavour of the fruit surpassed that of the summer-grown samples of the same variety this year. I omitted to ascertain the date of the first gathering, but from the remark passed that fruits had been gathered for some time, I concluded that it was long before the date of my visit that the first of these were fit for table. To lift the fruits above the ground, and also expose them to the sunshine, they were supported on twigs stuck in the ground. The success attained by Mr. Hudson shows the desirability of this practice being generally adopted, as the fruits are sure to be appreciated more than those of the late autumn varieties, which are mostly inferior in point of flavour to the Vicomtesse. *J. F. McLeod, Dover House Gardens.*

Agaricus arvensis.—I now send you two photographs of the Agaricus arvensis. They were very conspicuous objects in my park. The group, or rather one side of the group, my son photographed, had no specimen as much as a foot in diameter. No one in this neighbourhood had ever seen the Horse-Mushroom before. Some people here say they are as good as A. campestris to eat, others that they are very like eating leather, but as I never eat leather, I do not know how much they resemble each other. They are always in circles, and from measuring a dozen of these rings, my experience has been that where there are the largest Mushrooms, the ring has been most in diameter; the rings are from 20 to 40 feet in diameter (average 30 feet). More than a month ago (August 18), before we had them, Bristol market was full of them. I saw none here till September 2. *E. J. Lowe, Chepstow.*

Early Pears.—Whilst I am writing, I may mention that early Pears went decayed at once, some in two days; many sorts are badly cracked. Early Apples will not keep, and Damsons (some trees) have every fruit split open and worthless. Soon after the Apples and Pears set their fruits they were attacked by about a score small grubs in each; they swelled nearly to the size of a nut, and then turned like a ripe Medlar, and the caterpillar (I never saw it before) had disappeared. There had been an extraordinary bloom, and more set than I had before seen, but some large trees had not a fruit that escaped destruction. Has this been reported to you from other localities? *E. J. Lowe, Chepstow.*

The flowering of Yuccas.—Having noticed in the *Gardeners' Chronicle* for September 22 an enquiry regarding the age at which Yuccas flower, it may interest your Peterhead correspondent to hear of a plant of Yucca aloifolia which last year threw up a spike about 6 feet high, which it had not done for forty years to the knowledge of my employer. When the flower dried up I cut it away, and a strong growth pushed up, which I in July cut off at 3 feet in height this year and placed in a pot, and, strange to say, it also threw up a spike of bloom which grew to a height of 2 feet. There are several Yuccas in this garden twenty years old which have not flowered. I believe much depends on soil and situation. I have known some species to flower annually. *A. Watson, Letton Hall, Thetford.*

Iris and lily disease.—I am obliged to your correspondents, Messrs. Jenkins, Tallack, and others, for their notices of my remarks in your columns on this disease. To the former critic I am especially obliged for the information (new to me)



FIG. 58.—GROUP OF FRUITS SHOWN BY HER MAJESTY THE QUEEN AT THE ROYAL HORTICULTURAL SOCIETY'S RECENT SHOW AT THE CRYSTAL PALACE. (SEE P. 440.)

(From a Photograph by Negretti and Zambra.)

that the disease attacked Lilies grown under glass as well as in the open air. Yet this does not really contradict my theory as expressed in your columns. The causes of the disease I hold to be threefold:—1, the ever-presence of spores ready to attack the plants under favourable conditions; 2, damage done to the cuticle of the growing foliage; 3, atmospheric conditions suitable to the rapid development of the fungus. Since the demonstration of the winter-resting spore, it can be shown that at any time in the year, under suitable warmth and moisture, development of the fungus is possible. As regards the Potato disease, this generally happens in July or early in August; in dry seasons, as in 1893, there is no disease except in damp low-lying sites. In wet summers, like 1894, disease is generally prevalent, and always most so when moisture and rank foliage prevail. Your correspondents, Messrs. Tallack and Crook, seem to have noted the same result in regard to Lily disease, i.e., its greatest prevalence in damp places and in wet summers. It would be worth while trying on diseased Lilies the Bordeaux Mixture, so efficacious as regards Potato disease. On the question of the introduction of spores from abroad along with imported Lilies and Iris, it is very possible, and indeed probable, that such may have been the case, and that a fungus different from that which attacks the Potato may have come to us from the Continent. I am not in a position to throw any light on this point. With regard to cause No. 2, I see no reason why it should not operate under glass as well as, or even to a greater extent, than in the open; consider the numerous insects that under glass have to be kept at bay, thrip, green-fly, &c. I think that under glass Lilies receive much more damage to their foliage than in the open, every little puncture must be healed, and that tiny wound is large enough to let in a myriad of spores. If anyone will watch a bed of Potatos in full growth, he may notice swarms of tiny midges or flies (Empteryx) flitting from stem to stem at his approach; examining with a glass the foliage he will find larvæ, pupæ, and imago matured thereon, and careful search will show him a number of minute punctures in the leaf made by these little creatures, punctures ready while healing to admit the fatal spores—this condition of the Potato leaf seems to me exactly parallel to that of the Lily leaf under glass. This year the damage done to Iris foliage by cold and storm was greater than usual, hence, in my opinion, the greater inroad of the fungus; my plants that have been attacked are slowly recovering, and breaking feebly. I notice also, that generally my Iris foliage presents a scorched appearance with withered tips, more or less spotted, hence I infer that the disease (like the Potato fungus) has had a good time of it this year, but has been able only to destroy the young succulent foliage, not the older and tougher leaves, though it has tried its best; further observation is desirable. *Alexander Wallace, Colchester.*

VEITCH'S CLIMBING FRENCH BEAN: A CORRECTION.—I think a clerical error must have crept into Mr. Markham's note on Veitch's Climbing French Bean, printed in last week's *Gardeners' Chronicle*, p. 403. As, I doubt not, what Mr. Markham intended writing was, "I have known (not grown, as printed) this variety for more than thirteen years" (Mr. Markham having been foreman at Longford at the period of time—1881—referred to), and the "cause of its being so long in getting generally known" is owing to the fact of my having, wisely or otherwise, kept the stock of "my climbing Canadian Wonder French Bean" to myself until last year, when it passed into the hands of Messrs. Robert Veitch & Son, Exeter. It was sent out by that firm last spring under the name of "Veitch's Climbing French Bean," and under this name it was awarded a First-class Certificate by the Fruit Committee of the Royal Horticultural Society at Chiswick on the 25th ultimo. I think Mr. Markham has grown this Bean at Mereworth this year for the first time. I may here remark that the Climbing French Bean will flourish in ordinary fertile soil, and under the usual kind of treatment, excepting that if results of the best description are aimed at, supports from 6 to 8 feet high above ground should be afforded the plants when a few inches high, to climb up. *H. W. Ward.*

—— In reference to Mr. T. H. Slade's interesting note on this Bean in *Gardeners' Chronicle*, p. 376, I would advise thin sowing in drills 3 inches deep, preferably running in the direction of south to north at 4 or 5 feet apart, and treating them as regards moulding-up like other Beans. The sticks should be 6 feet high above the ground. I make three sowings; one towards the middle of the month of April, the second a month later, and the last at the middle of the following month. Mr. Slade is right in saying that "those who grow it once will grow it again," and I may add that those who have once cultivated it will always do so. *H. W. Ward, Longford Castle, Salisbury.*

THE OLD ASH AT WOBURN.—This immense tree was rooted up in a storm and cleared away about twelve years ago, about the same time that the famed Silver Fir, a landmark for many miles around, also disappeared, which, when stretched on the ground, measured 130 feet in length, and 14 feet in circumference. There still remain two trees at Woburn worthy of note; one a handsome Oak clothed to the ground with foliage, in the north-east corner of the pleasure grounds, a picture of health 21 feet in circumference; and "The Tall Beech" on Beech Hill near the upper pond in the park, clear of branches for 60 feet, and 14 feet in circumference. *Alex. McKay, late Woburn*, 1894.

FALSE LABELLING OF TOMATOS BY DEALERS.—I trust you will find space for publication of the following grievance (so that we may have the ideas of some of your readers with more experience than myself), namely, that of labelling foreign Tomatos as English, thereby deceiving the public and compelling the English growers to sell at a price (if he must compete), leaving no margin for profit. We hear now of fruit growing as failing to pay. But to my mind if the above grievance does not receive a remedy we shall find it much worse, as the quantities arriving from foreign ports are greatly on increase. I am a grower who sees no reason why it should not be made compulsory to label all foreign fruits. Thanking you in anticipation. *C. H. H.*

HARDINESS OF NICOTIANA AFFINIS.—*Apropos* of Mr. Page's remarks on the above plant, I should like to relate my experience. Last year a large bed in our garden was filled with sub-tropical plants including Nicotiana affinis, and the bed was cleared as usual in the autumn. In April, during the digging of it, my attention was called to a number of roots which had been brought to the surface. Each was furnished with leaf-buds after the manner of Seakale sets. Being anxious to see what kind of plant it would be, about one dozen were planted as a clump and labelled. These turned out to be N. affinis, and they proved more sturdy and floriferous than any of those raised from seed the same year. *A. E. Groombridge, Broms Hall Gardens, Scole.*

—— In answer to Mr. Page on p. 376 of the *Gardeners' Chronicle*, as to the hardiness of the above-named plant, I may say that, when living in Sussex, in 1891, in the summer of that year I planted some seedlings of this plant on a south border, and near the house, but few flowers appeared that summer; the following spring, however, fine clumps appeared, which commenced to flower early, and continued to do so all the summer. In 1893 they again appeared; but to make room for building operations, I was compelled to remove them, and being anxious to save the plants, I removed them to another border, where they soon recovered, and began to flower. They have long fleshy roots. These plants received no protection, and the border was but lightly forked over, as it contained bulbs and other plants. Having gone away from the place with the family, I have quite lost sight of them. I saw it shown as an annual in a 1st prize box in this town. *E. H. Bramhope, Canterbury.*

SOCIETIES.

ROYAL HORTICULTURAL.

October 9.—Notwithstanding the large exhibitions recently held by the Royal Horticultural Society at Chiswick and the Crystal Palace, there was a very extensive show of plants, cut blooms, fruit, and vegetables at the meeting of the committees, held in the Drill Hall, James Street, Westminster, on the above date. Large collections of fruit were conspicuous; and the two merging seasons were linked by good displays of Gladiolus and Dahlias, with exhibits of Chrysanthemum blooms and plants by their side. The weather was foggy, and of a very disagreeable character.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, J. Laing, H. B. May, H. Herbst, R. Dean, C. T. Druery, Geo. Stevens, C. E. Pearson, E. Beckett, R. Owen, C. J. Salter, C. F. Bause, R. B. Lowe, J. Jennings, P. Barr, C. Jeffries, T. Godfrey, J. D. Pawle, H. Turner, H. J. Jones, Ed. Mawley, and Rev. H. H. D'Ombrain.

A fine exhibit of Crotons was made by Messrs. B. S. Williams & Sons, Victoria and Paradise Nursery, Upper Holloway, London, N. Large and well-grown plants were shown. Williamsii, Disraëli, Bachii, Princess of Wales, with long pendent leaves of green and gold; Bergmanni, a bold form of leaf of white and green; formosus, A. F. Barron, Queen Victoria superba (very brightly coloured), Warreni, and the comparatively new Reidi, also of the same character, &c. There were several Nepenthes bearing pitchers, and a group of the newer varieties of Cannas in bloom. Among the latter were Paul Marquand, and Alphonse Bouvier; both were very desirable varieties. Three plants of Griffinia hyacinthina with strong spikes of Crinum-like flowers of mauve and white were very pretty. The leaves of this Griffinia resemble those of the Eucharis, but are quite erect. The plant is a pretty and attractive subject for the greenhouse (Silver-gilt Banksian).

Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, again exhibited a capital display of Gladiolus, and among a large number of varieties, three were distinguished with awards:—Casilda is a large cream-coloured flower, with a throat prettily marked with red; grandis is another large and good formed flower—in colour it is very warm intense flesh, with purple marks in the throat; Leonora has sepals of a similar colour to the last-named, with a throat marked with white in addition to the purple (Silver-gilt Floral Medal).

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited a very fine collection of herbaceous flowers, in large variety for so late in the season. Pentstemons, Montbretias, Delphiniums, Kniphofias, Achillea, and Scabiosa caucasica, were included, besides numerous varieties of Aster and Helianthemum (Silver Banksian Medal).

Some sprays of Physalis Francheti, with much larger calyx of bright orange colour than the type, were shown by Messrs. Veitch & Sons, Royal Exotic Nursery, Chelsea, and received an Award of Merit (see p. 441). Also a number of plants in flower of Carnation Mdlle. Thérèse Franco, apparently a free-flowering, dwarf-growing variety, with self-coloured blooms of deep pink. Begonia margaritacea, a garden hybrid, is a good variety of the metallic-like leaved section. A large pan was shown. Also some plants in flower of Amasonia punicea, a plant of Gymnogramma Veitchii, described as a supposed hybrid between G. decomposita and G. Pearcei robusta. It is a pleasing variety of graceful appearance, and double the height of G. decomposita and less dense in growth.

Messrs. Cutbush & Son, Highgate, London, N., staged a miscellaneous group of ornamental foliage plants, composed principally of well-grown Dracænas, and in addition was a collection of Calanthe (Pleione) lagenaria in flower, and some plants of Erica verticillata major and E. Bowieana, the former with dark orange-coloured flowers, and the latter with white ones (Silver Flora Medal).

Mr. W. J. Godfrey, Exmouth, Devon, exhibited blooms of a perpetual-flowering Carnation named Miss Mary Godfrey, a white-bloomed variety of considerable merit; also blooms of several other varieties of self-coloured and fancy Carnations (Silver Flora Medal).

A magnificent plant of Vallota purpurea in bloom was exhibited by Mr. Anstiss, Brill, Bucks. It bore about fifty strong flower spikes, with fine large flowers. It has been grown from a single bulb, and potted on without any dividing or thinning. It has been in the present pot for seven or eight years. This pot is about 1½ foot in diameter; and during the summer the plant is placed in the open air, and early in the autumn in a cold house (Silver Banksian Medal).

Roses were shown by Messrs. Wm. Paul & Sons, Waltham Cross, Herts—a dozen or more bunches of Niphetos, and blooms of numerous varieties, in remarkable form for so late a season. Plants of the new garden Rose, Duke of York, and blooms of the same variety were included (Silver Banksian Medal).

A spray of the pretty Poinciana pulcherrima in flower was shown by Jas. Epps, jun., Esq., Upper Norwood.

Mr. J. Crook, Forde Abbey Gardens, Chard, sent a collection of cut flowers, including bunches of Sweet Peas, several good Phloxes, a bunch of Gloriosa superba, &c.

Despite the autumnal weather, the Dahlia yet

lingers unharmed by actual frost. Mr. S. Mortimer, Swiss Nursery, Farnham, set up a collection of eighty-four excellent blooms of show varieties, remarkable for freshness. It was singular to notice that light varieties predominated, the delicately-tinted and yellow varieties being very good. A new show Dahlia named Golden Gem, a deep yellow tipped with pale red, is very promising. It is a fine full flower, and was shown in good form. There were in addition several show boards filled with Cactus varieties very fresh and nice-looking (Silver Flora Medal).

Mr. T. Anstiss, Brill, Bucks, an enthusiastic amateur, had two boards of excellent show Dahlias, as good as are usually to be obtained in September.

Mr. T. S. Ware, Hale Farm Nurseries, had a considerable number of bunches of Cactus, decorative and fancy Dahlias, backed by Michaelmas Daisies, and of the former the following may be named as good late-flowering varieties:—May Pictor, yellow; Matchless, and Lady Penzance (Silver Flora Medal).

A fine and valuable collection of new Japanese varieties of Chrysanthemum was staged by Mr. W. J. Godfrey, nurseryman, Exmouth, and Awards of Merit were made to Madame Charles Molin, a creamy-white variety, having the character of Viviand Morel, which it resembles in build, and is likely to make a fine exhibition variety; to Mrs. E. G. Hill, a large incurved flower, flushed with pink on a pale ground—highly promising; and to Madame Edouard Rey, a very fine, delicately-tinted flower, broad in the petal, and highly refined. Other fine varieties were T. H. Dennis, bright cinnamon, with a buff reverse, a very greatly-improved Val d'Andorre, when at its best; Prefect Robert, deep bright claret-colour, with silvery reverse, good petal, nicely incurving; Le Marquis d'Ayguesvives, the colour of G. C. Schwabe, but a bit brighter, a deep full recurving flower; Marquise de Paris, creamy white, with a pink centre, new three years ago; Exmouth Yellow, a yellow Exmouth Beauty, having the fulness and build of that variety, and a better constitution; Petite Delaux, blush white, shaded with soft rose, fine broad incurving petals; and Mrs. Doctor Ward, orange terra-cotta, with a light reverse.

Mr. W. Wells, Earlswood Nurseries, Redhill, set up a group of plants of new varieties, charmingly arranged with Asparagus, and having an edging of dwarf Pompons. Awards of Merit were made to Souvenir de Petite Aimée, a very large full white variety, regarded as a great improvement upon Beauty of Exmouth; and to Frank Wells, soft pink broad petals, and inclined to incurve. Sir Trevor Lawrence, a large white incurved Japanese; Louise, soft rosy blush, a very fine broad-petalled incurved flower; and President Armand, dark chestnut crimson, with buff reverse, perhaps a little too much incurved, are all very promising (Silver Banksian Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Sec.), De B. Crawshay, H. Williams, Maxwell T. Masters, H. Chapman, E. Hill, J. Douglas, Sydney Courtauld, Walter Cobb, T. B. Heywood, H. Ballantine, H. M. Pollet, and T. W. Bond.

There was an exceptionally good show of Orchids, which gave a bright appearance to the Hall, notwithstanding the fogginess prevailing. Steadily increasing are the fine exhibits from distant gardens, and the handsome things staged by G. D. Owen, Esq., of Selwood, Rotherham (gr., Mr. Mark Watt), and those from T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), were good examples for the exhibitors nearer London to imitate. Mr. Owen's three plants were Cattleya labiata "Countess Fitzwilliam," a grand white form with a very delicate pink pencilling on the lip (First-class Certificate); C. labiata Foleyana, a superb large white form, with an orange-coloured base to the lip, and a distinct crimson blotch in front, as in C. Mendelii Morganiæ (First-class Certificate); and the beautiful Lælia præstans alba, which has previously received the highest award. Mr. Statter's best were a fine four-flowered inflorescence of the matchless white C. gigas, and C. Warscewiczii Countess of Derby, whose beauties it is impossible to overestimate. He also showed the richly-tinted Cypripedium × Memoria Moensii, of the C. × Pitcherianum class, but with bright purple crimson upper sepal, broadly banded with white, and red purple petals, also with a fine white margin (Award of Merit); C. × gloriosa (insigne Chantini × Io grande), somewhat resembling a large C. × Ashburtonia; and Cattleya × Minucia.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, exhibited another new hybrid in Cattleya × Wendlandii (Warscewiczii ♂, Bowringiana ♀); the plant in growth and in the ample sheathing of its pseudobulbs partakes much of the character of C. Bowringiana, and in the colour and form of its large, neat, handsome flowers, showed traces of that species. The flower was as large as that of C. Percivaliana, of a warm rosy purple, the front of the lip being of a dark crimson, velvety in texture, and the area to the base of the same a chrome-yellow, the front of the tube displaying two yellow discs as in C. Warscewiczii (Award of Merit). Messrs. Veitch also showed Sophro-Cattleya læta (S. grandiflora ♂, L. pumila Dayana ♀), a singularly pretty hybrid. The flower was in form something like that of Sophro-Cattleya × Batemaniana, and consequently more nearly like that of S. grandiflora than the seed-bearer; its sepals and petals are pale red-pink, the base of the lip white, and the front of a shade of rose; Cattleya × Chloris (maxima ♂, Bowringiana ♀), and the handsome Lælio-Cattleya × Nysa superba.

Messrs. F. Sander & Co. staged an effective group of rare Orchids, among which was their new hybrid, Cattleya × Brownii (Harrisonæ × Bowringiana), named in honour of D. S. Brown, Esq., St. Louis, Missouri, U.S.A. The flower in the sepals and petals has a certain resemblance to Lælia majalis, but the sepals were broader, and the whole substance of the flower was thicker and more wax-like. The arrangement of the lip, and the general aspect of the flower, render it very distinct (Award of Merit). Messrs. Sanders' group also contained a fine example of Dendrobium veratrifolium (lineale), with several strong spikes; a well-flowered plant of the rare Catasetum Christyanum, Cycnoches chlorochilon, a very distinct crimson-tipped Pescatorea Dayana, Dendrobium superbiens, Vanda Kimballiana, a fine large-flowered Warrea, also Comparettia macroplectron, Oncidium undulatum, and six very fine forms of Cattleya labiata.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), showed the pretty heavily-blotched Odontoglossum crispum Bonnyanum, grown up to his usual high standard.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), sent Cattleya Schofieldiana superba, one of the handsomest forms of C. granulosa, and Cypripedium × lucidum (Lowii × villosum), a very distinct but not showy hybrid.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), exhibited Miltonia spectabilis Moreliana illustris, a very brightly-coloured form; a magnificent Cattleya Hardyana marmorata, with sepals and petals marbled rose and yellow; C. bicolor Wrigleyana, Trichopilia fragrans, and Sarcanthus pugioniformis (Botanical Certificate).

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr., Mr. Masterton), sent the handsomely spotted Odontoglossum crispum guttatum, Hazelbourne variety; and a pretty brown and yellow Oncidium from Colombia. Walter Cobb, Esq., Dulcote, Tunbridge Wells, showed Miltonia spectabilis Moreliana atropurpurea, perhaps the largest and most richly coloured form yet known (Award of Merit).

Charles Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), showed Lælia × amœna (pumila anceps), a singular little hybrid, which can be better judged when the plant gets stronger. Admiral Ralph P. Cator, Hazelwood, King's Langley (gr., Mr. G. E. Day), showed Dendrobium Phalænopsis alba, with white flowers, except the front of the lip, which was rose (Award of Merit); the singular Stauropsis philippinense (Botanical Certificate); and Dendrobium bigibbum. J. Bradshaw, Esq., The Grange Southgate (gr., Mr. Wiffen), sent a fine form of Masdevallia Chimæra.

J. Forster Alcock, Esq., Northchurch, Berkhamsted, showed Catasetum fimbriatum. The Hon. Mrs. Foley, Fordingbridge, Hants, sent Dendrobium bigibbum. Messrs. W. L. Lewis & Co., Chase Side, Southgate, staged an extensive and effective group, the most striking plant in which was Cypripedium × Bookeri (ciliolare × Spicerianum), in which the flower is very large and bold, the ample dorsal sepal purple, crimson, and white—a very striking, beautiful, and distinct hybrid (Award of Merit). Their group contained fine forms of Cattleya labiata, Oncidium macranthum, Lælia præstans, Cypripedium Charlesworthii, Oncidium incurvum, Miltonia Moreliana, and the fine old Dendrobium palpebra (Award of Merit); the group securing a Silver Banksian Medal.

Mr. P. McArthur, The London Nurseries, Maida Vale, W., also staged a good group, well associated with slender-growing Palms, Adiantums, &c. In it the varieties of Cattleya labiata showed great variation, from the neat almost white C. labiata delicata to the dark-coloured C. l. Gortoni, which had purple-feathered petals and sepals. In the group also were Cypripedium insigne Gortoni, Cattleya aurea, Lælia tenebrosa, Vanda tricolor, Cattleya Dormaniana, Cypripedium Chamberlainianum macranthum, various Odontoglossums, Dendrobiums, &c. (Silver Banksian Medal).

Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, had a group in which the many forms of Cypripedium Charlesworthii formed the chief attraction. In it, too, were the best form of Miltonia Bluntii Lubbersiana we have seen; a fine plant of the handsome Cypripedium × Chas. Richman, two good specimens of Dendrobium ciliatum, &c. (Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, showed some fine plants of Cattleya labiata, a good C. maxima, and three very distinct forms of Cypripedium Charlesworthii. Arnold Witt, Esq., Maida Vale, sent a large plant of Cypripedium bellatulum and one of C. Charlesworthii; and F. Wheatley, Esq., Ringmore, Teignmouth, sent a spike of a very pretty light form of Cattleya Dowiana aurea.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. T. F. Rivers, G. Bunyard, W. Wilks, J. Cheal, A. Young, T. J. Saltmarsh, C. W. Cummins, A. H. Pearson, J. Wright, A. Dean, J. A. Laing, W. Bates, G. Wythes, J. Hudson, F. Q. Lane, G. T. Miles, G. Norman, E. Gilman, J. Willard, and W. Balderson.

To show how well Pears can be grown on shallow soil, A. H. Smee, Esq., The Grange, Wallington (gr., Mr. Cummins), exhibited an astonishingly fine collection for an amateur. In all there were 123 different varieties, a selection of the Pears which have good quality to recommend them in ordinary seasons when grown in this country.

The year has not been a good one for Pears, especially in a somewhat overmoist soil like that at the Grange, and the fruits were not of their normal size in many instances, but they were perfect and without blemish, which indicates, as we believe, the adoption by the gardener of the newer methods of combating fungous growths and insect attacks. Of the rarer varieties we may specify Rousselet, Rousselet Enfant Prodigue, Dr. Trosseau, Beurré Audusson, B. Nantais, B. de Rohan, B. van Mons, and B. Tuerlinckx, Colmar d'Eté, Mondaga, Pius IX, Commissionaire de Lille, Passe Crassane, General Dutillieul, Frederic Leclerc, Orange Bergamot, Bonne d'Aran, Henri IV., Alexandre Lambre, Doyenné Seuille, Leopold I, Bouvier, Henriette Bouvier, Anna Nelis, America, Duchesse de Mars, Comte de Paris, and Bergamot Hertrich. An Award of a Silver Knightian Medal was made.

The Duke of Northumberland, Syon House, Brentford (gr., Mr. G. Wythes), made an extraordinary display of Pears and Apples, consisting of the best-flavoured or showiest varieties for size and colour, grown in this country. The fruits were examples of good culture, and well deserved the Silver-gilt Knightian Medal that was awarded. Melon Champion and others came from the same gardens.

Mr. H. Berwick, Sidmouth Nurseries, Sidmouth, had an extensive collection of fruits in baskets and plates, comprising the best-known varieties of Apples and Pears, the former being in the greater number (an award of a Silver Knightian Medal).

A very meritorious collection of Apples came from Messrs. Peed & Son, Roupell Park Nursery, Streatham, Surrey (Banksian Medal).

Dowager Lady Freake, Fulwell Park, Twickenham (gr., Mr. A. H. Rickwood,), had a collection consisting of choice varieties of Pears and Apples, much of which was undersized (Silver Banksian Medal).

Mr. Empson, gr. to Mrs. Winkfield, Ampthill, Beds, exhibited very superior examples of Carrots, Sutton's New Intermediate, Carter's Summer Favourite, and a good selection of the Long Surrey (Silver Banksian Medal).

From Messrs. Laxton, Bedford, came the Onion Sandy Prize, a nice not overgrown bulb, and grown under ordinary methods; a new seedling Plum said to be a cross between Golden Drop and October Yellow. It has some of the flavour of the former, and a tough skin, will certainly keep for several weeks after being gathered, and might prove a good drying variety.

Mr. Henry Appleby, Dorking, showed shoots of Diamond Plum, with a second crop of half-ripe fruits on them.

Some very large Doyenné du Comice Pears came from Messrs. T. F. Rivers & Sons, Sawbridgeworth, and specimens of the valuable late Golden Transparent Plum (Vote of Thanks).

A most extensive lot of garden produce was shown by Messrs. H. Cannell & Sons, Swanley, Kent. This consisted of thirty-four varieties of Onions, most of Deverill's varieties; also Nutting's Golden Ball, Inwood Favourite, Lullingston Park Hero, Neal's Advancer, Royal Jubilee, Cannell's Globe, and others. These Onions were all of extra size, and selected for seed-saving purposes. Other exhibits were Early Rose Celery, a quantity of very fine examples of Carrots, including James' Improved, several of the so-called stump-rooted varieties, so well adapted for shallow land; Coleworts, Savoys, good Egyptian Beetroot, &c.—good things shown in much abundance (Silver Knightian Medal).

A prolific oval-fruited Tomato, "Farr's All the Year Round," was shown by A. Pearr, Esq., Spring Grove, Isleworth (gr., Mr. Farr). The plants, growing in pots, were loaded with fruits in various stages of development, from the bottom to the top.

From Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, came a large assortment of Savoys, in size from the gigantic Drumhead down to the more delicate-flavoured small Early Dwarf Ulm. We remarked the varieties De Vertus, Late Green, Gilbert's Universal Hâtive d'Aubervilliers, and Golden Yellow (Silver Banksian Medal).

ROYAL HORTICULTURAL SOCIETY'S FRUIT SHOW.

September 29, *and October* 1 *and* 2.

We give a few additional details for which we had no space in our last issue.

Miscellaneous Flowers and Vegetables.

What must be regarded as almost the last appearance of the Dahlias in the present year was seen on this occasion, represented by several collections of a high order of merit, that offered charming patches of colour here and there, and considerably relieved the monotony of table after table of dishes of fruit, which, while of great interest to growers, are a little wearisome to the general public. Mr. F. W. Seale, Vine Nursery, Sevenoaks, put up a very large and imposing display, in which all classes of the Dahlia were seen to great advantage unusually late in the year. It was a striking feature in the western nave, and it is to be regretted such a large and excellent exhibit failed to secure any award from the Society. Mr. W. Wells, Earlswood Nurseries, Redhill, had plants of his excellent new early-flowering Pompon Rose Wells, which appears to be an almost perpetual bloomer; and, in addition, a collection of over fifty blooms of fine Japanese Chrysanthemums.

Messrs. B. S. Williams & Son, Victoria Nurseries, Holloway, had a group of dwarf Cannas in flower; Comte de Bouchard, Madame Crozy, and Admiral Gervais were all good. Mr. Charles Turner, Royal Nursery, Slough, had blooms of Decorative Dahlia Mrs. Turner. Messrs. Cutbush & Son, nurserymen, Highgate, had a large central table filled with cut flowers of a hardy character, Carnation Mrs. L. de Rothschild, in excellent condition, and Pink Ernest Ladhams, set off by a fringe of fruit.

Mr. B. Ladhams, nurseryman, Shirley, Southampton, had a collection of bunches of hardy cut flowers, and a considerable number of blooms of his fine new Pink, Ernest Ladhams, which appears to flower through a considarable portion of the year.

Messrs. H. Cannell & Son, nurserymen, Swanley, had bunches of Cactus and Pompon Dahlias of a very attractive character, a bank of excellent double Begonias, mainly yearly seedlings, and Cockscombs also.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, also had a very fine collection of Dahlias of surprising quality for so late a period of the year—nearly fifty bunches of Pompon, sixty of Cactus, and a large number of singles; a collection that was singularly bright and effective.

Messrs. Sutton & Sons, Reading, had very fine pods of their A 1 Runner Beans, a variety with a rough skin, carrying more weight per plant than Prizewinner, a Bean that was also shown—a long narrowish pod, with a smooth skin, the ripe seeds light purple with a few dark spots; it is a selection from the ordinary Scarlet Runner, but of which not 1 per cent. run back.

Some ripe ordinary Alpine Strawberries were shown, red and white, from plants grown from seeds sown on April 13, 1893; also Sutton's Improved Alpine, with longer and larger fruits grown in the same manner. This method of raising Alpine varieties is not new, but is seldom practised now-a-days, although it is known that seedlings possess greater vigour than plants from runners, and there is always a chance that something better may turn up amongst them.

Mr. Jerome, Tedding, showed the purple-podded Runner Bean about which such an unnecessary fuss is being made in some of the London daily papers.

Mr. Henry Deverill, seedsman, Banbury, had a large collection of wonderful Onions, Ailsa Craig in particular being very fine; the large size and handsome appearance of the bulbs attracted a good deal of attention from visitors.

Dried Fruits not Preserved in Sugar.

In this competition only two exhibitors were remarked—Mr. W. A. Trotter, gr., Broomboro Place, Ledbury, and Colville Browne, Esq., Horticultural College, Swanley, Kent. The first-named, the winner of the 1st prize, had, for English produce, a very excellent collection of dried fruits, herbs, &c., which capitally illustrated a certain way in which our fruits, surplus or other, can be put to a better use than sending them to glutted markets at unremunerative prices. The various articles were in all respects as good as those we obtain from the foreigner—if we say no more. They are grown for sale in small lots, say, of 12 lb. and over, as also in bulk, and the prices are, as we were given to understand, very moderate relatively to those of fresh green fruits, or to that which is imported from abroad. We remarked, shown in 1 lb. quantities, Apple-rings, quarters, whole, whole with the core punched out. Some of the above were specified, such as Flower of Herts, Hawthornden, and Golden Noble, and some had been dried in 1893, and some this year, the only difference observable being a slightly darker tint in the fruit of last year. These Apples would be the equal of Normandy Beaufins. The same exhibitor showed Plums dried in 1 lb. boxes as for sale, Washington, Greengage, Golden Gage, Dymock, Victoria, Magnum Bonum, Mussel, fruits of 1893 and 1894; also Damsons of 1891 and 1894; Black Currants, Pears, whole and in halves. Figs, Morello Cherries, and Peaches of 1894. The Plums of all varieties were especially appetising in appearance, with skins unbroken, and the equal of the continental Prunes. We should not let our prejudices stand in the way of making use of such excellent comestibles. Dried vegetables formed another exhibit from Mr. Trotter, and these consisted of Scarlet Runner and French Beans, Green Peas, Tomatos, and Asparagus; also Lemon Peel (a Silver-gilt Medal accompanied this prize).

The fruits and vegetables were dried by Dr. Ryder's patent evaporator, the same which was shown at Chiswick a year or two ago. The 2nd prize fell to Colville Brown, Esq., Horticultural College, Swanley.

Miscellaneous.

Messrs. Tasman & Son, Sun Court, Barbican, London, exhibited refrigerators suitable for the preservation of fruit, also boxes for sending fruits to market, &c.

Mr. J. George, 10, Victoria Road, Putney, had a stand containing a great variety of horticultural sundries, peat, &c., for potting purposes, and many kinds of insecticides, and manures. Some bunches of Gros Colmar Grapes grown by Mr. Thomson of Clovenfords, and which had been treated with his Vine and plant manure, were remarkable for the unusual size of the berries.

BIRMINGHAM GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

October 8.—The first autumn meeting of the Birmingham Gardeners' Mutual Improvement Association was held in the Athletic Institute on the above date. Mr. W. B. Latham, Curator of the Birmingham Botanical Gardens, in the chair.

A paper was read by Mr. John Pope, nurseryman, on the Dahlia, with special reference to its new development, as well as to the more primitive forms of the genus brought from Mexico to Europe. Mr. Pope exhibited examples of several special varieties to illustrate his subject, conspicuous amongst which were D. picta formosissima and D. gracilis, which latter he has continued to cultivate ever since he introduced it from France some twenty years since, as a type of a single scarlet Dahlia. Incidentally also he mentioned the interesting fact that the first Pompon Dahlia named Little Wonder was raised at Handsworth, near Birmingham, about thirty-five years ago by a Birmingham button-maker named Smith, who was a great enthusiast in growing several kinds of florists' flowers. Amongst the various exhibits, most interesting was a flower of the new tubular-petalled Dahlia, Grand Duke Alexis of Russia, sent by Messrs. Cannell, of Swanley, and which coincidentally was so strikingly figured in the *Gardeners' Chronicle* last week.

In the interesting discussion that followed the essayist, not the least amusing was the reference to the phonetic pronunciation of the word Dahlia, and in which Messrs. Bick, W. Gardiner, and Spinks took prominent part. The proceedings were enlivened by collections of Dahlias, comprising several of the newer varieties, sent by Messrs. Turner of Slough, Perkins of Coventry, Keynes of Salisbury, Mazlett of Worcester, and Pope of King's Norton; whilst Hewitt & Co. of Solihull contributed a box of splendid Begonia blooms, tastefully arranged with sprays of Maidenhair Ferns; also a collection of Michaelmas Daisies and hardy herbaceous flowers. An interesting future in the proceedings was the distribution of the prizes in the shape of valuable books pertaining to horticulture offered by the association to gardeners (members), for essays on the cultivation of a supply of vegetables for a family throughout the year. The selection of the books was left to the winners individually. *W. G.*

NATIONAL CHRYSANTHEMUM.

October 10, 11, 12.—The second show of this society held during the present season was opened on Wednesday last in the Royal Aquarium, Westminster. Exhibits of Chrysanthemums were not numerous, but some of the blooms were of splendid quality, notably in the open class, for twenty-four flowers. Miscellaneous exhibits, as is usual at these early shows, were in excess of those strictly within the province of a society devoted to Chrysanthemums.

In the competition for a group of Chrysanthemums and foliage plants arranged for effect, the 1st prize was taken by Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, with a similar group to that noticed from this exhibitor at the Drill Hall on the previous day. The group was very thinly composed of dwarf plants carrying in most cases a single bloom, and interspersed with Ferns, &c. Mr. Geo. Stevens, St. John's Nursery, Putney, was 2nd with a much more closely packed group. Mr. W. Wells was 1st for twenty-four blooms of Japanese in not less than eighteen varieties, and showed very fine blooms, his best were, W. H. Lincoln, Ed. Molyneux, Chas. Shrimpton, Madame Thérèse Rey, Kentish Yellow, F. W. Flight, Edith Rowbottom, and William Tricker; 2nd, Mr. W. Collins, gr. to J. W. Carlile, Esq., Ponsbourne Park, Hertford, who had good blooms of Madame Thérèse Rey, Mrs. E. W. Clarke, E. Molyneux, President Borel, and S. C. Schwabe; 3rd, Mr. Chas. Cox, gr. to Jno. Trotter, Esq., Brickendon Grange, Hertford.

The 1st prize for twelve Japanese blooms, distinct, was taken by Mr. E. Rowbottom, gr. to H. R. Williams, Esq., The Priory, Hornsey, N. His best were Primrose League, Mrs. E. W. Clarke, Utopia, Madame Thérèse Rey, Edith Rey, and Commandant Blusset, all of which were good; 2nd, Mr. W. Wells; and 3rd, Mr. W. Collins.

Incurved blooms were rather small, and only partially developed. The best prize for twelve blooms went to Mr. E. Rowbottom, and the best of those staged were Baron Hirsch, Mons. R. Bahuant, and Jeanne d'Arc; 2nd, Mr. Jas. Agate, nurseryman, Havant, Hants; 3rd, Mr. W. Wells.

Pompons were only exhibited by Miss Debenham, St. Peters, St. Albans; and a 2nd prize was awarded this exhibitor for twelve bunches and six bunches respectively in the section.

Amongst the amateurs a 1st prize went to Mr. Wm. Amies, South Ashford, Kent, for six good blooms of Japanese, including E. Molyneux, and M. Tenard, most noteworthy; Miss Anne L. Gaunt, Hilderthorpe, Philip Lane, South Tottenham, was 2nd; and Mr. H. Wedekind, 13, Warloch Road, Paddington, W., 3rd.

The best twelve blooms of Japanese shown by "single-handed" gardeners, was exhibited by Mr. E. Tickner, gr. to Jno. Watney, Esq., Shermanbury House, Reigate, who had a fairly good lot, but the blooms were very unequal, and some were poor; 2nd, Mr. T. L. Turk, gr. to T. Boney, Esq., Cholmeley Lodge, Highgate, N.; 3rd, Mr. T. Knapp, gr. to F. W. Amsden, Esq., 22, Chichester Road, Croydon.

In a class for six blooms, distinct, of any new

varieties sent out during 1893 and 1894, for which a special prize was offered by Mr. H. J. Jones, the 1st prize was taken by Mr. W. Wells, with blooms of F. W. Sanders, Louise, Miss Dorothy Shea, W. Seward, Chas. Davis, and Frank Wells; Mr. Jas. Agate was 2nd.

Florists' arrangements always form a feature at these shows, and on this occasion they were very good, as well as numerous. The 1st prize in the open class for a table of bouquets, wreaths, sprays, &c., illustrating the decorative value of Chrysanthemums, was taken by Mr. J. R. Chard, Stoke Newington, with a tasteful arrangement. Mr. L. H. Calcutts, Stoke Newington, had also a capital exhibit. Mr. J. R. Chard was 1st for three epergnes of Chrysanthemums suitable for the dinner-table; and Mr. D. B. Crane, 4, Woodview Terrace, Archway Road, Highgate, London, 2nd; Mr. F. W. Seale, Sevenoaks, was 3rd. The 1st prize for a single vase was taken by Mrs. E. Beckett, Aldenham Road, Elstree, Herts.

MISCELLANEOUS.

Amongst the miscellaneous exhibits that we can only briefly notice were a collection of Asters, and Apples and Pears, and some well-finished bunches of Lady Hutt and Appley Towers Grapes, from Messrs. Wm. Cutbush & Sons, Highgate Nurseries, London, N.; some Apples and Pears from Mr. Alfred Wyatt, market gardener, Hatton, Middlesex; a collection of Apples and Pears from Messrs. S. Spooner & Sons, Hounslow; a large collection of vegetables and flowers from Messrs. Cannell & Sons, Swanley; a collection of Apples and Pears, including 250 dishes from Messrs. Jno. Laing & Sons, Forest Hill, London, S.E. Messrs. J. Cheal & Sons, Crawley, had a collection of Dahlia blooms; and Mr. S. Mortimer had another exhibit of Dahlia blooms. Messrs. J. Burrell & Co., Cambridge, had a display of Gladiolus. Mr. H. Berwick, Sidmouth, Devon, a collection of fruit; and Messrs. B. S. Williams & Son, Upper Holloway, London, N., an exhibit of fine Crotons. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, London, S.E., had a collection of Chrysanthemum blooms, including some promising seedling varieties; Mr. E. Rowbottom had twenty-four blooms of Chrysanthemums. Mr. W. Wells had also a few Chrysanthemums; and exhibits of a similar nature were from Mr. W. J. Godfrey, Exmouth; Mr. Thos. Amies, and Mr. E. George Reid, Sydenham, London, S.E. Mr. T. S. Ware, Hale Farm Nursery, near Tottenham, had a collection of Asters and Dahlia blooms; and Mr. H. Deverill, Banbury, a collection of Onions. Messrs. Edwards & Son, Sherwood, near Nottingham, had a stand of their decorative pots, made of conglomerate wood and metal; and another stand was devoted to Haines' Patent watering-cans, from Lea Bridge Road, Clapton, London, N.E. Chrysanthemum cups and tubes exhibited included the Beckett, the Springthorpe, the Champion, and the Shoesmith.

Many of these exhibits were shown at the Royal Horticultural Show at the Crystal Palace, or at the Drill Hall.

Obituary.

MRS. FORBES ROYLE.—On Oct. 3, at Gastein, Gypsy Hill, after a brief illness, aged 77, ANNETTE, daughter of the late Edward Solly, of Curzon Street, Mayfair, and widow of the late John Forbes Royle, M.D., F.R.S. Mrs. Royle largely shared her husband's labours, and especially the preparation of the two folio volumes "Illustrations of the Botany of the Himalayan Mountains." The copious analytical indexes to these volumes were compiled entirely by Mrs. Royle, as she told us, who devoted fourteen hours a day to them for three months. Mrs. Royle was the sister of the late Prof. Ed. Solly, a well known chemist in his day, and who, like Dr. Royle, was intimately connected with the Horticultural Society in bygone years.

CANARY SEED CULTURE IN TURKEY.—Canary seed is stated to have been exported last year from Gallipoli to the extent of 18,500 quarters. At the commencement of the season the seed realised £1 10*s.* the quarter, free on board, in sacks, and ran up, owing to the strong demand, to £2 2*s.* The farmers have grown Canary seed in preference to Wheat, and this year's harvest is expected to be double that of last year.

MARKETS.

COVENT GARDEN, October 11.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Adiantum, per doz.	4 0	12 0	Fuchsias, per dozen	4 0	6 0
Aspidistra, per doz.	12 0	30 0	Heliotropes, per doz.	3 0	6 0
— specimen, each	7 6	21 0	Hydrangeas, per doz.	9 0	18 0
Asters, per dozen ...	3 0	6 0	Lilium Harrisii, per dozen ...	12 0	24 0
Campanulas, p. doz.	6 0	12 0	— lancifolium, pr. dozen ...	9 0	12 0
Chrysanthemums, p. dozen	6 0	15 0	Marguerites, p. doz.	6 0	12 0
Cyperus, per dozen...	4 0	10 0	Mignonette, per doz.	3 0	6 0
Dracæna, each ...	1 0	5 0	Palms, various, each	2 0	10 0
Evergreen Shrubs, in var., per dozen ...	6 0	24 0	— specimens, each	10 6	84 0
Ferns, various, doz.	4 0	12 0	Pelargoniums, scarlets, per doz. ...	3 0	6 0
— small, per 100	4 0	6 0	Primulas, per doz. ...	4 0	6 0
Ficus elastica, each	1 0	7 6	Solanums, per doz...	12 0	15 0
Foliage plants, doz.	9 0	24 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Arums, per doz. bl....	4 0	6 0	Myosotis, or Forget-me-Not, doz. bun.	1 6	3 0
Asters, doz. bun. ...	2 0	4 0	Pansies, 12 bun. ...	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Orchids:—		
Carnations, 12 blms.	0 9	2 0	Cattleya, 12 blms.	6 0	12 0
— doz. bun. ...	9 0	24 0	Odontoglossum crispum, 12 blms.	2 0	4 0
Chrysanthemums, p. 12 blooms ...	1 6	6 0	Geraniums, scarlet, p. 12 bun.	6 0	9 0
— p. 12 bunches	4 0	8 0	— 12 sprays ...	0 4	0 6
Eucharis, per dozen	3 0	6 0	Pyrethrums, 12 bun.	2 0	4 0
Gaillardias, dz. bun.	1 6	2 0	Roses, Tea, per dozen	1 0	2 0
Gardenias, per dozen	3 0	4 0	— coloured, p. doz.	2 0	4 0
Gladiolus, doz. bun.	18 0	24 0	— yellow (Maréchals), per doz.	1 6	4 0
Lapageria, 12 blooms	1 0	2 0	— red, per dozen ...	0 6	1 0
Lavender, 12 bunches	4 0	6 0	— outdoor, per doz. bunches... ...	2 0	6 0
Lilium Harrisii, doz.	4 0	6 0	Stephanotis, dozen sprays	2 0	3 0
— lancifolium, p. bunch	1 0	2 0	Tuberoses, 12 blms.	0 4	0 6
— — p. 12 blooms	0 9	1 6			
Maidenhair Fern, per 12 bunches ...	4 0	6 0			
Marguerites, 12 bun.	1 0	3 0			
Mignonette, 12 bun.	1 0	3 0			

ORCHID-BLOOM in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Apples, American, per bar.	10 0	12 0	Grapes, Muscat, 2nd quality, per lb. ...	0 9	1 0
,, Cooking, per sieve ...	4 0	6 0	,, Guernsey, per lb....	0 5	0 9
,, Dessert, half-sieve	3 0	5 0	Melons, each ...	1 0	2 0
Cobs, per 100 lb. ...	25 0	30 0	Peaches, large, per doz.	4 0	8 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	,, small, per doz. ...	1 0	2 0
,, English, 2nd quality, p. lb.	0 6	1 0	Pears, p. sieve, small	1 6	2 0
Grapes, Muscat, per lb.	1 6	2 0	,, (Dessert), half-sieve	2 0	4 0
			Pine-apples, St. Michael, each ...	2 0	5 0
			Plums, half-sieve ...	2 0	5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	*s. d.*		*s. d.*	*s. d.*
Beans, Runners, sieve	1 6	2 6	Mushrooms, per lb.		1 0
Cauliflowers, p. doz.		1 0	Onions, per bush. ...	2 0	2 6
Cucumbers, per doz.	2 0	3 0	Tomatos, per lb. ...	0 4	0 6

POTATOS.

Supplies have not been as heavy during the past week, and consequently prices have tended upwards for most samples. Prices:—Snowdrops, Beauty of Hebron, and Main Crop, 80*s.* to 100*s.*; Magnum Bonum, Bruce, and Giants, 70*s.* to 80*s.*; Ordinary samples and Blacklands, 47*s.* 6*d.* to 60*s.* per ton. *J. B. Thomas.*

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *October* 9.—Quotations:—Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* to 2*s.*; Parsley, 9*d.* to 1*s.* 6*d.* per dozen bunches; Beans, Scarlet, 1*s.* 3*d.* to 1*s.* 9*d.* per bushel; Horseradish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, foreign, 2*s.* to 3*s.* 6*d.* per bag; do., English, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Apples, English, 2*s.* to 6*s.* per bushel; Pears, 9*d.* to 3*s.* 6*d.* per half bushel.

STRATFORD: *October* 9.—The supply to this market during the past week has been excellent, and with a large attendance of buyers a brisk trade was done at the undermentioned prices:—Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Cauliflowers, 6*d.* to 10*d.* per dozen; do., 3*s.* to 4*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, household, 27*s.* 6*d.* to 42*s.* 6*d.* per ton; do., cattle-feeding, 20*s.* to 30*s.* do.; Mangels, 10*s.* to 17*s.* do.; Swedes, 14*s.* to 19*s.* do.; Onions, English, 3*s.* 6*d.* to 4*s.* per bag; do., Dutch, 2*s.* to 3*s.* do.; Apples, English, 2*s.* to 5*s.* per bushel; Watercress, 6*d.* per dozen; Damsons, 2*s.* to 3*s.* per half-sieve; do., 4*s.* to 4*s.* 6*d.* per flat; Cucumbers, frame, 1*s.* to 1*s.* 6*d.* per dozen.

FARRINGDON: *October* 11.—Quotations: Cauliflowers, 1*s.* per dozen; Celery 9*d.* do; Beetroots, 6*d.* do; Beans (Scarlet), 2*s.* per bushel; Sprouts, 1*s.* 9*d.* per bushel; Horseraddish, 1*s.* per bundle; Cucumbers, 1*s.* 6*d.* per doz.; Tomatos, 4*s.* per dozen; Marrows, 1*s.* per dozen; Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Collards, 1*s.* 3*d.* to 2*s.* 6*d.* do.; Greens, bunch, 1*s.* to 1*s.* 6*d.* do.; Turnips, 1*s.* 6*d.* to 2*s.* per dozen; Carrots, bags, 1*s.* 9*d.* to 2*s.*; Apples, cooking, 4*s.* to 6*s.* per bushel; Pears, stewing, 2*s.* to 3*s.* do.

SEEDS.

LONDON: *October* 10.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended, with little business doing. English winter Tares find buyers at the surprisingly low rates now accepted. Sowing Rye steady. Clover seeds neglected. Rye-grasses drooping. Home-grown Mustard and Rape seed offer cheap. French Buckwheat sells freely. Peas and Haricots in improved request. Canary seed moves off slowly on former terms. Linseed unchanged.

POTATOS.

BOROUGH AND SPITALFIELDS: *October* 9.—Quotations ranged from 45*s.* to 80*s.* per ton.

STRATFORD: *October* 9.—Quotations:—Magnums, Darkland, 40*s.* to 55*s.*; do., Light-land, 45*s.* to 60*s.*; Sutton's Abundance, 55*s.* to 75*s.* per ton.

FARRINGDON: *October* 11.—Quotations:—Hebrons, 60*s.* to 80*s.*; Bruces, 60*s.* to 70*s.*; Essex Magnums, 60*s.* to 70*s.*; Imperators, 50*s.* to 60*s.*; Rounds, Essex, 55*s.* to 70*s.* per ton.

LONDON AVERAGES: *October* 10.—Snowdrops, 80*s.* to 95*s.*; Hebrons, 70*s.* to 80*s.*; Kidneys, 60*s.* to 75*s.*; Magnums, 55*s.* to 65*s.*; Black-lands, 45*s.* to 55*s.*; Maincrop, 80*s.* to 90*s.*; Champions, 50*s.* to 60*s.*; rounds, 45*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 135*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 60*s.* to 130*s.*; do., specially picked, 138*s.*; do, inferior, 36*s.* to 68*s.*; Mixture, 90*s.* to 120*s.*; and Straw, 22*s.* to 40*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 6, and for the corresponding period last year:—1894: Wheat, 18*s.* 2*d.*; Barley, 23*s.* 7*d.*; Oats, 14*s.* 1893: Wheat, 27*s.* 10*d.* Barley, 29*s.*; Oats, 17*s.* 10*d.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Above (+) or below (—) the Mean for the week ending October 6.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	43	0	+ 301	— 57	11 —	169	37·9	32	33
1	1 —	47	3	— 74	+ 2	6 —	155	26·9	24	34
2	2 —	51	0	+ 12	— 58	4 —	158	18·9	22	33
3	1 +	74	0	+ 30	— 104	4 —	153	19·4	21	35
4	2 —	51	0	+ 13	— 89	6 —	145	18·4	16	32
5	1 —	74	0	+ 72	— 122	4 —	147	21·7	25	36
6	2 —	48	1	+ 12	— 71	11 —	158	34·6	19	33
7	2 —	53	0	+ 147	— 122	9 —	155	24·8	27	33
8	2 —	62	0	+ 75	— 82	10 —	160	28·7	39	38
9	0 aver	60	0	+ 13	— 34	8 —	174	27·4	33	30
10	1 —	62	0	+ 45	— 69	8 —	159	29·5	36	32
*	1 —	95	0	+ 229	— 18	7 —	165	28·5	32	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending October 6, is furnished from the Meteorological Office :—

"The *weather* during the early part of the week was mostly fair and dry, though with a good deal of cloud and mist in places. Later on, the conditions became less settled, a little rain occurring at most of the eastern, central, and southern stations, and some rather decided falls on the south-east coasts of England.

"The *temperature* was slightly above the mean in 'England, E.,' and just equal to it in 'Scotland, N. and Ireland, N.' In all other districts there was a deficit, amounting to one or two degrees. Highest readings were recorded mostly during the early part of the week, when the thermometer rose to between 62° and 65° in all districts, excepting 'England, E.' Lowest readings were also observed, as a rule, some time early in the week. Frost occurred in all districts, excepting 'Scotland, N.,' 'England, E. and S.,' and the 'Channel Islands;' in 'Scotland, E. and Ireland, N.,' the sheltered thermometer fell to 28°.

"The *rainfall* was very deficient in all districts. In 'England, N.W. and Ireland, S.' there was none at all, and in all the other grazing districts, as well as in 'Scotland, N.,' the amount was exceedingly slight.

"The *bright sunshine* was in excess of the average in 'Ireland, Wales, the western parts of England, and the north of Scotland,' and equalled the normal in 'England, N.E.' Elsewhere there was a deficiency; the absence of sunshine being mostly marked in 'England, E. and S.' The percentage of the possible duration ranged from 39 in 'England, S.W.,' and 36 in 'Ireland, S.,' to 19 in 'Scotland, W.,' and to 16 in the 'Midland Counties.'"

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Bean: *W. S.* Without seeing the whole plant and ripe pods we cannot say with certainty what it is. It has some resemblance to the purple-podded Runner Kidney Bean (Haricot à Cosse Violette of the French).

British Fungi: *Correspondent.* Dr. Cooke's *Plain and Easy Account of British Fungi* is to be had from W. H. Allen & Co., 13, Waterloo Place.

Blechnum *v.* Lomaria: *D.* (see p. 401). We have specimens from Kew, and have also examined our own dried Kentish specimens. In all the sori and indusium are all well within the margin, hence the species is correctly placed in Blechnum.

Cone of Cedar of Lebanon: *F. M.* You cannot extract the seeds, which lie at the base of the scale, unless the cone is opened under the action of sunshine, or forcibly pulled to pieces. If it should open of itself, the seeds could be shaken out, and the cone soaked in water and afterwards bound together with thin wire it would preserve much of its natural appearance.

Fruit Culture in Canada: *E. H. W.* Before you do anything in fruit-farming it would be the most prudent course to pursue for both of you to obtain situations in either commercial or private gardens, preferably the former. You might stay in such situations a year or two before deciding on a locality for your venture. Advertise in this journal, and in the *Northern Messenger* at Montreal, *Rural Canadian* at Toronto, and *North-Western Farmer, Manitoba Miller* at Winnipeg, or the *Canadian Horticulturist*, Ontario.

Fuchsia: *Fuchsia.* The plant, having bloomed once, will not do so again the same year, and it requires, towards this season, a gradually withholding of water at the roots, and cool treatment; and when the leaves turn yellow it should be stood away in a cellar or unoccupied room, where there is no warmth to excite it into growing again till February. It must not be allowed to get dust-dry at the roots.

Fungi: *A. C. F.* 1, Fomes annosus, Fr.; 2, Same species as No. 1; 3, Agaricus (Pleurotus) ulmarius, Fr.; 4, Too much broken to determine; 5, Peziza calycina, Fr.; 6, Nothing found with this number; 7, Cenangium ferruginosum, Fr. *M. C. Cooke.*—*Alnwick.* The fungus is the commencement of Fumago vagans, Pers., which, if allowed to extend, will cover the leaves more or less with a black film. Remove and burn all affected leaves, or if all are attacked, wash the surface with a solution of soft-soap. *G. Massee.*

Grapes, White Lady, Downes': *N. F.* The appearances point to the use of flowers-of-sulphur in excess, or exposure of the bunches to cold air.

Grapes: *Anxious One.* Next week.

"Index Kewensis" and "Baker on Lilies": *T. Godwin, Sydney, N.S.W.* There are two parts of the Index already published, and the third part will appear shortly. The publishers are the Oxford University Press, Amen Corner, London, E.C. Price per part, 2 guineas. We do not think that the monograph of Lilies has appeared separately. It is probable that a copy might be obtained at the Linnean Society, Burlington House, London. We do not know the price of a copy.

Labels: A Correction.—In our last issue, relating to a new form of label, we stated that the shank was made of zinc, and that corrosion with the brass clips would probably occur. We are informed that this danger is averted, as the shank is really of galvanised iron.

Landscape Gardening, &c.: *A Young Gardener.* If you intend to follow landscape work as a means of getting a livelihood, you should place yourself under some landscape gardener of acknowledged ability, paying a premium. You would require to have a knowledge of land surveying, plan-drawing, and levelling, together with a thorough acquaintance with trees, shrubs, and garden plants generally, forestry, and cognate subjects; and more than all, you should have ideas—in fact, you should be an artist or you will never be more than a copyist. You should advertise your requirements if you have no friends to put you in the way of obtaining them, American papers of note are, *Garden and Forest, American Gardening, Gardening*, and *Meehan's Monthly*, but almost every State has its own gardening and farming journal. The conditions of service are very different to what hold in this country, and if the salaries paid are larger than at home, the hours are longer and the cost of living much higher. Openings are fairly numerous in the older States.

Names of Fruit: *C. C.* Pear Beurré d'Amanlis.—*A. W. G.* 1, Beurré Hardy; 2, Fondante d'Automne; 3, Louise Bonne of Jersey; 4, not recognised; 5, Duchesse d'Angoulême; 6, Maréchal de la Cour.—*Dartnell & Co.* 86, Annie Elizabeth; 39, Catshead; 58, Stone's Apple; 81, Blenheim Orange; 45, Cox's Pomona (?).—*W. S.* 1, Catshead (?); 2, New Hawthornden; 3, Grange's Pearmain; 4, Wormsley Pippin. Pears: 2, Marie Louise; 3, Beurré d'Amanlis; 7, not known.—*A Constant Reader.* 1, Beurré Hardy; 2, Thompson's; 3, not known; 4, Old Crassane; 5, Winter Nelis; 6, Glout Morçeau.—*Colossal.* Specimens not sufficiently good.—*A. W.* 1, Easter Beurré; 2, Beurré Diel; 3, Bergamotte Esperen; 4, Doyenné du Comice; 5, Glout Morçeau; 6, Beurré de Capiaumont.—*Geo. Abbey.* 1, Beurré Superfin; 2, Brown Beurré; 3, Duchesse d'Angoulême; 4, Maréchal de la Cour; 5, not recognised; 6, Beurré Bosc.—*W. Newton.* 1, Flemish Beauty; 2, Glout Morçeau; No. 3 missing, two No. 4's; the long fruit Marie Louise, the short one Beurré Superfin; 5, Beurré Rance; 6, Williams' Bon Chrétien. *W. H. D.* Apples, most probably Duchess of Oldenburgh; Pears: 2, Marie Louise; 4, Beurré Diel; others not known.—*A. Chapman.* Plum, Belle de Septembre.—*B. Wells.* Merely wrapped in newspaper, your crabs were so pulped that we are unable to say what they may be. Send better packed specimens.

Names of Plants: *W. W., N.B.* 1, Helianthus rigidus; 5, Vanda tricolor; 6, Cattleya bicolor.—*J. W. A.* Monstera deliciosa (Philodendron pertusum). It is rather late in the year for the plant to ripen its fruit satisfactorily. Let it have full light, and a warmth of not less than 60° by night and 70° by day, which, if the plant be in a tub or large pot, could perhaps be afforded it in a forcing-house. It is not likely to ripen at all in the conservatory.—*F.* Not the common Pinus Laricio, but the var. Pallasiana.—*W. G. N.* Your flower is that of Dendrobium superbiens; we know of no variety by the name of Sumneri.—*A. J. C.* 1, Cypripedium Hookeræ Bullenianum; 2, probably Oncidium Batemanianum; send when in flower.—*J. J., Pendleton.* 1, Cœlogyne fuscescens; 2, Pholidota pallida; 3, perhaps a small piece of Cœlogyne cristata; 4, Eria species; send when in flower.—*E. F. H.* 1, Eupatorium ageratoides; 2, Eupatorium Weinmannianum; 3, Eupatorium riparium; 4, Cyperus longus, variety. Cucumber roots; yes, eel-worms.—*H. B. E., Clifton.* Catasetum Christyanum, a very singular and rare species.—*X. Y. Z.* 1, Pittosporum tenuifolium; 2, Abies Lowiana; 3, Abies Pinsapo; 4, Catalpa syringæfolia; 5, Azara microphylla.—*W. J. P.* 1, Spiræa Thunbergii; 2, Taxodium distichum (the deciduous Cypress); 3, Alnus glutinosa var. laciniata; 4, Cotoneaster frigida; 5, uncertain, perhaps Celtis occidentalis; 6, Rhus Cotinus.—*T. I. & Sons.* Cotoneaster frigida.—*H. J.* 1, Alonsoa incisa; 2, Sedum carneum variegatum; 3, Rhododendron jasminiflorum; 4, Asplenium bulbiferum biforme.—*J. C. G.* Fungi (next week). 1, Eriobotrya japonica; 2, not found; 3, Ophiopogon Jaburan, fol. var.; 4, Litobrochia biaurita; 5, Adiantum macrophyllum.—*A. M. D.* Dendrobium Cœlogyne, D. denudans (the small green flower), and Calanthe biloba. *R. A. R.*

Onions Diseased: *E. Riley, Hull.* See p. 160, August 11.

Pears, Cracking: *F. K. & Co.* The Pears crack because they are attacked by a fungus—Fusicladium dendriticum. In consequence of the attack, the outer tissues die, or do not grow so fast as the inner tissues, and cracks consequently occur. Spraying with Bordeaux Mixture two or three times in the season before the flowers expand fully, will prevent the disease. The fungus attacks the leaves also.

Pteris Fronds Disfigured: *J. D.* The work of a minute snail.

Seedling Apples: *J. E. Nelson.* Not considered equal to many sorts now in cultivation.

Situation in Holland: *W. H. R.* Advertise in these pages.

Terms of Service at the Royal Botanic Gardens, Kew: *J. J.* If you write to the Director, you will in due course be provided with the needed information.

Weight of Gros Maroc: *W. B.* We have no records of heavy bunches of this variety of Grape.

Wood-wool: *R. M. and S. T.* Scan our advertisement columns. We cannot, except in very special cases, recommend dealers.

Communications Received.—E. L. R., Boston, Mass.—A. H.—A. M. C.—J. C. Bussum.—G. H.—Conim.—T. Hanbury, La Mortola.—T. M., Philadelphia.—U. D., Berlin.—Dammann & Co., Naples.—E. H. H.—E. B. B., Berlin.—W. B.—W. G.—W. W.—M. C. C.—C. G.—J. V.—W. R.—E. C.—J. W.—H. G.—Professor B., Edinburgh.—D. H.—W. T.—C. N., Antibes.—J. D.—D. C.—M. N., Constantinople.—T. I., Tokio.—J. R. J.—L. M.—D. R. Hoole.—W. and N.—Kendal.—L. L., Brussels.—W. E. C.—E. J. H.—F. A.—E. M.—W. G. H.—J. Backhouse.—T. T.—Board of Agriculture.—D. R.—W. Brockbank.—J. J. W.—H. W. W.—A. P.—C. T. D.—J. L.—H. M.—R. M.—W. G. S.—Rev. G. H.—Rev. H. Ewbank.

Photographs, Specimens, &c., Received (with thanks).—Messrs. Veitch.—L. L., Brussels.—Messrs. Lane.—Anxious One.—J. C. S.—F. W. S.—G. Davison.—W. N., Burghley.—P. Mara.—W. T. H.—W. S. L.—D. E.—W. S., next week.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

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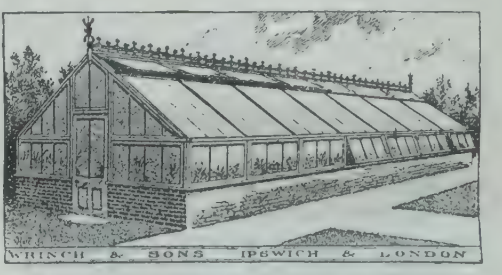
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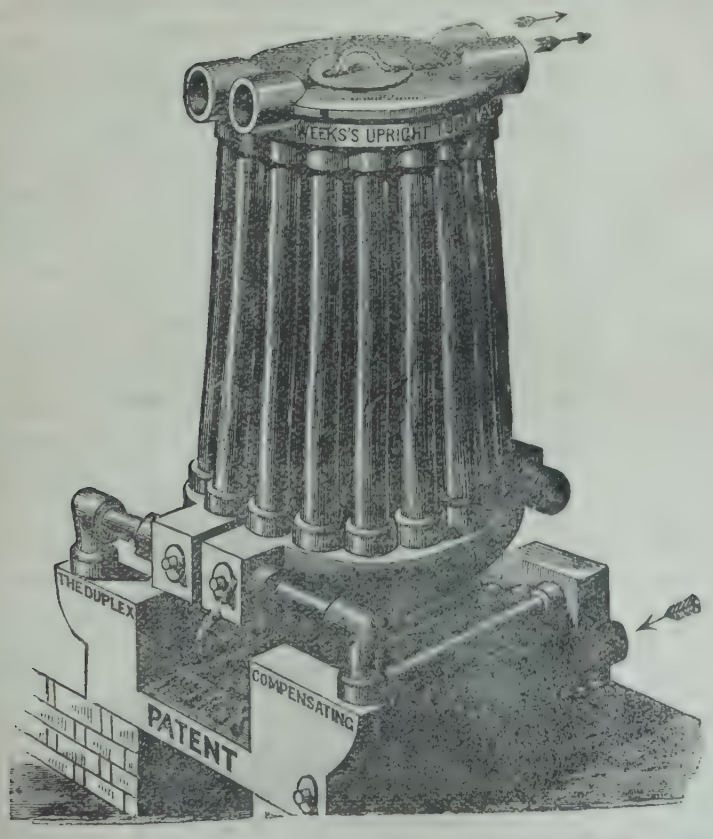
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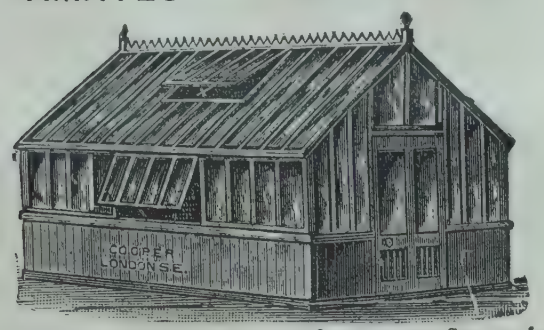
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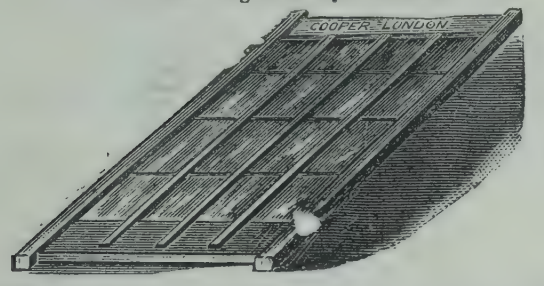
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10 ft. ...	7 ft. ...	7 ft. 6 in.,	4 ft. 6 in. ,,	5 0	6 15
12 ft. ...	8 ft. ...	8 ft.,	5 ft. ,,	6 0	8 0
15 ft. ...	10 ft. ...	8 ft. 6 in.,	5 ft. ,,	8 10	12 0
20 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	12 0	16 0
25 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	16 0	21 0
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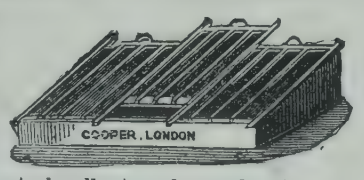
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PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

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1-lb. tins Fertiliser...	per dozen	£0 4 9
1-lb. tins Sunshade...	,,	0 6 3
Cocoa-nut Fibre Refuse	per sack	0 1 0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0 2 0
Best Orchid Peat	,,	0 3 0
,, Rhododendron Peat...	,,	0 1 0
,, Brown Fibrous Peat	,,	0 2 0
,, General Peat...	,,	0 1 9
,, Loose Peat	,,	0 1 9
,, Surrey Loam	,,	0 1 9
General Potting Compost	,,	0 1 6
Fern Compost	,,	0 1 6
Bulb Compost	,,	0 1 6
Leaf Soil, well decayed	,,	0 2 0
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Wonderful New Mushroom Spawn ...	... bushel	0 2 6

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SASHBARS. 1½ in., 3*s.*; 2 in., 3*s.* 9*d.*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

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Open.	*s.*	*d.*	Open.	*s.*	*d.*
12 ft. by 1½ ft.	2	0	12 ft. by 3½ ft.	4	6
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12 ft. by 2½ ft.	3	6	12 ft. by 5 ft.	6	6
12 ft. by 3 ft.	4	0	12 ft. by 6 ft.	8	0

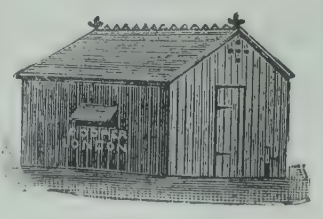
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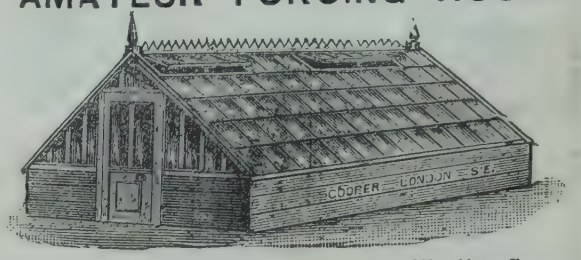
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6 ft. by 4 ft.	30*s.*
7 ft. by 5 ft.	36*s.*
9 ft. by 6 ft.	42*s.*

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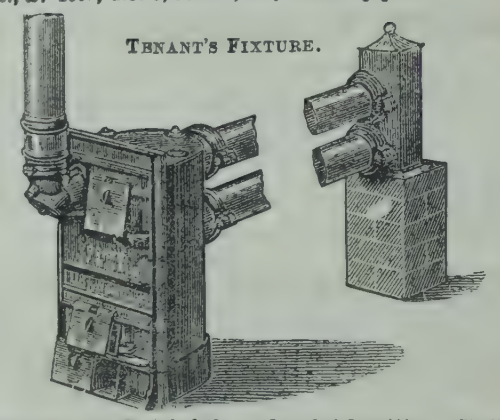


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Made in six sizes: No. 1. to drive 75 ft., £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s.*; No. 6, 500 ft., £9; of 4-in. pipes.



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Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 45 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

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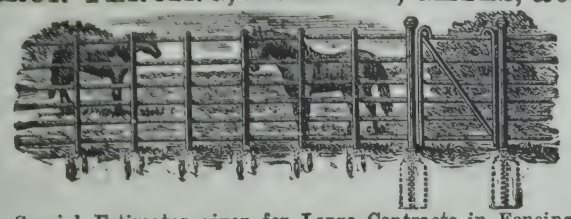


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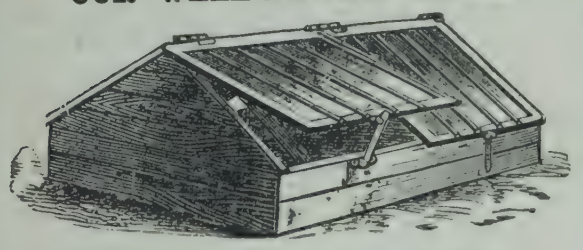
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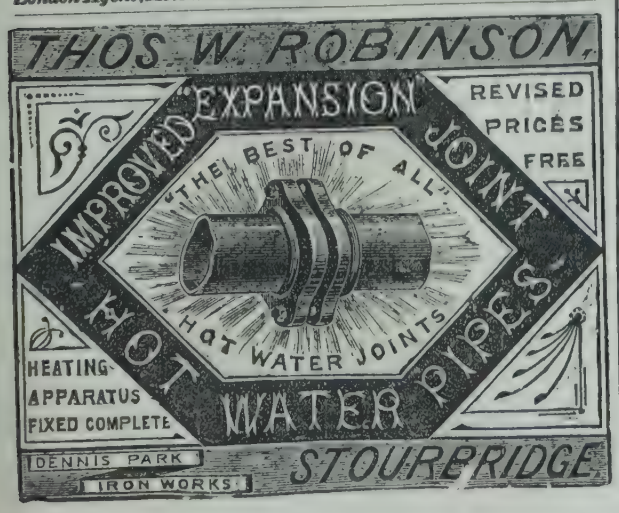
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12 feet „ 4 feet „		4	0	0
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12 feet „ 5 feet „		4	15	0
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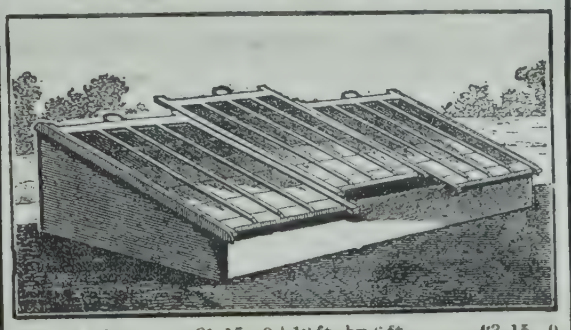


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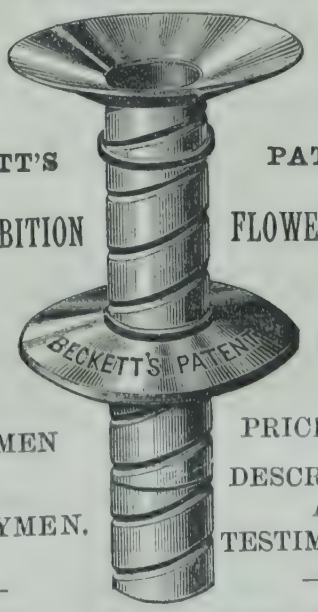


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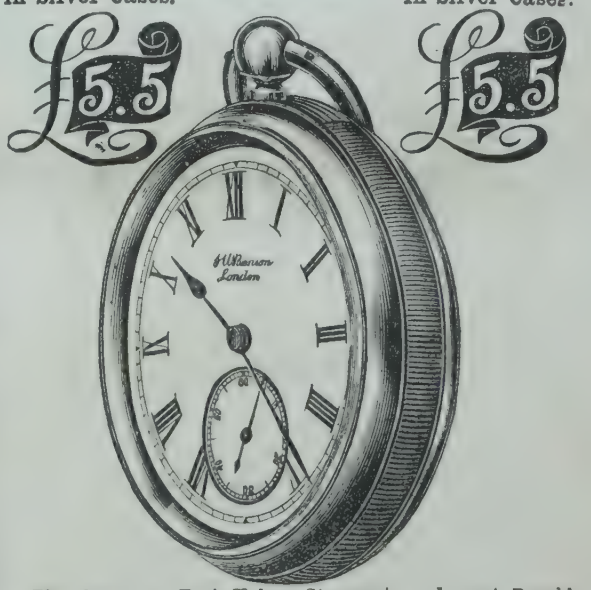
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7	„	..	0	4	6	18 „	..	0	10	0
8	„	..	0	5	0	19 „	..	0	10	6
9	„	..	0	5	6	20 „	..	0	11	0
10	„	..	0	6	0	21 „	..	0	11	6
11	„	..	0	6	6	22 „	..	0	12	0
12	„	..	0	7	0	23 „	..	0	12	6
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PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*
SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4*s.* per sack, 5 for 18*s.*; and 3*s.* per sack, 5 for 12*s.* 6*d.*
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2*s.* 6*d.* per sack; 5 for 10*s.* PREPARED POTTING COMPOST, 4*s.* per sack; 5 for 18*s.* All sacks included.
Send Postal Order for Sample Sack. Special terms to the Trade.
For Price List apply to **D. CAMERON,**
Forester's Lodge, Mount Mascal, Bexley, Kent.

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A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.

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For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N, FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden requisites. **Peat Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

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		Per Bundle of 10.
BEST NEW ARCHANGEL MATS ...	(9 ft. by 4 ft. 6)	10*s.*
„ TAGANROG MATS	(7 ft. by 4 ft.)	8*s.*
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BEST PLAITED RAFFIA and COCOA FIBRE REFUSE.
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WM. BLACKWOOD AND SONS, Edinburgh and London.

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H. J. VANHULLE, Botanical Gardens, Ghent, Belgium.

GARDENING APPOINTMENTS.

MR. CHARLES CROMBIE, late of Southbar Gardens, by Paisley, has entered on his duties as Gardener to the LORD PRIMATE OF IRELAND, through Mr. HUGH DICKSON of Belfast.

Mr. H. BICKERSTAFF, formerly Head Gardener at Effingham Park, Crawley Down, to a similar situation with Mrs. DIX PERKINS, Greenford Green, Harrow.

Mr. GEORGE BEVAN, late Foreman at Woodlands Castle, Clonsilla, co. Dublin, as Head Gardener to J. C. CARTER, Esq., Shottery Hall, Stratford-on-Avon.

Mr. E. DAVIES, late Head Gardener at Eathorpe Hall, Leamington, as Head Gardener to Mrs. HUMPHRYES, Kenilworth House, Leamington Spa.

Mr. JOHN REYNOLDS, for four years Foreman of the Plant Department, Gunnersbury Park, Acton, W., as Gardener to C. D. CAVE, Esq., Sidbury Manor, near Sidmouth, East Devon.

Mr. J. ROBERTSON, formerly Gardener to Alderman J. M. Rennoldson, J.P., South Shields, as Garden Manager to the Corporation of the South Eastern College, Ramsgate, Kent.

Mr. GEO. GEYNE as Gardener to James O. Fison, Esq., Stutton Hall, Ipswich, Suffolk.

Mr. W. CHOWN, late Gardener to Lord Arthur Hill, as Gardener to N. T. Lawrence, Esq., Braxted Park, Witham, Essex.

CATALOGUES RECEIVED.

W. H. GABB, 31, Dora Road, Small Heath, Birmingham—Violas and Pansies.

BROCKHAMPTON NURSERIES (W. E. Tidy, manager), Havant, Hants—Bulbs.

E. P. DIXON & SONS, Hull, Yorkshire—Fruit Trees, Roses, Forest Trees, &c.

FRED. W. KELSEY, 145, Broadway, New York City—Hardy Trees and Plants.

W. & J. BIRKENHEAD, Fern Nursery, Sale, Manchester—Ferns and Selaginellas.

BENJ. R. CANT, Colchester—Roses.

CHARLES TURNER, Royal Nurseries, Slough—Roses, Fruit Trees, and General Nursery Stock.

C. R. SHILLING, Winchfield, Hants—Bulbs, Roses, Fruit Trees, Shrubs, &c.

WM. PAUL & SONS, Waltham Cross, Herts—Roses.

L. SPATH, Baumschule, Rixdorf, Berlin—Comprehensive List of Ornamental Trees and Shrubs, Conifers, &c.

CHAS. RAMSAY & SON, Balls Bridge Nursery, Dublin—Roses, Fruit Trees, Bulbs, and General Nursery Stock.

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TOM B. DOBBS & Co., 32, Queen Square, Wolverhampton—Dutch and other Flower Roots.

JNO. WATKINS, Pomona Farm, near Hereford—Hardy Fruit Trees.

T. LORD, Holebottom, Todmorden—New Carnations.

TRANSON BROTHERS (BARBIER BROS. & SON), Nurseries, Orleans, France—Trade List of Fruit Trees, Ornamental Trees and Shrubs, Conifers, and General Nursery Stock.

WM. RUMSEY, Joyning's Nurseries, Waltham Cross, Herts—Roses, Fruit Trees, Ornamental Trees and Shrubs, &c.

WANTED, a GARDENER.—A Fruiterer and Greengrocer requires a practical all-round Gardener. One who understands Grapes, Melons, Peaches, Tomatos, Mushrooms, &c. Good character indispensable. Wages, 18*s.* to 20*s.*—Address, C. A. HEATHER, 86, East Street, Chichester.

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WANTED, a HOUSEKEEPER for Bothy, age about 40. Must be strong, healthy, clean and tidy in her habits, able to do plain Cooking. Wages, £20 per annum, board and lodging, with the assistance of a boy; or married couple without family.—For further particulars, apply to J. WILLANS, Blenheim Gardens, Woodstock, Oxon.

WANTED, as INVOICE CLERK, a young man, having a general knowledge of Seed and Nursery Trades and Office Work.—Must be a good and rapid writer, quick at figures, and be well recommended.—Address, stating age, experience, and salary expected, to "CLERK," *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SEED TRADE.—WANTED, a SHOPMAN, for good counter trade; must be of good address, and knowledge of Bee-hives desirable. Apply, stating age, salary expected, and religion, with references, to EDMONDSON BROTHERS, Seed Merchants, Dublin.

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WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

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B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
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DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
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GARDENER (HEAD); age 32.—C. FIELDER, Gardener to the Dowager Lady Howard de Walden, Mote Park, Maidstone, begs to recommend Wm. Bacon, who has been Foreman in these Gardens during the past four years, to any Lady or Gentleman requiring a thoroughly trustworthy man, where several men are employed. Sixteen years' experience in good situations.—The Mote Park Gardens, Maidstone.

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GARDENER (HEAD), seeks re-engagement where two or three are kept.—Age 28; life experience. Highly recommended.—W. MILES, 7, Hewett Road, Moor Lane, Staines.

GARDENER (HEAD).—Age 39, married; twenty-five years' experience. Thoroughly understands Orchids, Stove and Greenhouse Plants, Grapes, Peaches, Cucumbers, Melons, Tomatos, Hardy Fruits, Flowers, and Vegetables, Room and Table Decoration.—G. WARRINGTON, 4, Milton Road, Sittingbourne.

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GARDENER (HEAD WORKING).—Married; thirty years' experience; eight years in present situation; good references.—R. WOODHOUSE, Calthorpe, Erpingham, Norwich.

GARDENER (HEAD WORKING).—Age 41, married, three children; thoroughly experienced in all branches. Land and Stock if required. Good references from present and previous employers.—J. BARLEYCORN, Walton, Leigh, Addlestone, Surrey.

GARDENER (HEAD WORKING).—Advertiser is open to engage with any Gentleman or Lady requiring the services of an energetic, conscientious, practical man. Gentleman will highly recommend from present place, as above.—C. T., 41, Wellington Street, Strand, W.C.

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GARDENER (Head Working), where two or more are kept.—Age 31; for Flowers, Fruit, and Kitchen Garden Work. Good references.—UNDERWOOD, 44, Chester Street, Cirencester, Gloucestershire.

GARDENER (Head Working).—Age 30; thorough experienced in all branches of gardening, would be pleased to meet with Lady or Gentleman requiring the services of a practical man.—Z. HIGGS, 2, Lonsdale Terrace, Kew Gardens.

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GARDENER (Head Working).—Age 29, where three or more are kept; sixteen years' experience. Good recommendation. Two years at Royal Gardens, Kew.—A. E. FARRANT, 5, Elizabeth Cottage, Sandycombe Road, Kew.

GARDENER (Head Working, or good Single-handed).—Age 29, married, no family; thoroughly experienced in all branches. Highly recommended.—GLADDEN, 1, Douglas Road, Tolworth, Kingston-on-Thames.

GARDENER (Head Working, or good Single-handed).—Age 27; twelve years' practical experience in all branches. Excellent character.—A. B., Mrs. Attiss, Post-office, Streatham Common, S.W.

GARDENER (Head-working). — Age 29; thorough good all-round experience. Good references and characters from present employers.—E., 4, Alexander Terrace, Sandycombe Road, Richmond.

GARDENER (Head, or good Single-handed).—A Gentleman recommends his late Head-gardener as a thorough good all-round man. Age 30, married, one child. Good characters.—G., 25, Lifford St., Putney, S.W.

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MANAGER, Seed and Nursery Trade.—Open for engagement. Over twenty years' Manager in first-rate establishment.—Particulars on application to HERD BROS., Seedsmen and Nurserymen, Penrith.

MR. D. T. FISH, of Bury St. Edmunds, strongly recommends George Tooly, his late Foreman for five years, as a young married GARDENER of first-rate character and abilities.—Address as above, or Mr. G. TOOLY, Hardwicke Lodge, Bury St. Edmunds.

FOREMAN, or MANAGER, in small Market Nursery.—Well up in Tomatos, Cucumbers, Peaches, Roses, Ferns, &c. Kent preferred. Seven years at Mr. P. Ladd's, Dartford Heath.—G. PACKMAN, Common Lane, Wilmington, Kent.

FOREMAN (age 28).—Mr. Condie, Head Gardener, Brooks Hill Gardens, Harrow Weald, Stanmore, can with confidence recommend S. Barker to any Gardener as a competent and reliable man.

FOREMAN, or JOURNEYMAN (First); age 25.—G. Fennell, The Gardens, Fairlawn, Tonbridge, can thoroughly recommend a good practical, industrious, and reliable man.

FOREMAN.—Twelve years' experience in Plant and Fruit Houses. Good references from such as Eastwell Grange Park, Eastwood Park, and others.—THOMPSON, Gatehouse, Westwell, Ashford, Kent.

FOREMAN, in a good establishment.—Age 27; thirteen years' experience in Fruit and Plant Culture. Excellent references.—A. BENNETT, Paddockhurst Gardens, Worth, Crawley.

FOREMAN, or SECOND.—Age 28; fifteen years' experience; five years as Foreman; good testimonials.—F. BLACKALL, 24, Manor Street, Clapham, S.W.

FOREMAN, Inside or General.—Age 25; eleven years' good all-round experience with Fruit, Vegetables, and Flowers, both Inside and Out. Disengaged. Good character.—DUNKLEY, Blatherwycke, Wansford.

To Fruit and Market Growers.

FOREMAN.—Age 45; experienced in Grapes and other Fruit, Tomatos, Cucumbers, Plants, Cut Blooms, and Vegetables. Highly recommended.—J. MOON, Elsdon & Co., The Vineries, Melton, Cambridge.

FOREMAN (Inside, or General).—Age 28. Mr. G. R. George, Gardener to Earl Sondes, Lees Court, Faversham, wishes to recommend his late Foreman and Decorator as above. Three years as Foreman previously.—Present address, G. W. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses in a good establishment.—Age 26; twelve years' experience in Fruit and Plant Growing, and Table Decorations. Excellent characters.—T. R., 10, Colmar Road, South Streatham.

JOURNEYMAN, or GARDENER (Under); age 19.—A Gardener's Son seeks a situation as above. Six years' experience.—R. S., Ivy Cottage, Osbastone, Hinckley.

JOURNEYMAN, in the Houses.—Age 19; well up in Potting and Watering. Five years' good character. Leaving through a death.—ARTHUR BROWN, The Gardens, Wray Park, Reigate.

JOURNEYMAN, Inside and Out, or Inside.—Age 19; well recommended by Head Gardener.—H. HINES, The Gardens, Stanmore Hill House, Middlesex.

JOURNEYMAN, or Second, in a good Establishment.—Mr. Baskett, The Gardens, Eashing Park, Godalming, would be pleased to recommend A. Elcock as above. Four and a half years in present situation.

JOURNEYMAN, in the Houses; age 20.—G. Best, Gardener, The Vyne, can highly recommend a young man as above. Sober, and willing. Good character.—G. BEST, Vyne Gardens, Basingstoke.

JOURNEYMAN.—Young man; has a good experience in Ferns and general Nursery Work. Good references. — J. THOMASON, 44, Aberdeen Road, Upper Edmonton.

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JOURNEYMAN, Inside, under a Foreman.—Age 21; can be well recommended.—C. HAY, Peterborough Road, Harrow-on-the-Hill.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; three and a half years' here.—For reference, apply to Mr. SMITH, Head Gardener, Vaynor Park, Berriew, Montgomeryshire.

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IMPROVER, Inside, or Inside and Out.—Age 19; three and a half years' experience in General Work.—A. E. COX, Mr. Green, Manea, Cambs.

IMPROVER (Inside).—G. R. George, Gardener to Earl Sondes, is desirous of obtaining a situation as above for Sidney Marsh. Four years' good reference.—Lees Court, Faversham.

IMPROVER, Inside, or Inside and Out.—Age 18; two and a-half years' good character.—H. LLOYD, Church Preen, Shrewsbury.

IMPROVER.—A Lad seeks a situation under two or three, or to look after Pony Trap and assist in Garden. Highly recommended. Abstainer.—FRED. PEEDLE, Prestwood, near Great Missenden, Bucks.

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TO FLORISTS. — Situation wanted, as BUYER, SALESMAN, MANAGER, or TRAVELLER, &c. Good all-round experience. Excellent references.—"ALPHA," 41, Wellington Street, Strand, W.C.

TO FLORISTS.—A thoroughly experienced Florist in all kinds of Artistic Floral Arrangements, Designs, Bouquets, Wreaths, &c., wants a situation.—CONSTANS, 5, Bear Street, London, W.C.

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SEED TRADE.—ASSISTANT; seven years' experience. Used to a brisk Counter Trade. Excellent references.—"LILIUM," 41, Wellington Street, Strand, W.C.

SEED TRADE.—Situation wanted by a young man, age 21; five years' experience.—X. Y., Fulford Farm, Earlswood, Birmingham.

SEED TRADE.—Situation wanted by a young Man, age 20. Four years' experience in good Provincial House, Wholesale and Retail. Good knowledge of Farm Seeds. Good references.—B. S., 22, Holland Road, Sheffield,

SEED TRADE.—Situation wanted by young Man, age 21. Five years' experience, Wholesale and Retail.—W. T., Mr. J. M. Stewart, Seed Merchant, Market Street, Nottingham.

SEED TRADE.—SHOPMAN (Head), or MANAGER, open for engagement. Over twenty years in last situation.—Particulars on application to HERD BROS., Nurserymen and Seedsmen, Penrith.

Seed Trade.

SHOPMAN, or TRAVELLER.—Age 27; situation wanted. Ten years' experience in Wholesale and Retail Trade.—SEEDSMAN, Mr. Berry, The Cloisters, St. Albans, Herts.

PAINTER and GLAZIER.—Practical man would be glad to hear of a job, Nursery or Estate.—GREEN, at Messrs. Silver's Nursery, Streatham; or, address, 62, Gloucester Road, Croydon.

COWMAN.—Situation wanted on a gentleman's place. Life experience with stock; no family. No objection to help in Garden. Excellent character.—A. B., 4, Oxford Villas, Wormley, Broxbourne.

A GREAT BLESSING TO HUMANITY is without doubt a medicine composed of ingredients that, whilst it eradicates the germs of disease, strengthens the system. HOLLOWAY'S PILLS act in this manner, and in general debility, mental depression and nervous irritability there is no remedy which operates so beneficially. They purify the blood, give tone to the stomach, and thoroughly regenerate the system. They are mild in operation, although most powerful in removing disease. Delicate females and young children can take them with safety and benefit. It would be difficult to enumerate all the advantages to be derived by taking these wonderful pills. No household should be without them, for there is no complaint which they cannot cure or relieve,

Send for ILLUSTRATED LIST of

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FOR RAISING WATER for the SUPPLY of TOWNS, VILLAGES, IRRIGATION, RAILWAY STATIONS, MANSIONS, FOUNTAINS, FARMS, &c.

No Cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from **300 to 300,000 gallons per day.** Will force to a height of 800 feet.

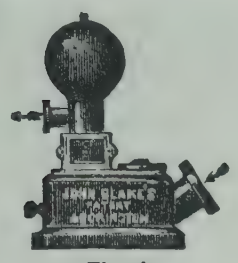


Fig. A.

This Ram raises a portion of the same water that works it.



This View represents Fig. A. Ram forcing up a part of the same water that works it, which is supplied from a spring. Special Rams of A. make can be supplied to force to a height of 800 feet.

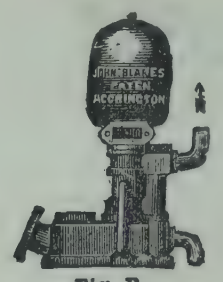


Fig. B.

This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

Blake's Hydraulic Rams have been supplied to the following among others:—

His Royal Highness the Duke of Connaught.
His Highness the Maharajah of Kashmir.
His Grace the Duke of Devonshire.
His Grace the Duke of Westminster.
His Grace the Duke of Cleveland.
His Grace the Duke of Portland.
His Grace the Duke of Sutherland.
His Grace the Duke of Leeds.
His Grace the Duke of Marlborough.
His Grace the Duke of Grafton.
The Most Hon. The Marquess of Ripon.
The Most Hon. the Marquess of Downshire.
The Most Hon. the Marquess of Abergavenny.
The Most Hon. the Marquess of Londonderry.
The Most Hon. the Marquess of Cholmondeley.
The Right Hon. the Earl of Derby.
The Right Hon. the Earl of Devon.
The Right Hon. the Earl of Gainsborough.
The Right Hon. the Earl of Romney.
The Right Hon. the Earl of Granard.
The Right Hon. the Earl Beauchamp.
The Right Hon. the Earl of Caledon.
The Right Hon. the Earl of Lichfield.
The Right Hon. the Earl of Feversham.
The Right Hon. the Earl of Harewood.
The Right Hon. Earl Ferrers.
The Right Hon. the Earl of Harrowby.
The Right Hon. the Earl of Wemyss.
The Right Hon. the Earl of Ancaster.
The Right Hon. the Earl of Scarbrough.
The Right Hon. the Earl of Carnarvon.
The Right Hon. the Earl of Londesborough.
The Right Hon. the Earl of Leicester.
The Right Hon. Lady Northwick.
The Right Hon. the Countess of Shaftesbury.
The Countess de Morella.
Lady Henry Cholmondeley.
The Dowager Lady Williams Wynn.
Lady Frankland, Thirkleby Park.
The Right Hon. Lord Hothfield.
The Right Hon. Lord Leconfield.
The Right Hon. Lord Ribblesdale.
The Right Hon. Lord Derwent.
The Right Hon. Lord Hatherton.
The Right Hon. Lord Leigh.
The Right Hon. Lord Raglan.
The Right Hon. Lord Northbourne.
The Right Hon Lord Crewe.
The Right Hon. and Rev. Lord Scarsdale.
The Right Hon. Lord Brougham and Vaux.
The Right Hon. Lord Schroder.
The Right Hon. Lord Macnaghten.
The Right Hon. Lord Clifford of Chudleigh.
The Right Hon. Lord Walsingham.
The Right Hon. Lord Hindlip.
The Right Hon. Lord Wantage.
The Right Hon. Lord Hampton (Trustees of).
The Right Hon. Lord Burton.
The Right Hon. Lord Abinger (The Executors of).
The Right Hon. Lord Viscount Galway.
The Right Hon. Lord Viscount Bridport.
The Right Hon. Lord Viscount Clifden.
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Major J. F. Trist, Tristford, Totnes.
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Major Bird, Crookhey, Lancaster.
Major J. R. H. Crauford, Craufordlan Castle.
Major Dent, Menithorpe Hall, near Malton.
Major Finlay, Manor House, Little Brickhill.
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The Rev. H. J. De Salis, Portnall Park.
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C. H. Mainwaring, Esq., Whitmore Hall.
G. H. Pinckard, Esq., Combe Court, Godalming.
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The Somerset Western Asylum.
The Corporation of Blackburn.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

Vegetables.

H. CANNELL AND SONS' COLLECTION of VEGETABLES, shown at the Royal Horticultural Society and at the Royal Aquarium last week, weighing above 2 tons, not only gained the highest award for quality and purity of strain, but was pronounced by the greatest authorities to be the best collection ever exhibited in England. Onions alone consisted of 34 distinct kinds, many weighing nearly 2 lb. each; and their size, ripe high colouring, and perfect finish—open field culture—contrasted clearly with others, proving absolutely that Kent produces the most perfect and certainly the best seeds. *Standard* says:—"Finest collections of vegetables ever seen."
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PÆONIES.
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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

Sunningdale, Berks.

Close to the Railway Station.

THREE DAYS' ABSOLUTE CLEARANCE SALE of beautifully grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Sunningdale, on TUESDAY NEXT, October 23, and TWO FOLLOWING DAYS, at 12 o'Clock each day, by order of Mr. Charles Noble, a splendid lot of best named kinds of RHODODENDRONS, for which these Nurseries are noted, AZALEAS, KALMIAS, thousands of flowering Shrubs in great variety, a large quantity of Mahonia aquifolia, useful for Cover planting; many thousands of Conifers for Ornamental Planting, Evergreens for Hedges, &c., from 3 to 9 feet in height; several thousands of oval-leaved Privet, 2 to 4 feet; a fine Collection of Standard and Pyramid Apples, Pears, and other Fruit Trees, Gooseberries, Currants, Ornamental Trees for Street, Avenue, or Park Planting, and other Stock, the whole in capital condition for removal.

May be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

Tuesday, October 23.

The well-known BINROCK COLLECTION OF ESTABLISHED ORCHIDS, many of which are exceptionally fine specimens, several of them being from 2 to 3 feet through. By order of John M. Keiller, Esq., who is leaving Dundee.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, October 23, at half-past 12 o'Clock, the above important collection of

ESTABLISHED ORCHIDS.

Amongst the principal plants special attention is called to the following:—

Angræcum sesquipedale	Dendrobium Phalænopsis
Cattleya Bowringiana	Dendrochilum glumaceum
,, crispa, grand specimen	Lælia anceps Hillii
,, Dowiana aurea	,, ,, Sanderiana
,, Sanderiana	,, ,, Stella
,, Lawrenceana, 20 bulbs	,, ,, Williamsiana
,, Mendeli, 8 growths, exceptionally fine variety	,, purpurata Brysiana
	Masdevallia Chelsoni
,, Skinneri alba, 9 bulbs	Odontoglossum Alexandræ, including several fine varieties
,, Schroderæ, fine variety	,, Andersonianum
Cymbidium Lowianum, fine specimens	,, Wildseanum
,, eburneum	Oncidium Marshallianum
Dendrobium Leechianum	Thunia Marshalliana
,, nobile Sanderiana	Phalænopsis, in variety

And many others.

On view morning of Sale. Catalogues may be had on application to the Auctioneers, 67 and 68, Cheapside, London, E.C.

Groombridge, near Tunbridge Wells.

HOLLAMBY'S NURSERIES.

TWENTIETH GREAT ANNUAL SALE of beautifully-grown NURSERY STOCK, comprising about 400,000 CONIFERS, ORNAMENTAL TREES, SHRUBS, and FOREST TREES. By order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, as above, close to Groombridge Railway Station, on THURSDAY and FRIDAY NEXT, October 25 and 26, at 12 o'Clock precisely each day:—

45,000 Larch, 2 to 3 feet and 3 to 4 feet	148,000 Thuja Lobbii, Cupressus, Firs, Abies, Aucubas, and other Conifers; also Rhododendrons, Roses, and flowering Shrubs
50,000 Ash, 2 to 4 feet	
50,000 Spanish Chestnut, Birch, Hazel, and Alder	5,000 Laurels, of sorts
100,000 strong transplanted Quick	2,000 English Yews, 2 to 3½ ft.

May be viewed any day prior to Sale. Catalogues can be obtained at the Nurseries, or on application to the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tottenham, N.—By order of Mr. T. S. Ware.

MESSRS. PROTHEROE AND MORRIS beg to announce that they are instructed to conduct this important ANNUAL SALE on the premises, the Hale Farm Nurseries, Tottenham, N., on TUESDAY, Nov. 6, at Eleven o'Clock precisely (in consequence of the unusually large number of lot). The Stock includes:—

- 2,000 ROSES in pots, extra strong.
- 25,000 CLEMATIS and other Climbers.
- 25,000 CARNATIONS and PICOTEES, named varieties.
- 3,000 NEW CARNATIONS.
- 10,000 HER MAJESTY PINK.
- 10,000 HOLLYHOCKS, selected to colour.
- 250,000 Berlin Crowns, LILY OF THE VALLEY.
- 100,000 SPIRÆA COMPACTA MULTIFLORA.
- 100,000 SEAKALE, ASPARAGUS, &c.
- 50,000 LILIES and NARCISSUS.

And hundreds of other important Stock too numerous to mention. Fuller particulars will appear.

Stapleford, near Nottingham. Absolute clearance.

SALE of thirty acres of well-grown NURSERY STOCK, without the slightest reserve, the freehold estate having been sold.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION on the Premises, Frettingham's Nurseries, Stapleford, near Nottingham, ten minutes from Sandiacre and Stapleford Station (Midland Railway), on MONDAY, October 29, and THREE FOLLOWING DAYS at 12 o'Clock precisely each day, the FIRST PORTION of this extensive STOCK, comprising 3,000 Gold and Silver HOLLIES, for which this Nursery has been noted, Aucubas, Rhododendrons, and Laurels in large quantities, 20,000 Conifers, a wonderfully fine assortment in various sizes, a grand stock of Golden Yews, a remarkably fine lot of Cupressus Lawsoniana, including the best varieties, 5000 Fruit Trees, principally Standard and Pyramid APPLES (many large fruit-bearing trees amongst them), also Pears, Plums, Ornamental Trees, &c.

May be viewed any day prior to the Sale. Catalogues may be had of Mr. Frettingham on the Premises, of ARTHUR T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The STOCK is particularly well-rooted, and the NURSERY bears a high reputation for the safety with which the STOCK can be transplanted.

Perry Hill, Cliffe, near Rochester.

Adjoining Cliffe Station, S.E.R.

GREAT ANNUAL SALE of FRUIT TREES.

By order of Mr. W. Horne.

IMPORTANT to MARKET GARDENERS, FRUIT GROWERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises as above,

100,000 FRUIT TREES.

Fuller particulars will appear.

Caterham Valley.

SALE of well-grown NURSERY STOCK.

By order of Mr. G. T. Sedgley.

To GENTLEMEN, BUILDERS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, Ninehams Road, Upper Caterham, near Caterham Station, on TUESDAY, October 30, at 12 o'Clock, hundreds of Rhododendrons, Flowering Shrubs, Standard Ornamental Trees, Fruit Trees in great variety, and a large number of Specimen Conifers and Evergreen Laurels, Firs, &c., in all 300 lots.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Hounslow.

EXPIRATION OF TENANCY.

GREAT SALE of FRUIT TREES and GENERAL NURSERY STOCK.

Important to MARKET GARDENERS, FRUIT GROWERS, NURSERYMEN, and OTHERS.

25,000 FRUIT TREES, comprising 800 Czar, 2000 Victoria, 4000 Gisborns and other varieties of PLUMS.

2000 Stirling Castle, 1500 Early Julien, 500 Ecklinville Seedling, and hundreds of Duchess Favourite, Worcester Pearmain, Royal Jubilee, Bismarck, Lord Derby, Lord Suffield, Bramley Seedling, and most of the leading kinds of APPLES in cultivation.

Hundreds of Standard, Pyramid, and Bush APPLES, PEARS, and PLUMS.

1000 Dwarf-trained and Untrained PEACHES, NECTARINES, APRICOTS, PEARS, and PLUMS.

1200 Apple Stocks, 7000 Brussell Stocks, 10,000 Myrobella Stocks, 2000 Pear Stocks, and 5000 Cherry Stocks, all fit for working.

Several thousands of CURRANTS and GOOSEBERRIES.

Hundreds of Small SHRUBS for Boxes, including 1000 Golden Euonymus, 6 to 9 inches; Cupressus erecta viridis, Retinospora plumosa aurea, &c., &c.

1500 PRIVET OVALIFOLIUM, 2 feet.

Thousands of SHRUBS in variety, including Border Plants; 3000 LAURELS, of sorts. Common YEWS, Green HOLLIES, Cupressus Lawsoniana, Thuya Lobbii, &c., from 2 to 10 feet high.

800 Standard LIMES, 10 to 12 feet high.

50,000 MANETTI and MULTIFLORA ROSE STOCKS.

1,500 Dwarf ROSES, including 500 General Jacqueminot, and other Stock.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Hounslow Nurseries, Middlesex (by order of Messrs. S. Spooner & Sons), adjoining Hounslow and Whitton Station (L. and S. W. R.), and ten minutes' walk from Heston-Hounslow Station (District Railway), on WEDNESDAY and THURSDAY, November 7 and 8, at 12 o'Clock each day.

The Stock may be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Windlesham Nurseries, near Bagshot, Surrey.

By order of the Executors of the late Mr. Richard Mason, in consequence of the disposal of the Nurseries.

PRELIMINARY NOTICE of an Important FOUR DAYS' SALE of magnificently grown young NURSERY STOCK, particularly suitable to the Trade and other large purchasers. Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS, having Sold the Freehold and Leasehold Nurseries, will SELL the above by AUCTION, on the Premises, on MONDAY, November 19, and FOLLOWING DAYS.

Catalogues will shortly be prepared, and fuller particulars duly announced.

Wednesday Next.

UNUSUALLY IMPORTANT CONSIGNMENT of 591 Cases of JAPANESE LILIES, received direct for Sale, without Reserve, and comprising:—

33,195	LILIUM	AURATUM
13,580	,,	LONGIFLORUM
1,125	,,	SPECIOSUM MELPOMENE
1,125	,,	,, RUBRUM
3,765	,,	KRAMERI
375	LYCARIS	AUREA

Also a Consignment of PALM SEEDS, received direct for Unreserved Sale, comprising:—

50,000	KENTIA	BELMOREANA
50,000	,,	FORSTERIANA
1,500	,,	CANTERBURYANA
10,000	COCOS	WEDDELLIANA

And 5,000 ARECA LUTESCENS (small plants)

20,000 LILY OF THE VALLEY CROWNS, 2500 SPIRÆA JAPONICA, EUCHARIS AMAZONICA, choice NARCISSUS to name, including princeps, cynosure, Horsefieldii, Sir Watkin, Emperor, and grandis; Double DAFFODILS, Double SNOWDROPS, and Hardy BORDER PLANTS and BULBS in variety.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, October 24, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

200 AZALEA INDICA, 200 A. MOLLIS, ASPIDISTRAS, DRACÆNAS, and CAMELLIAS in pots, from Belgium; HERBACEOUS PLANTS, 4000 African Pearl TUBEROSES, Chinese SACRED LILIES, PALMS in variety, English-grown LILIES, and CYCLAMEN SEED from strong selected plants, carefully hybridised.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, October 25, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, October 26, at half-past 12 o'Clock, the following

IMPORTED ORCHIDS,

In the best possible condition.

A remarkable-looking ONCIDIUM, imported from a mountainous district of Nicaragua.

CATTLEYA LEOPOLDII, variety PERNAMBUCENSIS, GRANULOSA, DU BUYSSONIANA, mixed.

CYMBIDIUM SPECIES, probably including HOOKERIANUM, TRACEYANUM, GRANDIFLORUM, and others, mixed.

CYPRIPEDIUM NIVEUM, in splendid condition.

HABENARIA SUSANNÆ (see Drawing).

ONCIDIUM MARSHALLIANUM.

ONCIDIUM CRISPUM, O. FLEXUOSUM, VANDA ROXBURGHII, CATTLEYA DOLOSA, the rare TRICHOGLOTTIS FASCIATA, DENDROBIUM JENKINSII, and many other ORCHIDS.

On view morning of Sale, and Catalogues had.

Knockholt, Kent.

UNRESERVED SALE of FRUIT TREES and general NURSERY STOCK by order of Mr. A. Waterman.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Hickmandias Nursery and Fruit Grounds, Knockholt, two and a half miles from Hulstead Station (S.E.R.), on THURSDAY, November 1, at half-past 12 o'Clock, a large assortment of finely-furnished Specimen Evergreens, 1200 Scotch Firs, 3 to 4 feet; 1300 Standard Ornamental Trees, 800 APPLE TREES of the most popular market sorts, 1700 Red CURRANTS, 31,000 McLaren's Prolific, Carter's Prolific, and other RASPBERRY Canes

May be viewed. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—Conveyances will meet certain trains on Sale day, to take intending purchasers to the Nurseries. For times of trains see catalogue.

Ottershaw Nurseries, near Chertsey, Surrey.

About ½ mile from the Chertsey Station.

Highly important FOUR DAYS' SALE of exceptionally well-grown NURSERY STOCK, by order of Messrs. Fletcher Brothers, in consequence of the decease of the late Mr. William Fletcher, and retirement of his Executrix from the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on November 12, and THREE FOLLOWING DAYS, at 12 o'Clock precisely each day, 20,000 Evergreens, 10,000 Weymouth and other Pines, 1500 Rhododendrons, 5500 Standard and Dwarf Roses, 4000 Standard Ornamental and Forest Trees, 3500 Copper Beech, 8700 Fruit Trees, 30,000 Manetti Stocks, 10,000 Apple Stocks, and quantities of other Stock.

Fuller particulars will appear.

May be viewed. Catalogues may be had at the Nurseries; or of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Industrial Exhibition, Earl's Court.

CLEARANCE SALE of the SHRUBS, CONIFERS, BAY TREES, &c., by order of the District Railway Company.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION on the premises, adjacent to the Earl's Court Station, on MONDAY, Nov. 5.

Catalogues had of the Auctioneers, 67 & 68, Cheapside, E.C.

Monday Next.—Roses, Ferns, Palms, &c.

200 lots of Hardy Border BULBS, CLEMATIS, and other CLIMBING PLANTS, in Pots; 8000 LILY OF THE VALLEY Crowns; 50 Lots of STOVE and GREENHOUSE FERNS and PLANTS, choice PALMS, and ROSES in Pots; beautiful Home-grown LILIES and IRIS in variety, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, October 22, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

From Holland.—Important Sale.

GRAND IMPORTATIONS of PLANTS and SHRUBS.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 24: An extensive Collection of beautifully-grown decorative SHRUBS, and PLANTS in splendid condition for present planting out in Borders, or Pot-cultivation. Over 1000 choice-named DWARF ROSES, including many of the best; Several hundred FRUIT TREES; a collection of LILIUMS; a collection of PÆONIES, HYDRANGEAS, RHODODENDRONS, AZALEAS, &c. Choice BORDER PLANTS; 10,000 African TUBEROSES, LILIUM HARRISI and CANDIDUM, French FORCING BULBS, SCILLAS, NARCISSUS of choice kinds, 20,000 large Yellow CROCUSES, 50,000 best Berlin LILY OF THE VALLEY crowns, a consignment of PALMS, from Ghent, SPIRÆA JAPONICA and PALMATA DIELYTRAS, SPECTABILE, IRIS, &c.

On view morning of Sale, and Catalogues had.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

WANTED, to Rent, GLASS, suitable for Fruit Growing, &c. No Stock. Any district. Write—W. B., 8, Clarendon Road, Earley Rise, Reading, Berks.

WANTED, to Rent, a Small NURSERY. Small Span-roofed Houses preferred, suitable for Growing Cucumbers and Tomatos. Apply to—W. COMPTON, Boyd Terrace, Daybrook, Notts.

WANTED, Offers for an UPRIGHT TUBULAR BOILER, good as new. Will heat about 650 feet 4-inch piping. Also wanted Offers for several thousand CALCEOLARIA CUTTINGS. Address—GARDENER, Newport Hall, Eardisley, Hereford.

WANTED, quantity of 4-inch PIPES, and various JOINTS, &c.—Particulars and lowest cash prices to HERD BROS., Penrith.

NURSERY.—WANTED, to Rent, a few Acres with Dwelling-house and Greenhouses, suitable for Market Growing. State full particulars to—CHAS. WOODS, Gladstone Villa, London Road, Salisbury.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.

All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

COVENT GARDEN MARKET.—To Fruit and Potato Salesmen, Seed Merchants, &c.—TO BE LET, with Immediate Possession, in rear of Piazza, with entrance from James Street, and covered yard for loading and unloading, Two extensive Basement Warehouses, fitted for Bananas, but suitable for other purposes; Store or Sale Room on Ground Floor, 28 ft. 6 in. × 26 ft. 6 in.; Extensive Warehouses, 2nd, 3rd and 4th Floors, with Hydraulic Lift throughout.

Apply to Messrs. S. CHADWICK AND PILDITCH, 17, Parliament Street, S.W.

FOR SALE (Cheap), a small NURSERY and FLORIST'S BUSINESS.—Four Glasshouses and Propagation House, &c., heated by Hotwater; near main road.

Apply to W. H., Park Row Nursery, Greenwich.

NURSERY, LONDON, N., FOR SALE. Eight Greenhouses, Sheds, Van, Stock, &c. Good supply of Water; Long Lease, Low Ground Rent, no Taxes; a Bargain.

No reasonable offer refused. Full particulars, B. A., 8, Fore Street, Edmonton, London, N.

Essex (10 miles from London).

TO BE LET, a NURSERY of 3a. 1r. 4p., with 11 Greenhouses, Dwelling-house, and Stables. Lease twenty years. Rent £45. Price for Lease, Glass, and Stock £800, or offer. Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

MR. WM. H. PHILLIPS, for many years with F. Sander & Co., St. Albans, begs to announce that he has been appointed sole representative in Great Britain of L'HORTICULTURE INTERNATIONALE (Linden) BRUSSELS.

Present address, Breakspears, Stanhope Rd., St. Albans, Herts.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CARNATIONS.—Old Crimson Clove, strong layers, 10*s.* 6*d.* per 100, free.

S. GAVED, Shepperton, Middlesex.

NOTED FULHAM SEA-KALE, ASPARAGUS and RHUBARB ROOTS for Sale. Also all the best varieties of PEACH TREES, 3 and 4-yr. old. Apply to—WILLIAM BAGLEY, Millshot Farm, Fulham, S.W.

1,000 GLOIRE DE NANCY CARNATIONS for Sale, good strong plants, 2*s.* per doz.; or offer for quantity.

R. APPLETON, Railway Tavern, Feltham.

CHRYSANTHEMUMS and ROSES.—CATALOGUE, with full Descriptive Lists of the Best and Newest Sorts, now ready.

Post-free on application.

DOBBIE & CO., Florists to the Queen, Rothesay.

RASPBERRY CANES.—Carter's Prolific, Fastolf, and Norwich Wonder.

Not less than 1000 Canes of either sort supplied.

ALBERT BATH, Vine Court, Sevenoaks, Kent.

100 ARUM LILIES, grand plants, in 6-inch pots, flower at Christmas, 7*0s.* Room wanted.

BARNARD, Florist, Southgate, Middlesex.

FOR SALE, Malmaison CARNATION LAYERS, good strong plants, at 30*s.* per 100; also 38 pots of Eucharis LILIES, grand plants.

J. LITTON, Grosvenor Cottage, Bath.

GERMANIA CARNATION.—Strong plants, in 60's, 15*s.* per 100, £5 per 1000. Old Crimson CLOVE, strong-rooted layers, 10*s.* per 100, £4 per 1000.

C. JOHNSON AND CO., The Nurseries, Hampton.

CALCEOLARIA CUTTINGS.—10,000 to 15,000 Golden Gem. Price on application to JAS. GROSS & SON, The Nursery, Redditch, Worcester.

BARR'S MIXTURES of DAFFODILS, for beautifying Orchards, Woodland Walks, Grass Slopes, &c., and for Cutting. MIXED, ALL SORTS, per 1000, 21*s.* and 30*s.* MIXED PEERLESS or CHALICE-CUPPED STAR NARCISSI, graceful and beautiful, per 1000, 42*s.*; MIXED POET'S DAFFODILS, very beautiful, per 1000, 42*s.* All sent, CARRIAGE PAID, on receipt of remittance.

BARR AND SON, King Street, Covent Garden, W.C.

ROSES.—Jacqueminot, on own roots, good strong Plants, £9 per 1000, or £1 per 100.

W. HILLS, Nurseryman and Florist, Crescent Road, Bury Street, Lower Edmonton, N.

VIOLETS.—Fine clumps of Queen Victoria, Comte de Brazza, Marie Louise, &c. For prices apply to GEO. DRABBLE, Ketton Hall Gardens, Stamford.

FOR SALE, a quantity of Specimen Adiantum FERNS; also CAMELLIAS, AZALEAS, and CASSIAS. All Specimen Plants, in good condition. Apply to—F. WADHAM, Bromley Hill, Bromley, Kent.

LONDON PLANES.—Splendid Trees, straight stems, fine roots, 12 to 14 feet, 4*s.*; 14 to 16 feet, 5*s.*; 16 to 18 feet, 6*s.*; 18 to 20 feet, 7*s.* 6*d.* each.

IRISH IVIES in pots, beautifully furnished, 4 to 5 feet, 12*s.*; 5 to 6 feet, 15*s.*; 6 to 8 feet, 21*s.*; 8 to 10 feet, 30*s.* per dozen.

LIGUSTRUM OVALIFOLIUM AUREUM (best Golden Privet), 12 to 18 inches, 6*s.*; 18 to 24 inches, 9*s.* per dozen.

BERBERIS AQUIFOLIA, 9 to 12 inches, 10*s.*; 12 to 18 inches, 12*s.* 6*d.*; 18 to 24 inches, 20*s.* per 100.

ROSES, FRUIT TREES, SHRUBS, CLIMBERS, BULBS, GARDEN REQUISITES, TOOLS, &c., of every kind. Priced descriptive LISTS on application.

W. FROMOW AND SONS, Sutton Court Nursery, Chiswick, London, W. Established 1829.

WANTED.—AUCUBA CUTTINGS. State price per 1000.

SMALL SHRUBS and CONIFERÆ.—Ampelopsis Veitchii, 6 in., 60*s.* per 1000; Aralia Sieboldii, from pots, 6 to 8 in., 12*s.* per 100; Box Tree, Green, 6 in., 60*s.*; Cup. macrocarpa, 1 yr. trans., fine, 10 to 15 in., 80*s.* per 1000; Cup. Allionii, 6 in., 6*s.* per 100; gracilis, 6 in., 7*s.*; erecta viridis, 6 to 7 in., 40*s.*; Cotoneaster microphylla, 1 ft., 35*s.* per 1000; A. Douglasii, 1-yr. tr., fine, 7 to 12 in., 80*s.* per 1000; Dracæna australis, 8 in., 10*s.* per 100; Escallonia macrantha, 9 in., 10*s.*; Eulalia japonica, 9 in., 4*s.* per 100; Guelder Rose, 1-yr., 6*s.*; Honeysuckle, Common, strong, 6*s.*, H. japonica, strong, 12*s.* per 100; Ivy, Irish, 15 in., 6*s.*; Laurustinus, 7*s.*; Olearia Haastii, 6 in., 10*s.*; Pinus excelsa, 2-yr., 6*s.*; Cephalonica, 1-yr., 6*s.*; Rhododendron ponticum, 3-yr., 25*s.* per 1000; 4 to 5 in., 40*s.*; Thuia Lobbii, 12 to 15 in., 25*s.*; 15 to 18 in., 30*s.*; Ellwangeriana, 8 in., 40*s.*; Virginian Creeper, 1-yr., 6*s.* per 100; Yucca gloriosa, from pots, 6 in., 10*s.*

GARLIES MITCHELL, Nurseryman, Stranraer.

300,000 STRONG RASPBERRY CANES,

At Low Prices per 1000.

BAUMFORTH'S SEEDLING, sample 100		...	...	9*s.* 0*d.*
CARTER'S PROLIFIC	,, ,,	...	...	5*s.* 0*d.*
FASTOLF IMPROVED	,, ,,	...	...	4*s.* 0*d.*
FILLBASKET, very strong	,, ,,	...	...	5*s.* 0*d.*
NORWICH WONDER	,, ,,	...	...	4*s.* 0*d.*
ANTWERP RED	,, ,,	...	...	4*s.* 6*d.*

Prices per 1000 on application.

SPECIAL QUOTATIONS TO LARGE BUYERS.

R. H. BATH, Osborne Farm, Wisbech.

GREAT SALE OF ORCHIDS.

JOHN COWAN & CO.

(LIMITED),

Have received instructions from

D. DE Y'BARRONDO, Esq., of ULLET ROAD, LIVERPOOL,

to sell his entire collection of Orchids for him, by private treaty, as he is relinquishing the cultivation of Orchids for the present. With this end in view, the collection has been removed to the Company's premises at Garston.

Mr. de Y'barrondo has for many years been known as an ardent collector of Orchids, and his collection is well-known in this neighbourhood, and indeed, throughout the country. The collection is in fine condition, and there are many fine specimens as well as numerous rare and fine varieties in each section.

The Company have also just purchased from the trustee of the estate of the late

E. G. WRIGLEY, Esq., of VICTORIA HOUSE,

Dukinfield, near Manchester, the collection formed by that gentleman. The principal feature of this collection is a choice lot of

HYBRID AND OTHER DENDROBIUMS.

Mr. Wrigley's collection was purchased and sold in this establishment nearly twelve months ago, but Mr. Wrigley immediately commenced to collect again and devoted his attention specially to Dendrobiums, bringing all his previous large experience to bear on securing only the choicest and best of each kind. The result is a most valuable collection of choice gems.

These two lots taken together will form one of the best collections which has ever been offered by the Company; and will be on view from TUESDAY the 23rd inst. CATALOGUES are being prepared, and will be posted to all the Company's patrons, and to any one who may send their name and address for that purpose, on FRIDAY, the 26th inst. All orders will be executed strictly in rotation, and no prices will be quoted or Catalogues shown to anyone before the date named; so that all purchasers may have an equal chance.

JOHN COWAN & CO.

(LIMITED),

THE VINEYARD and NURSERIES,

GARSTON, near LIVERPOOL.

FROM PARIS.

STANDARD TEA ROSES and OTHERS,
LILAC CHARLES X, and PÆONIES in thousands.

L'ÉVÊQUE ET FILS, NURSERYMEN, IVRY-SUR-SEINE, near Paris, have this year splendid Stocks of:—
STANDARD TEA ROSES (30,000), very good standards and heads, the best sorts, £6 per 100.
STANDARD HYBRID PERPETUALS, strong, £5 per 100.
Ditto, ditto, older sorts, £4 per 100.
LILAC CHARLES X., in pots, covered with buds, £4, £5, and £8 per 100, acording to size of plants.
TREE PÆONIES (20,000), the best sorts, priced according to size of plants, from £6, £8, £10, to £20 per 100.
HERBACEOUS PÆONIES, from £2 to £4 per 100.
TEA ROSES, DWARFS (100,000), the best sorts, grown in pots, £2 8s. to £4 per 100, according to novelty of sorts.
TEA ROSES and DWARFS, from open ground, £2 to £3 p. 100.
LISTS and CATALOGUES on application.

FERNS.—FERNS.

PTERIS Cristata, Nobilis, Cretica Major, Tremula, Adiantum Fulvum and Pubescens, in 48's, at 4s. 6d. per dozen. Polypodium at 5s. 6d. per dozen.
The above packed free for cash with order.
B. PRIMROSE, Blackheath Nurseries, St. John's Park, Blackheath, S.E.

ORCHIDS

Of every Description, from 1s. each; samples, post-free, 1s. 3d.
RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue, showing temperature for different Orchids, &c., post free.
THE LEEDS ORCHID CO.,
ROUNDHAY, LEEDS.

FRUIT TREES A SPECIALTY.

An immense stock of all the best varieties for Garden, Market, or Orchard.
Special quotations for quantities to grow for MARKET.
NEW and RARE Sorts, NOT OBTAINABLE elsewhere.
APPLES.—A grand stock of Standard and Half-standards, Dwarfs, Cordons, and Trained.
PEARS, PLUMS, CHERRIES, PEACHES, APRICOTS, in all forms.
GOOSEBERRIES, CURRANTS, and RASPBERRIES.
STRAWBERRIES.—All the best of the old and new varieties, open air plants, or in small POTS.
Send for Descriptive List and Guide, post-free, 6d., gratis to Customers (one of the most complete issued). Ordinary List free.
JOHN WATKINS,
POMONA FARM NURSERIES, WITHINGTON, HEREFORD.

NEW AND BEAUTIFUL HARDY SPIRÆA.

SPIRÆA ANTHONY WATERER.

This is a sport from the well-known Spiræa bumalda, from which it differs only in colour, the flowers being a rich crimson, borne in large corymbs thickly on the plant.
It is a continuous bloomer, and is without doubt the most important addition to hardy flowering plants of many years.
FIRST-CLASS CERTIFICATE,
Royal Horticultural Society of London.
Nice plants, 7s. 6d. each, will be distributed in November next.

ANTHONY WATERER, Knap Hill Nursery, Woking, Surrey.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6s. per bushel, 1s. extra for package; or, 1s. per cake, free per Parcel Post.
WM. CUTBUSH and SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

HYACINTHS, TULIPS,
Narcissi, Lillies,
Snowdrops,
Crocuses,
Scillas,
Irises
&c.
BULBS
BEST QUALITIES AT LOWEST RATES.
DELIVERED FREE BY RAIL OR PARCEL POST.
Descriptive Catalogue No. 441
Post Free on application.
DICKSONS Bulb Growers & Importers CHESTER

THE GARDENERS'
ROYAL BENEVOLENT INSTITUTION.
☞ *NOTICE.*

THE ANNUAL MEETING and ELECTION of PENSIONERS, in connection with this Institution, will take place on a date to be announced in January next.
INTENDING CANDIDATES must forward their applications on or before NOVEMBER 10 NEXT, on Forms which will be supplied by the Secretary free of charge.
GEORGE J. INGRAM, Secretary.
Office: 50, Parliament Street, London, S.W.

DOUBLE NARCISSUS.—About 10 bushels for Sale; true, 5s. per bushel.
E. POOLE, Osterley, Isleworth.

LORD PENZANCE'S HYBRID SWEET BRIARS.—Foliage deliciously scented. Flowers large, of great beauty, and produced in great profusion. Growth marvellously vigorous, perfectly hardy. Strong bushes, 5s. each. Full particulars of—
KEYNES, WILLIAMS AND CO., Rose Growers, Salisbury.

STANDARD-TRAINED PEACHES and NECTARINES.—Fine trees, bearing wood, fibrous roots.
CHERRIES.—Transplanted, Fruiting Standards.
GRAPE VINES.—Well-ripened Canes; a large Stock.
ROSES.—Unusually bushy, well ripened, and strong.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

AZALEA INDICA, fine plants, well budded and clean, established in pots, per dozen, in best varieties, 18s and 24s.
DEUTSCHE PERLE, best White, per dozen, 24s. and 30s., packed and free on rail for cash.
CALADIUM ARGYRITES, fine bulbs, per dozen, 6s., 9s., and 12s., post-free.
DOUBLE WHITE PRIMULAS, extra fine plants, per dozen, 6s. to 9s.
NEAPOLITAN VIOLETS, fine clumps, per dozen, 5s.
T. LION, Park Nursery, Stanmore, Middlesex.

FOREST TREES, &c.—Larch, 2-yr. trans., 1½ to 2 ft., 20s.; 2 to 2½ ft., extra, 24s.; 3 to 4 ft., 26s.; Scotch, 2-yr., 1-yr. trans., 12s.; 2-yr., 2-yr. trans. 15s.; 24-in., fine, 18s.; 2 to 2½ ft., 24s. per 1000. Spruce Fir, 12 to 15-in., 14s.; 15 to 24 in., 18s. Elm, 2 to 2½ ft., 16s.; Elm, English, 4 ft., 25s. Ash, 2 [to 3 ft., 17s.; 3 to 4 ft., 20s. Birch, 1½ to 2 ft., 20s.; 4 to 5 ft., 40s. Beech, 1½ to [2 ft., 16s.; 3 to 4 ft., 26s. Alder, 2 ft., 16s.; 4 ft., 22s. Spanish Chestnut, 1½ to 2 ft., 20s. Hazel, 2 to 2½ ft., 20s. Oaks, English, 1½ to 2 ft., 16s. per 1000. Sycamore, 1½ to 2 ft., 16s.; 2 to 3 ft., 20s.; 6 to 7 ft., 60s.; 8 to 10 ft., 120s.
GARLIES MITCHELL, Nurseryman, Stranraer.

BULBS, FIRST QUALITY, NOTE PRICES.

LILIUM Harrisii, 80s. per 1000; 10s. per 100; 1s. 9d. per doz.
,, Candidum, large, 45s. p. 1000; 7s. 6d. p. 100; 1s. 3d. p. doz.
GLADIOLUS, The Bride, extra large, 2s. per 100; 6d. per doz.
GALANTHUS Elwessi (Snowdrop), 16s. p. 1000; 1s. 9d. p. 100.
ANEMONES, fine assortment, 14s. per 1000; 1s. 6d. per 100.
CHIONODOXA, fine assortment, 14s. per 1000; 1s. 6d. per 100.
AMARYLLIS Lutea, grand for forcing, 8s. per 100; 1s. p. doz.
ARUM LILIES, extra large Bulbs, 16s. per 100; 2s. 6d. p. doz.
CYCLAMENS, large, full of Buds, 12s. per 100; 2s. per doz.
NARCISSUS, fine large Bulbs, 5s. per 1000; 1s. per 100.
FREESIA Ref. alba, very large, 16s. per 1000; 2s. per 100.
LILY OF THE VALLEY, for forcing, 3s. 6d. per 100.
25,000 AZALEAS, CAMELLIAS, RHODODENDRONS. Splendid Plants, full of Buds, 18s. to 30s. per dozen, according to size and variety.
Orders over 5s. Carriage paid.
BIRCHALL BROS. AND CO., 20, Polygon Road, Southampton.

SUPERLATIVE
RASPBERRY.
THE TRUE RAISER'S STOCK.
GEORGE BUNYARD & CO., MAIDSTONE

Hold a large lot this year of this, by far the finest Raspberry, and as many former applicants could not be supplied, early orders are requested.
First size ... ... 30s. per 100; 5s. per dozen.
Second size ... ... 20s. per 100; 4s. per dozen.
A few extra large, 9s. per dozen.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.
W. & J. BIRKENHEAD, F.R.H.S.,
FERN NURSERIES, SALE, near MANCHESTER.

WELLS' NEW CATALOGUE OF CHRYSANTHEMUMS,

Contains the description of nearly 1000 best varieties, and more useful information than any other such book ever published. Including a Coloured Plate of his New Green Chrysanthemum, "Ethel Amsden." The Novelty of the Season. Post-free, 4d., from W. WELLS, Earlswood Nurseries, Redhill, Surrey.

EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.
The SEVENTH ANNUAL EXHIBITION will be held in the Rink Hall, Blackheath (opposite S.E.R. Station), on WEDNESDAY, October 31, and THURSDAY, November 1, 1894, when prizes amounting to upwards of £100 will be offered for competition. Schedule of prizes and all particulars may be obtained on application to—
Mr. FRED. J. GARWOOD, Hon. Sec., 37, Turner Rd., Lee, S.E.

CRYSTAL PALACE.
THE GRAND
EXHIBITION of CHRYSANTHEMUMS,
FRIDAY and SATURDAY, November 2 and 3, 1894.
Schedules and Entry Forms post-free, on application to Mr. W. G. HEAD, Superintendent, Garden Department, Crystal Palace, S.E.
Entries close on Friday, October 26.

BRIGHTON AND SUSSEX (NEW) HORTICULTURAL SOCIETY'S CHRYSANTHEMUM SHOW, TUESDAY and WEDNESDAY, November 6 and 7. Schedules of the Secretary, MARK LONGHURST, 18, Church Road, Hove.
(Entries close November 1.)

THE SIXTH ANNUAL CHRYSANTHEMUM EXHIBITION of the LEEDS PAXTON SOCIETY will be Held in the Town Hall, Leeds, on TUESDAY and WEDNESDAY, November 6 and 7 next, when upwards of £170, including Four Silver Challenge Cups, will be given in Prizes. Entries close October 29. Schedules may be had from
JAMES CAMPBELL, Hon. Sec.
The Gardens, Methley Park, Leeds.

BOURNEMOUTH and DISTRICT CHRYSANTHEMUM HORTICULTURAL SOCIETY.
EIGHTH ANNUAL EXHIBITION, November 7 and 8.
For schedules and particulars apply to the Secretary—
Lindisfarne Gardens, Bournemouth. JAMES SPONG.

THE SECOND ANNUAL SHOW of the DONCASTER and DISTRICT CHRYSANTHEMUM SOCIETY, "OPEN to ALL ENGLAND," will be held in the Corn Exchange, Doncaster, on NOVEMBER 7 and 8, 1894.—Schedules can be had on application to the Secretary,
J. W. HARESIGN, 31, Scot Lane, Doncaster.

TO CHRYSANTHEMUM GROWERS,
PROFESSIONALS and AMATEURS.
NEWBURY CHRYSANTHEMUM WINTER FLOWER and FRUIT SHOW.
SECOND ANNUAL EXHIBITION, Corn Exchange, Newbury, on WEDNESDAY, November 7, 1894. Last day for entries, October 30. Schedules to be obtained of—
H. S. HANINGTON, Hon. Sec.

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AUTUMN CHRYSANTHEMUM FESTIVAL
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No. 5.—396 Bulbs for 7/6.—6 Hyacinths, named, for pots; 4 do., Red, for pots or glasses; 4 do., White, for pots or glasses; 4 do., Blue, for pots or glasses. 4 Tulips, Single, for pots; 6 do., Single, for borders; 6 do., Double, for pots; 6 do., Double, for borders. 24 Crocus, for pots; 50 do., Yellow; 50 do., White; 50 do., Blue; 50 do., Striped. 25 Iris, English. 12 Ranunculus. 12 Anemones. 25 Scilla Sibirica. 25 Snowdrops, Single; 25 do., Double. 6 Polyanthus Narciss.

No. 6 Collection, 10/6.—6 Hyacinths, choice, named, for pots; 6 do., do., for glasses; 12 do., for borders. 100 Crocus, White; 100 do., Blue; 100 do., Yellow. 20 Tulips, Single; 20 do., Double. 25 Daffodils, Single; 25 do., Double. 25 Winter Aconites. 25 Ranunculus. 12 Anemones, Single; 15 do., Double. 25 Snowdrops, Single; 25 do., Double. 10 Polyanthus Narciss.

No. 7 Collection, 15/-.—9 Hyacinths, choice, named, for pots; 8 do., do., for glasses; 9 do. Red, for borders; 8 do., White, for borders; 8 do., Blue, for borders. 150 Crocus, White; 150 do., Striped; 150 do., Blue. 25 Tulips, Single; 25 do., Double. 50 Daffodils, Single. 20 Anemones, Single; 20 do., Double. 25 Scilla Sibirica. 30 Snowdrops, Single; 30 do., Double. 30 Ranunculus. 25 Narcissus Poeticus.

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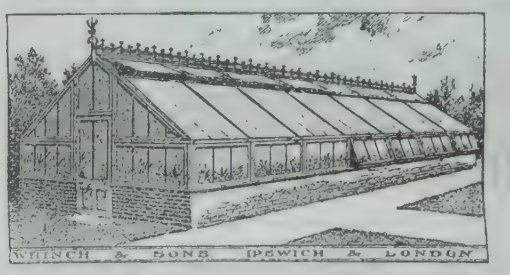
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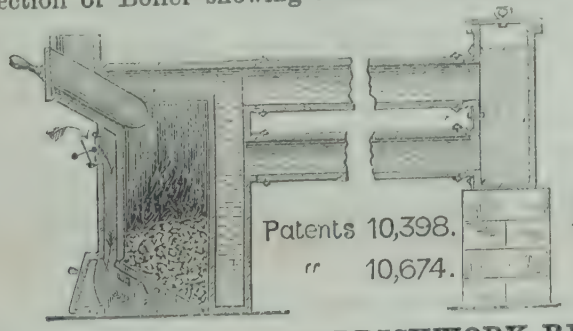
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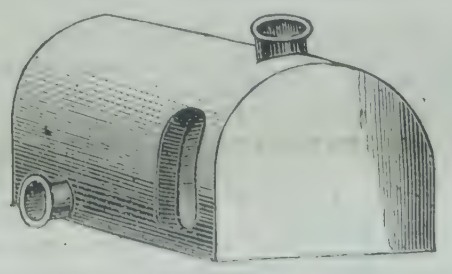
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SHRUBS and CONIFERÆ.—Ampelopsis Veitchii, in. pots, 2 ft., 30*s*. per 100; Arbor-vitæ, common, 2 to 3 ft., 18*s*.; Azalea ponticum, 2 ft., 4*s*. per doz.; Azara microphylla, 2 ft., 4*s*.; Berberis Jamiesonii, 2 ft., 20*s*. per 100; B. Darwinii, 1½ ft., 10*s*.; Cotoneaster microphylla, 2 ft., 10*s*.; C. Simonsii, 3½ ft., 10*s*.; Escallonia macrantha, pots, 2 to 2½ ft., 32*s*.; Grislinia littoralis, bushy, 6*s*. per doz.; Pampas Grass, 2 ft., 4*s*.; Hypericum calycinum, 12*s*. per 100; Hollies, Green, 2 to 3 ft., fine, 6*s*. per doz.; Jasmine, white and nudiflorum, 4*s*. per doz.; Laurel, common, 2 ft., 10*s*. 100; Colchic, 2 to 2½ ft., 14*s*.; Portugal, 1 to 1½ ft., 20*s*.; 2 to 2½ ft., 24*s*. Lilac, white and purple, 4*s*. per doz.; Laurustinus, 2 to 2½ ft., 6*s*.; Olearia Haastii, 2½ ft., 4*s*.; Rhododendron ponticum, 10 in., bushy, 2*s*. per 100; 1 to 1½ ft., 18*s*.; 1½ to 2 ft., 25*s*.; 2 to 2½ ft., 32*s*. Weigela rosea, 4*s*. doz.; Yucca gloriosa, 10 to 12 in., 25*s*. 100; Yew, English, 1½ to 2 ft., 24*s*.
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CATTLEYA LABIATA AUTUMNALIS.

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THE
Gardeners' Chronicle.
SATURDAY, OCTOBER 20, 1894.

JOHN HORSEFIELD.

LANCASHIRE has for the last hundred and fifty years been noted for its working botanists. They pursued the science partly as a quiet hobby, but more frequently as collectors, all their spare moments after the daily toil being devoted to flowers. In Horsefield's case, the love of flowers was clearly inherited, as his grandfather and father were botanists. The grandfather was born in 1732, and it is recorded of him that he was a good scholar and fond of botany, but fonder still of floriculture or the culture of florists' flowers. The father was born in 1764, and he was particularly fond of plants and flowers. John Horsefield was born on July 18, 1792.

The *Manchester Guardian* of March 2, 1850, contains the first chapter of his autobiography, and the only portion of it that was written. It gives the history of his boyish days. Horsefield had written it ten or twelve years before that date at the request of Mr. Wheeler of the *Manchester Chronicle*, but he never called for it. He afterwards sent it to the Editor of the *Manchester Guardian*, who had asked him to write some little account of himself. In his note he says:—"If by its means you can add another page or two to *The Short and Simple Annals of the Poor*, I shall be much gratified." The Editor wrote:—"His is evidently an hereditary passion for plants and flowers, both his father and grandfather occupying themselves in the study and culture of them." "Fair children of Nature's green kingdom." "He now lives at Whitefield, about a mile north of Prestwich, on the road to Bury, and within half a mile of the spot where he was born and brought up."

From this autobiography we learn that he was sent to school at six or seven years of age, so that he might learn to read before he was old enough to work. His tutor was a weaver, who had half-a-dozen scholars, who sat by his loom and read their lessons to him singly by his seat-board, while he continued his shuttle-driving. His terms were half-a-crown a quarter. Horsefield went to this school for twelve months, and thus learnt to read well. He then went to work at home, helping his father at his weaving. He was, at this early age, fond of books, and read everything that came in his way. The Bible was the first book he read through. He was then of a melancholy and rather fretful disposition, having a feeble and delicate constitution. Having learnt to read, he next went to a writing school, about a mile distant, held at 7 o'clock two or three nights a week. This he continued through the winter of 1805. Subsequently he went to another evening school for one or two

*

years, the charge being a penny a night, and thus he learned arithmetic. This completed his education. He never learnt grammar! He very soon took to botany. Culpeper's *Herbal* was his first book, and he remarks, "I think Culpeper's romantic accounts of the virtues of the plants affected the youthful imagination much in the same manner as a story of giants or other extraordinary characters; at least, it had nearly the same effect upon me, but with this difference, that the plants spoken of I hoped some day to have the opportunity of seeing, whereas in the case of giants, &c., such a hope would be quite improbable. With this the autobiography ends. Horsefield settled down at Whitefield, about 4 miles north of Manchester, as a weaver, where he lived all his life.

The next description of him, as a botanist, we find recorded by the veteran Richard Buxton, in the introduction to his *Botanical Guide to the Flowering Plants found indigenous within* 16 *miles of Manchester*, published 1849. He says, "One day in the month of June, 1826, I went to Kersal Moor, and was quietly engaged in botanising when I happened to see a person engaged in the same pursuit as myself . . . We walked together on the Moor talking on botany, and observing the different plants as we went along. I found him just the man I had long wished to meet with; not a mere country herbalist, but an excellent scientific botanist. This was no other person than John Horsefield, hand-loom weaver of Whitefield, the President of Prestwich Botanical Society, and now the President of the General Botanical Meetings held at different places in the county, a profound botanist, and well-read man; worthy to be the successor of Edward Hobson, the last President of the Society. Thus at the early age of thirty-four we find Horsefield able to fill this post; which would tax the skill of our most accomplished botanists. At these meetings all the working botanists of Lancashire and Cheshire attended, the object being 'the specific determination and accurate nomenclature of the plants which were produced.' The Chairman had to take up each plant and give first its Latin and then its English name, and to add remarks on its occurrence, &c." There were in those days usually a hundred persons present, and at the annual meetings there were sometimes two hundred present. About thirty such meetings were held during the year, the place of meeting circulating through the neighbouring villages. In this way a keen interest was kept up, and the botanical students had great opportunities of becoming acquainted with scientific botany.

Mr. Leo Grindon recollects John Horsefield from the year 1839, when he would be approaching his fiftieth year. He says he was accustomed to meet that glorious old man in his home at Besses-o'-th'-barn —or Whitefield—where he had a trim little cottage, the hand-looms occupying one of the principal rooms. The house was neat, not large, and had a well-stocked garden in front, and nearly surrounding it. In this garden he cultivated very many rare and curious plants, amongst which he remembers seeing Ramondia pyrenaica, and Veronica sexatilis, with many other rare Alpines. He also grew "florist-flowers," "basiers" (or Auriculas), "polyants," Tulips, &c. The cultivation of florists' flowers and hardy plants was then a favourite pastime with naturalists of his class. They helped one another, and whenever a man went a long journey into the country or further away to the Welsh, Derbyshire, or Cambrian mountains, his object was to obtain something new for their botanical collections. Mr. Grindon describes with delight his remembrance of forming one in a little party led by Horsefield through Mere Clough to Fo' Edge, the mountainous ridge beyond Bury. Horsefield was then a spare thin man, exceedingly quiet in his demeanour, no hilarity, but a calm sweet-tempered dignity that recommended him to everyone who came into company with him. Always full of information, good nature, and gentleness; never seen out of temper, placid, friendly, generous.

In addition to his skill as a gardener, Horsefield, like many other Lancashire florists, understood the method by which flowers are improved, by fertilizing one variety with the pollen from another. It is on record that he raised a new Tigridia conchiflora var. Watkinsonii, which was so good a flower that it was sold to Mr. Watkinson, a nurseryman, for £10. It is figured in *Paxton's Botanical Magazine*, and was obtained by cross fertilization, with the pollen of T. pavonia. Whether or not he pursued a similar method with Daffodils is a question which has attracted much discussion in Lancashire. It was stated at the Narcissus conference of 1884, that Narcissus bicolor Horsefieldii was a chance seedling from N. bicolor. It was, however, stated to the writer by the late E. K. Norris, of Northenden, who lived near Horsefield in his youth, and was well acquainted with him and his garden, that he raised this grand flower by crossing the old N. bicolor with pollen from a very fine flower of N. pseudo-Narciss.

It is well known also that Horsefield watched with hopeful interest, the fine seed-pod which were ripening in his garden, and watched with the greatest interest the result when the seed had been harvested and sown. Mr. Percival also states that in this batch of seedlings there were two other good varieties, which are still in existence, one of which is almost the same as N. princeps. It is therefore exceedingly likely that Horsefieldii was not merely obtained by chance. It remains amongst us, a fitting memorial of John Horsefield, and is worthily called "The King of Daffodils."

It was a famous flower in his lifetime. The whole stock remained in his possession until 1854, and the bulbs were not dispersed until after his death in that year, when they were sold for the benefit of his widow. There were then twenty-eight blooming or full-sized bulbs, and nine small ones. The sale or "letting-out" was attended by many florists, for the fame of Horsefield's Daffodil had spread far and wide. An enthusiastic florist offered a copper kettle to be competed for the year following, the prize to be awarded for the best flower of N. Horsefieldii. A show was accordingly held in the spring of 1855, when the prize fell to Joseph Allen, the landlord of the "Eagle and Child" at Whitefield, where the Botanical Society's meetings were held. It is interesting to note that twenty-three varieties of Narcissus were exhibited on that occasion. Horsefield died on March 6, 1854, in the sixty-second year of his age. The following tribute to his memory was written by Charles Swain, a Lancashire poet, and is copied from a neatly-framed card in the room



Fig. 59.—Beurré Fonqueray, bush or pyramid: grown in the open air.
(see p. 467.)

where the Botanical Society, of which he was so long president, held its meetings.

In memory of
JOHN HORSEFIELD
OF WHITFIELD, BOTANIST,
Who died on March 6, 1854, in the 62nd year of his age.

Ye who behold God's work, in Nature's ways,
And find in flowers, mute anthems to his praise;
Who read the volume of eternal love,
In seeds of earth, as in the stars above;



Fig. 60.—BEURRÉ HARDY, A PYRAMID: GROWN IN THE OPEN AIR.

Here read a name whose fame shall long endure!
One poor by birth, but gifted, although poor!
God, unlike man,—the humblest spirit lifts,
Nor asks his wealth, before he sends his gifts.
Where'er botanic science could be learn'd—
New links disclosed—new species yet discern'd:
Where'er by wood, or lane, or heath, or hill,
God ope'd the book that taught botanic skill,—
There Horsefield's foot from dawn to eve was seen,
To learn; to teach; to be, what he has been:
An honour to the soil that gave him birth;
A mind of truth—a heart instruct with worth.
Oh, may the spirit for whose loss we grieve,
Our God accept,—Our Saviour Lord receive

Wm. Brockbank, Brockhurst, Didsbury.

New or Noteworthy Plants.

CALATHEA POLYTRICHA, *Baker, n. sp.**

This fine new Scitamineous plant belongs to the group of Calatheas in which the flowers form a sessile tuft in the centre of the rosette of leaves. Its nearest ally is C. flavescens, *Lind. Bot. Reg.*, t. 932 (Phrynium grandiflorum, Roscoe), from which it may be distinguished at a glance by the very hairy leaves and bracts. It is a native of the island of Trinidad. We have a dried specimen in the Kew herbarium, collected in 1868 by Prestoe on the banks of the Caroni river It was sent lately to Kew in a living state from the Trinidad botanic garden, and has flowered this autumn. It is remarkable for its globose tubers and ornamental flowers, but the leaves are not in any way striped or spotted, as they are in so many of the species of Calathea and Maranta, prized by cultivators. It would be worth trying what is the quality of the farina which the tubers yield.

Acaulescent. Root-fibres slender, bearing globose tubers as large as a small Potato. Produced leaves about four in a tuft, erect; petiole 5 to 6 inches long, winged on the edges, densely clothed with spreading hairs, blade oblong acute, 6 to 9 inches long, hairy on both sides, plain green above, much paler beneath. Flowers many in a rosette, which is sessile in the centre of the tuft of leaves; bracts multifarious, acute, oblong, very hairy, 1 to 1½ inch long; calyx cylindrical, white, membranous, lobes linear; corolla-tube white, cylindrical, longer than the calyx, lobes lanceolate, erecto-patent 1 inch long. staminodia obovate, emarginate, lemon-yellow, rather longer than the corolla-lobes; style half as long as the corolla-lobes. *J. G. Baker.*

* *Calathea polytricha*, Baker, n. sp.—Acaulis, fibris radicalibus tuberis globosis præditis; foliis 3—4-nis erectis oblongis acutis viridibus concoloribus utrinque pilosis; petiolo elongato canaliculato hirsuto; floribus pluribus in rosulam centralem sessilem aggregatis; bracteis multifariis oblongis dense pilosis; calyce cylindrato albo membranaceo, segmentis linearibus; corollæ tubo cylindrato calyce longiori, lobis lanceolatis staminodiis obovatis emarginatis citrinis calycis lobis paulo longioribus; stylo staminodiis valde breviori.

POLYPODIUM (EUPOLYPODIUM) DENDRICOLUM, *Jenm., n. sp.*

Rootstock slender, erect, fibrous; stipites 1 to 2 lines long, densely tufted, wiry, erect, brown, clothed freely with dark chestnut spreading hairs; fronds erect, linear, simple, 2 to 5 inches long, 2 lines wide, strict, coriaceous, dark brown-green, under-side paler, both surfaces hairy, margins uniformly scalloped above the narrowed base; rachis on both sides covered by the parenchyma; veins consisting of three spreading branches in each scallop, the interior fore-shortened, and fertile at the apex; sori one to each lobule, alternate, round, medial, apart, superficial, receptacles embossed, dark, oblong. Jamaica, on trees at and above 5000 feet altitude in the Port Royal Mountains. Communicated by Mr. Hart. Nearest to the local P. Fawcettii, Baker, but differing by its stiff texture, scalloped margins, and three-branched spreading veins. *G. S. Jenman, Demerara.*

PEARS AS PYRAMIDS.

Referring to our notice of Messrs. J. Veitch & Son's fruit nurseries at Langley, which appeared in our issue for September 29, p. 367, we are now enabled to afford our readers illustrations of young trees in bearing, as they appeared this season. The varieties are the large, handsome, hardy, very free-bearing new Pear, Beurré de Fonqueray, growing on the Quince; and an old favourite Pear, Beurré Hardy, also large, handsome, and richly-flavoured, and very good eating when grown on warm soils. The illustrations (fig. 59, p. 466; fig. 60, p. 467) show, if any further proof be needed, the desirability of planting in small and amateurs' gardens this easily-managed form of Pear tree, especially as the older system of constant summer pinching has fallen into deserved disrepute. As regards the freedom to fruit, the specimens speak for themselves.

Orchid Notes and Gleanings.

HABENARIAS AT BURFORD.

These beautiful flowers, of which Sir Trevor Lawrence was one of the first successful cultivators, have for a long time past made a good display in the warm house at Burford, in which Vanda teres so admirably thrives, and in which a strong plant of Vanda × Miss Joachim (Hookeriana × teres) bids fair to be the first to flower in Great Britain. The front stage of the house is filled with plants of the bright cinnabar-scarlet-flowered Habenaria militaris, and not one of the plants has missed flowering. Arranged with these are a smaller number of Habenaria carnea and H. c. nivosa, furnished with pure white or flesh-coloured large and wax-like flowers, which seem almost out of proportion to the small plants that bear them. All of these species have beautifully and diversely marked foliage, which in itself would render the plants objects worthy of cultivation. When the flowering season is passed, and the foliage withered, the plants are put on a shelf in a temperate house, where they remain for the winter; and it is this season, as Mr. W. H. White, the Orchid-grower

at Burford, told me, which is the most critical, for, although they are put away to dry off and pass an inactive season, they must receive a little water at intervals of a week or so, in order to prevent the slender tubers from becoming too much shrunken to allow of their starting strongly into growth when repotted in the spring.

Stenia pallida.

This pretty and rare species is now in flower in Sir Trevor Lawrence's garden, Burford Lodge, Dorking. Its flowers, which are produced singly, are in size and general appearance like those of Odontoglossum Pescatorei. In colour, they are pure yellow. The thickened form of the base of the labellum, like the hypochile of a Stanhopea, and its small front lobe, serve well to distinguish it from the allied Chondrorhyncha, to which it has some resemblance in its habit of growth. It is a very neat-looking plant, and is apparently very floriferous. *J. O'Brien.*

Schlimia trifida.

This is one of the prettiest, rarest, and most fragrant of small-growing Orchids, and since it was first exhibited by Sir Trevor Lawrence, Bart., at the Royal Horticultural Society in 1877, it has been seldom seen. It is again in flower in the Burford collection, where its delightful fragrance fills the house in which it is suspended. It bears a drooping raceme of several wax-like white flowers, with a few purple spots. The flowers are about 2 inches in length, and of very peculiar structure. It was illustrated in the *Gardeners' Chronicle*, vii. (1877), p. 141.

Plant Notes.

MISS MELLISH SUNFLOWER, ETC.

This very fine form, so very kindly distributed by the Rev. Mr. Wilks, I saw growing largely in the hardy plant grounds of Mr. B. Ladhams, Shirley, Southampton. It is of good average height, flowers large, yet not at all unduly so, having each a double row of ray-florets, that are of a bright yellow colour, pointed, and partially incurved, so that of all hardy flowers it is, perhaps, the nearest imitator of the popular Cactus Dahlia that we have. So striking and beautiful are the flowers, that the variety takes almost the highest position in the genus. A very interesting and effective member is Helenium grandiflorum spicatum, height 4 feet, flowers medium size, with an orange base, and deeply flushed and striped with red. This blooms late, is very free, and a charming variety. *A. D.*

Ampelopsis Veitchi purpurea.

This is a remarkably handsome creeper, suitable for a wall; it looks well as a companion to other wall plants, or as a single specimen; it is quite hardy, and not at all fastidious as to soil or situation, except that it does not do so well in a northern aspect. I prefer it to Ampelopsis Veitchi, which is a good thing in its way, and suitable for covering a space on a low wall facing south; but Ampelopsis Veitchi purpurea is a striking object at this season of the year, and is remarkable for its lovely shades of colours, and, above all, it retains its leaves a longer period than most of the species, and the leaves and growths can be utilised for dinner-table and room decorations.

THE SEED TRADE.

(*Continued from p.* 368.)

It will be gathered from these elaborate tables that the importation into this country of Clover and Grass seeds is one of the most prominent branches of the industry, amounting as it did to the enormous value of £792,061 during 1893, and as it may be of some interest to many readers, we now give the names of the ports at which these seeds were received to get an idea as to the channels from which they would be ultimately distributed:—

London (*viâ* Thames), 117,944 cwt.; Liverpool, *19,355; Bristol, *2 352; Dover, 604; Folkestone, 145; Goole, 624; Grimsby, *2,269; Hartlepool, 947; Harwich, *24 665; Hull, *51 694; Newcastle, 481; Newhaven, *18,362; Plymouth, 418; Southampton, *22 087; Leith, *29 986; Aberdeen, 700; Dundee, 170; Glasgow, *27,201; Grangemouth, 2,261; Greenock, 120; Dublin, 2,887; Belfast, 5,290; Cork, 97.

It should be borne in mind that these figures represent seeds brought into the country, and they must not be confounded with our own productions, of which the following table gives some information:—

Crops.	England.	Wales.	Scotland.	Ireland.	Isle of Man.	Channel Islands.
	Acres.	Acres.	Acres	Acres.	Ac.	Ac.
Beans	229 342	1,637	13,975	3,280	...‡	...‡
Peas	208,17	1,266	1,042	326	...	...
Turnips and Swedes ..	1424,093	71,387	479,755	302,820	...	...
Mangel	338,543	7,484	982	47,025	...	...
Cabbage, Kohl Rabi, Rape ...	146,11[illegible]	1,819	8,267	46,897	...	...
Tares	161,314	2,058	12,120	5,358	...	...
Clover and Grass (rotation crops)† ...	2675,271	317,835	1576,524	1300,168	...	...
Lucerne... ...	17,617	311	27	...‡	...	373
Carrots	10,734	347	891	...	77	200
Beetroot... ...	2,200	53	29	...	4	82
Sugar-Beet ...	88	...	5	...	1	62
Other crops, including Parsnips, Onions, Spinach, Rhubarb, Radish, Broccoli, Cauliflowers, and the minor products of market gardens not separately recorded ...	70,981	538	1,326	...	36	770

Unfortunately, the Returns of the Home-grown crops, as issued by the Board of Agriculture for 1893, do not give a deal of information from a seedsman's point of view; there are, however, some particulars that will be of service from the fact that every acre sown requires seed to sow it, and this has to be supplied from one source or another. We are unable to define what portion of the area under cultivation was utilised for purposes other than the production of seed, and it would in many instances be somewhat difficult for the Government to collect such particulars without an alteration in the methods adopted at present, hence we give the areas as recorded of each crop grown in the United Kingdom, irrespective of the purpose for which it was required, in many cases probably undetermined until the crop was well forward.

Imports of Bulbs, Plants, Shrubs, and Trees in 1893.

From Holland, value...	£153,889§
From Belgium ,, ...	36,006
From France ,, ...	44,957
From Japan ,, ...	9,825‖
Exports.	
To the United States, value	£7,609
To other foreign countries ,, ...	5,185
To British Possessions ,, ...	2,685

Seedsman.

* A large portion of these landings would ultimately come to London, others would be offered by sample on Mark Lane.

† A large portion of these acreages is down for one to four years, so that seeds would only be required once during this period. As regards Permanent Pasture, it appears there were 233,000 acres more than in 1892; but it would be imprudent to say this was the area sown out during 1893, because there are no records of worn-out pastures that may have been broken up.

‡ Separate returns do not appear to have been made here.

§ These would mostly comprise Dutch bulbs.

‖ These would mostly be Lilies.

GREENHOUSE FLOWERS AT BURFORD LODGE.

The greenhouse near the Orchid-houses in Sir Trevor Lawrence's gardens at Burford is always a very interesting and pretty sight. In it not only are the stages furnished with the best examples of the flowering plants suitable for a cold house, but provision is made for the roof to give a great aid in the general effect by means of trailing plants and plants in suspended baskets. At various times we have seen, suspended in the greenhouse at Burford, specimens of the elegant Lotus peliorhynchus, Fuchsia procumbens, the species of Asparagus, and other plants not usually seen to such perfection. At present the profusion of flowers on the white and the red Lapagerias, and some very handsome baskets of tuberous Begonias, give the chief display overhead, while the fine specimens of all colours of tuberous Begonias, scarlet Nerines, &c., make a great show arranged with foliage plants on the staging. Some interesting and beautiful uncommon greenhouse plants too, are in flower, one of the prettiest being a specimen of Trichinium Manglesii with ten large, silky heads of its pretty white and pink flowers. The large-flowered tuberous Begonias suspended overhead, which Mr. Bain allows to droop around without trimming, illustrate a mode of using these showy plants, which should be carried out to a much greater extent than it is, for so grown they are even more beautiful than when staked, as they must necessarily be for growing on the stages. Of course, only a limited number can be suspended, but it gives an additional and very effective use for the plants. *J. O'Brien.*

A TRAVELLERS' NOTES.

(*Continued from p.* 436.)

Sydney Botanic Garden.—The Palace garden, the old exhibition grounds of 1879, are prettily laid out; there are numerous beds and shrubberies, some statuary, and many single specimens are dotted about on the rich Buffalo lawn. Seats are in all available spots, and the many visitors testify to the appreciation in which the gardens are held. The plants are chiefly those found in the older section; being much younger, they are naturally of less size.

Near the palmetum is a specimen of the N. S. W. Birch (?), a pretty, compact tree. Sydney is somewhat too warm, it being only seen at its best at higher elevations. Palms are largely represented. In addition to the palmetum, many specimens are scattered about on the wide lawns, where, in addition to every advantage for complete development, they can be better studied. In the palmetum proper, a Jubæa spectabilis is one of the most noticeable, though, in point of size, another specimen elsewhere eclipses it; 25 feet high, its funnel-like stem is 3½ feet in diameter at 4 feet from the ground, the small head of foliage affording a vivid contrast to the gigantic leaves of Arenga saccharifera close by. Sabal umbraculifera is very fine, 6 feet being the usual breadth of its magnificent leaves; its stem apparently decreases in diameter with advancing age. Near a much-ramified 24-headed Dracæna Draco is a good Phœnix reclinata, its thin stems and long foliage soaring some 20 feet, the nakedness at the base well filled in with oncoming shoots. An 80-feet seeding Cocos plumosus needs but mentioning. Mr. Harwood thinks highly of Kentia Lindeni; its claret-red young leaves are in themselves of value for horticultural purposes, to say nothing of the older foliage, often 8 to 10 feet in length, springing at almost right angles from the strong ligneous stem; they are clothed with pinnæ their whole length. Sabal princeps is good, presenting a series of sharp diagonal lines from the split bases of dead leaves adhering to the trunk; it is now flowering freely, producing creamy-yellow panicles, 3 to 4 feet long. Seaforthia elegans, 35 feet in height, with a round, even head, and Chamærops excelsa, C. Fortunei, are both good.

Pritchardia Martii, from the Hawaiian group, is pretty. The young leaves are clothed with the softest down; whilst amongst other noticeable Palms are Areca madagascariensis, 35 feet in height, with a bunch of light graceful stems, and neat short pendulous leaves; Phœnix paludosa, a rugged, unkempt mass of short 18-inch foliage; and Copernicia cerifera, the Cornauba Palm of Brazil, noticeable for its tall slender fibre-hidden stems, broad, stiff, fan-like foliage and its productiveness of offshoots.

The Palace grounds are not without their quota of the Palm family. Kentia insignis is here well represented. Its stiff, distinct leaves, silvery beneath, and often 12 feet in length, crown a fibre-covered stem. Close by a small stem of Livistona

Hoogendorpi, from Java, promises well, and a fruiting Kentia Forsteriana is interesting. In another portion of the garden, on either side of a creek, and but a few yards apart, are two good fruiting examples of the two leading Kentias (from a nurseryman's view) of Lord Howe's Island. I naturally refer to K. Forsteriana and K. Belmoreana, two species widely distinct in habit and mode of fruiting. The foliage of the former rises straight and stiff, and is unbending to lighter breezes, with the lower pinnæ flat; whilst those of the latter are recumbent and graceful, the lower pinnæ of each leaf being erect.

In K Forsteriana the spikes in the axils of the leaves vary from three to nine united at the base; in K. Belmoreana they are invariably separate. In both the male flowers crown the end of the spike, the females producing fruit on the lower portion. The spikes of K. Belmoreana are by far the longer, often reaching 3 to 4 feet. The seeds are very similar, probably accounting for the harvesting of the two species as one. Into the details of this most interesting comparison Mr. Moore was good enough to fully enter and clearly explain, with the aid of several available living examples. Phœnix farinifera is represented by a gaunt specimen, with three slim, 30 feet, absolutely bare stems, and narrow foliaged graceful heads.

In the lower garden are also some good single specimens worthy of note. Sabal Blackburniana, a perfect piece of Livistona Mauritiana, a tangled impregnable mass of Phœnix rupicola, some 12 feet high and 15 feet in diameter, not a vestige of a stem to be seen; Phœnix leonensis, probably the strongest grower of the genus; Phœnix dactylifera, the spread of branches considerably greater than the height—a perfect specimen doubtless, partially owing to its isolation; and Phœnix reclinata, covering a diameter of over 30 feet, are amongst the most striking.

In the palmetum may also be seen the only Australian Calamus, C. Muelleri, Cycas circinalis doing better than C. revoluta, to which a moist season is essential. Strelitzia Augusta, one stem rising to nearly 40 feet, the whole at first sight deceivingly resembling a Ravenala, &c.

One of the most interesting genera in the garden is Agathis (Dammara). One species, by many considered the handsomest, bears Mr. Moore's name, owing its introduction to science to his explorations in New Caledonia. D. robusta, found as far north as Cairns in Queensland, is probably the best known, and certainly the one most frequently met with under cultivation. One specimen is 100 feet high; its tall straight stem and tapering head render it easily distinguishable from the remainder of the species in the garden, which are, in general appearance, somewhat similar. D. ovata and D. obtusa are both decorative, the latter producing the largest foliage of the genus. D. vitiensis, from the Fiji Islands, and D. orientalis are not dissimilar in general aspect. D. spinulosa and D. pumila are, however, distinct from all, the former by its slender, irregular habit, the latter for its obovate foliage and diminutive size, owing to exceeding slow growth; both inhabit the neighbouring French colony. The only other species I would mention is the New Zealand D. australis. The higher temperature of New South Wales prevents its doing very well, the one in the garden now being but 2½ feet, though specimens have attained 14 feet.

Araucarias are numerously represented, the Norfolk Island species being amongst the finest trees in the garden, and certainly the finest I have seen anywhere, a grand specimen, 118 feet in height, leading the way, the stems averaging 4 to 5 feet in diameter. This Conifer is handsome at this height, clothed with branches to within a few feet of the ground, and not denuded, as is A. Bidwilli so frequently under cultivation; that species, though represented in the garden, is scarcely at home. A. Cookei reaches 45 feet, though its varieties and forms as here represented are preferable for ornamental purposes; A. C. pendula (named by Mr. Moore), of general similar aspect, has a larger leaf than the type; a small 2-feet specimen of A. C. Rulei produces shorter, more acuminate foliage, of a paler tint; and rigida by its name denotes its distinctive feature. A. Rulei, in like manner, in addition to the normal form, here very fine, though not large, offers varieties. A. Rulei Balansæ, from New Caledonia, has longer, slenderer branches, more thickly clothed with shorter, sharper leaves, of a richer green—a certain horticultural improvement on the type. A. Cunninghamii and A. elegans, the latter rather disappointing, are also to be seen.

The trees of Japan do well in some instances, though Mr. Moore tells me the Fir family and many deciduous trees, including the Maples, fail. I also note an absence of those from the higher elevations and the north. Aralia spinosa is good. Chimonanthus fragrans is represented by a bush 8 feet high, and grows with great rapidity. Torreya nucifera, Olea ilicifolia, Illicium religiosum, Quercus glauca, Clerodendron trichotomum, Eriobotrya, 30 feet high and 20 feet through—a magnificent bush; Ilex latifolia, and Hovenia dulcis, 35 feet in height, are amongst the most noticeable. *James H. Veitch.*

(To be continued.)



Fig. 61.—Fruit of pear Beurré Hardy. (see p. 467.)

FUNGUS HUNTING IN 1894.

Fungus hunting for the past four or five years has been of such a nature that the writer of this notice felt no great anxiety to risk the contingency of damp feet and a cold by prowling through wet woods and dank grass in search of "toadstools." Submitting to pressure on the afternoon of Saturday, October 6, he met two or three daring friends at Orpington Station, and together strolled to Chislehurst, under the impression that they represented the West Kent Society on their annual fungus foray. It is matter of meteorological history that it rained all the afternoon, as it often does when a fungus hunt is planned, and only a very few excursionists ventured abroad. We passed over nearly the same ground as last year, and although diligent search was impossible, yet it was soon evident that the fungus crop was better than it had been for two or three years, although nothing of great rarity or importance was found, except a cluster of white Agarics, of the same species as a similar clump, first found during a rainy afternoon, in October, 1883, at Lyndhurst, and never seen since. This was named Agaricus (Clitocybe) pergameneus (Cooke), and described in *Grevillea*, eleven years ago. It is always of interest to corroborate a new species by finding additional specimens in a distant locality, and we were satisfied with our stroll, not only because of a more liberal supply of fungi to collect, but also because one of the number was a species, which, as far as we are aware, had only been met with once previously.

On the following Saturday afternoon (October 13) we joined the members of the Essex Field Club to undertake their annual foray in Epping Forest Fortunately it did not rain until the evening, and the hunt was prosecuted with vigour and high spirits. Fungi were undoubtedly far more numerous than they have been in that locality for four or five years, so that within the space of less than three hours a list was compiled of some 110 different species which had been seen or collected. Nothing new, rare, or remarkable was recognised, but seven species were added to the list of the fungi of Epping Forest, including Agaricus (Mycena) rosellus, a pretty little rose-coloured species; Agaricus (Psathyrella) subatratus, Batsch; Bolbitius fragilis (Fries.); an edible species, Cortinarius castaneus (Fries.); Hygrophorus niveus, a white species, by no means uncommon, but which has not been recorded for Essex; Lactarius pubescens (Fries.), and Merulius pallens (Berk.). All these came from around High Beech. There was a fair attendance of members, but not so many as on some previous occasions. The locality selected was that of High Beech, and something could be seen in any direction to which the foragers betook themselves, until it was too dim to see anything smaller than one's fist. As usual the interest was chiefly in the direction of something to eat, and all enquiries were of a utilitarian character. The tables at the meeting place were adorned with the spoils of the day, and notably, large piles of Craterellus cornucopioides, since this species is becoming popular, as an esculent, with the members of the club. This was evident at the close of the meeting, when all the Craterellus had disappeared. One lady was very much concerned to hear that the splendid crimson-and-gold Agaricus muscarius was poisonous. She thought it was so beautiful, that it must be a great mistake to say it was not good to eat, whilst she considered that the dirty-looking black 'Horn of Plenty" did not look fit for the pigs.

During the evening meeting a rather lengthy paper by Dr. M. C. Cooke was read, entitled "Some Confessions of a Fungus-eater." Looking over the collections spread over the tables for exhibition, it was noteworthy how some species preponderated, and that so many which are usually common species were absent. There was, for instance, Lactarius turpis everywhere, within and without. Scarcely any species of the large sub-genus Tricholoma, and, except Agaricus infundibuliformis and Agaricus ditopus, scarcely any of the

sub-genus Clitocybe. Not more than half-a-dozen specimens of the very common Agaricus melleus were in evidence; plenty of Lactarius and Russula, but only a solitary Cantharellus cibarius, and less than half-a-dozen specimens of Hygrophorus. During the day not a single Cantharellus aurantiacus could be found, although sought diligently, and in some seasons very abundant. From other localities we have learned that the crop of Hymenomycetal fungi has been moderately good, and more like what they were some six or seven years ago. *M. C. C.*

RE-AFFORESTMENT OF PARTS OF WALES.

I observe that a Government official has been requested to report on the suitability of the Crown lands in South Wales for planting purposes. This is a step in the right direction, and it is to be hoped that a large scheme of re-afforestation will be the result of his investigations. Already an attempt has been made to throw cold water on the scheme by a writer in the *Times*, who cites his own case as as example of what may be anticipated should the project be carried out. I do not doubt what this gentleman says with regard to the failure of the Larch on the estate with which he is connected, but he is evidently unaware of the fact that there are other forest trees which, so far, have not yet failed to thrive on our mountain sides, and which in many localities are fairly remunerative to those who plant them.

The failure of the Larch in different parts of Wales is beyond dispute, but this result has been brought about in many instances by the indiscriminate selection of the ground in which they have been planted. A short time ago I had occasion to examine several young Larch plantations of considerable extent in Wales, which present the most glaring spectacle of incompetency or want of judgment I have ever seen. The greater part of the land which these plantations occupy is of the poorest description, wet, and utterly unfit for the cultivation of the Larch, in fact, some of it is so bad that no tree with which I am acquainted would live, much less thrive upon it, for any length of time.

Another frequent cause of failure is planting two crops of Larch in succession on the same land. In ninety cases out of a hundred the trees in such places will either die right off when very young or prematurely mature. I know only one place in the British Isles where this experiment has been attended with success, and where the second crop equalled if not surpassed the first.

Other causes, more or less of a preventable nature, besides those alluded to, have helped to bring about the decline of the Larch in this country, which I need not refer to now, but with your permission I may do so on a future occasion. I should like to mention, however, one of the reasons or causes lately given by an authority of some repute regarding the failure of the Larch in Wales. This gentleman stated that Larch could not thrive in Wales on account of the humidity of its climate. So far as my experience goes, this statement has no basis whatever to rest upon when viewed from the light of every-day experience. Take Ireland, for example, where the rainfall is excessive; there the Larch will be found thriving better and freer from disease than in any part of England, Scotland, or Wales.

Granting, however, that the Larch is a precarious tree to plant exclusively, I maintain that remunerative plantations can be formed in many districts in South Wales. I do not know a district in Great Britain where a better demand exists for a certain class of timber, nor where greater advantages exist for the supplying of it, and which have been less availed of, than the district referred to. The supplies of timber from local sources are very small compared with those that come from other and more distant places.

If anyone doubts this, let him take a walk along the docks at Cardiff and Newport as I have done, and he will find that the greater part of the timber required in South Wales for pit purposes comes from France.

This in my opinion is a national disgrace. There are thousands of acres in South Wales, which at present are returning little or nothing to the proprietors, but which if judiciously planted would in time become the most valuable portions of their property.

The advantages to the district in carrying out a scheme of this kind would also, I need scarcely say, be inestimable. I therefore again express the hope that something will be done to remedy a state of things the neglect of which has greatly benefited our Continental neighbours. *David Robertson, Chester.*

The Week's Work.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

THE FLOWER BEDS.—If frosts have spoilt the bedding plants, or they are become unsightly, the beds of them should be cleared, reserving the best of anything that it may be desirable to keep over the winter for propagation purposes. The potting up of plants for this purpose will be advisable even should the weather not be severe. The plants should be cuttings of 1893, or, failing these, of last spring, except in the case of new kinds and varieties, of which the stock may be scanty. At this late part of the year, bedding plants when taken up for saving them, pass the winter best in small pots, one or two being placed in a pot. Before potting them remove the longer shoots and all decaying leaves, leaving the shorter shoots to carry on the growth of the plant, and cut off the longest of the roots. For potting a light porous soil is best, and the potting should be firm. They will keep in health in any light, dry house, from which the frost can be excluded by fire-heat. If space be a matter of moment, cut the plants hard back, the tops thus cut off being dipped in fresh lime or charcoal-dust, and packed close together in sandy loam in well-drained pans or cutting boxes.

HYACINTHS AND TULIPS, ETC.—As soon as the beds are cleared of the summer bedders, dress them with manure, if the soil needs enrichment, and double dig the ground if it be of good depth, breaking the clods. Let it lay untouched for a day or two, that is, till the surface loses its stickiness, and then roughly level, and make it firm by raking and treading it, afterwards raking it level. For a planting tool use a dibber with a rounded end, not a pointed one, of the desired size. This will do very well for Crocus, Scillas, Tulips, and other small subjects which go into holes of 3 or 4 inches in depth. Hyacinths, Lilies, Narcissus, Crown Imperials, &c., should be planted with the trowel. Hyacinths may be 5 to 6 inches deep, and these and Tulips may be planted from 4 to 8 inches apart accordingly as they are of themselves intended to cover the soil or are used in conjunction with other plants. If the soil holds much moisture during the winter, throw it out to a depth of 2½ feet, and place a layer of drainage material in the bottom of a thickness of 9 inches, and put rough coal-ashes over this, then replace the soil, and beneath each bulb place a pinch of silver sand.

SPRING FLOWERS OTHER THAN BULBS.—Polyanthus, Wallflowers, Aubrietias, double-flowered Daisies, Auriculas, Violas, &c., should be planted; and if these occupy the beds with the bulbs, the latter should be put out when these plants are in their places. A too rich soil does not suit this section, as their foliage is apt to be made at the expense of flowers, and as much care is necessary in planting them as is usually bestowed on the summer bedders.

RANUNCULUS AND ANEMONES.—Now is a good time to plant some of these, the fine varieties of which make attractive beds. The soil of the beds should be well prepared, and the corms planted about 2 inches deep, and 5 inches apart. The more expeditious way of planting them is, after digging the ground, and treading it regularly all over, to throw out the soil to the required depth, place the corms in position, and return the soil, making it level. The beds should be on a slight slope, so that some of the winter moisture passes off, and does not enter the soil. Protection by means of hoops and mats should be afforded during hard frosts. Patches of these plants look well in the herbaceous perennial borders.

CROCUS, SNOWDROPS, AND WINTER ACONITES.—If the bulbs of these plants were taken up when ripe, they should now be re-planted. These form good edgings to beds and borders, and enliven beds of shrubs if planted amongst them in patches. The two first-named are also well adapted for forming designs on the turf.

NARCISSUS, JONQUILS, English, and Persian bulbous Iris, Allium Moly, Crinum maritimum, Ixias, Lilium candidum, Crown Imperials, and any other bulbs which were taken up when their leaves decayed, may now be planted.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

VANDAS OF THE TRICOLOR SECTION.—It is no uncommon thing to find these stately plants with stems bare towards the bottom for 1 foot or more, the cause of which will probably be found due to excessive flowering, irregular temperatures, insufficient ventilation, and a too dry atmosphere. Their cultivation is not difficult, and a group of them furnished with leaves strong and healthy down to the bottom, forms, whether in or out of bloom, an imposing feature in Orchid-houses; moreover, they furnish lasting flowers fit for large vases or other uses. A drying warmth in the Vanda-house is always detrimental, as it causes weak growth and unhealthiness. The plants should be grown in an intermediate-house, the temperature of which should be very steady, and the balance between warmth and aërial moisture duly observed. Some cultivators stand their plants on open wood-work stages immediately over or near to the hot-water pipes—the worst possible place for them. If they must stand over the pipes, the stages should be covered with flat tiles or thin slates, over which a layer of finely-broken coal or coke is laid to a depth of 3 or 4 inches, which will hold moisture, and render an injurious aridity impossible, if care be taken to keep the bed moist. Until the middle of the next month, repotting and surfacing of any of these plants that require it may be carried out. Some growers fear to interfere with Vandas after a considerable number of leaves have fallen, and consider that to cut them down is erroneous practice, and one which would lead to the death of the plants; but such fears are groundless, if the proper season for repotting be chosen, and care used, followed by a proper management of the plants. The summer of 1893 being a hot one, our plants lost more leaves than usual, and it became necessary to cut down most of them, an operation which was carried out in the month of November, the hot weather during October being unfavourable for it. I may add that there has been scarcely any loss of foliage up to the present time, and many of the specimens are from four to six feet in height, with foliage down to the rim of the pot. These plants being in such good condition will not be disturbed this season, and will be merely re-surfaced with fresh sphagnum. If a plant has to be re-potted, lift it carefully out of the pot in which it stands, gently easing off any roots that may be clinging to the sides with a thin-bladed knife, then remove all the stale materials, crocks, &c., about the roots. In most cases, plenty of live roots well up the stem will be found, which will allow of a portion of the stem being cut off, and so much should be removed that when the plant is placed in the new pot, the bottom leaves will be on a level with the top of the sphagnum. Before potting, a few large crocks should be put at the bottom, the roots replaced, but bringing them well up to the surface, working in amongst them clean or new crocks and a moderate quantity of fresh unchopped sphagnum-moss, pressing it down firmly, and filling the pot to within ½ an inch of the top, finishing off with clean, healthy sphagnum-moss well mixed with finely-broken crocks. Some growers prefer charcoal for drainage on account of its lightness, but I have never found that it had any other advantage, but rather the reverse, as it attracts woodlice. After potting, tie each stem in an upright position to neat wooden stakes, and peg down any of the aërial roots that are long enough on to the surface of the moss. These long roots will enter the moss, &c., affording nutriment to the plants, and aiding the retention of the lower leaves. The repotted plants must be shaded, one thorough watering afforded them, and the moss lightly sprinkled when it gets dry on the

surface, and by this means keeping it growing till the plants have become re-established, when more root-waterings may be afforded. The remarkable species Vanda Sanderiana is a difficult plant to establish; and Burford it succeeds in a light warm corner of the at East Indian-house, but some growers keep their plants with the Cattleyas the whole year round, and with good results. Wherever they are placed a plentiful supply of water is required when rooting freely, but at other times much less should be supplied. Vandas and V. Sanderiana in particular are liable to be infested by a small species of brown scale, and these should be constantly sought out and destroyed.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

ROOT-PRUNING OF APPLE AND PEAR TREES.—Young trees of the above kinds on free stocks, whose branches are pruned annually, are usually in need of, and repay for, an occasional pruning of their roots; and this operation is best performed as soon as the leaf falls. There is then a good chance, barring, of course, sharp frosts when the trees are in bloom, of obtaining a crop of fruit from them the next year. The best results will not be seen the first season, but in following years when the check given to the growth has told on them and become visible in the formation of a greater number of bloom-buds; and once a good crop of fruit is obtained, a tree may be kept in a fruitful state by regulating the amount of the crop, that is when the frosts spare it. Trees eight or ten years' planted, which have reached a large size, should be root-pruned on one side only at a time, and the operation spread over two years. The proper way to commence the operation of root-pruning is to open a wide trench, and excavate the soil about the roots from beneath as far as the stem of the tree, as regards small trees, and to the half-way point in old and large trees, cutting off all roots going downwards. The distance at which the first trench is made will depend on the size of the crown; it may be at 6 or 8 feet away from the stem, or as little as 5 feet, and no rule can be laid down for shortening those roots that spread horizontally. If the tree is small, 3 to 4 feet will be found a good distance, but larger trees must have greater length of root left. If the soil has been long in cultivation, like that of old gardens, the stations prepared for the trees should have some fresh pasture loam mixed with the staple. Before the root-pruning is begun, all the necessary branch-pruning for the season should be done, and this will consist of cutting back to two or three buds all the lateral shoots, if these have not been pruned back earlier, leaving the leading shoots longer or shorter according to the size it is desired that the trees should arrive at, removing also some of the branches where crowded, which is a matter easily determined whilst some of the leaves remain on them.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

BEETROOTS AND CARROTS.—These plants, owing to the unusually mild season, are still in active growth, but now that a change to colder weather has taken place, checking growth, the crops of both should be lifted, choosing dry weather for the job. The small roots of Beet may not be broken off, or the tops cut close to the root, but the heart-leaves and 3 or 4 inches of the older leaf-stalks left on them. There are several ways of storing Beet; it may, for example, be stacked in sand out-of-doors, covering the heaps in frosty weather with litter; or they may be similarly stored in a cellar or stood in trenches close together, with the soil closed in about them, covering the ground with litter in frosty weather. Whichever method is chosen, the tops must be exposed to the light. The worst place is a dry warm one. In storing, size the roots, and throw aside all that are of ugly shape, much forked, or of evident bad colour. The treatment of Carrots is much the same as the above. Late sown horn and other short-rooted Carrots will still make some progress; stir the soil between them, and if frost threaten, strew dry tree leaves amongst them.

TURNIPS.—The late sowings will take no harm from any frosts that are likely to occur before December, and therefore, none need be lifted. Full-grown bulbs will suffer from frost, and should, even if no frost occur, be drawn and clamped, not left in the ground to become woolly. The late sowings should have the draw-hoe used amongst them, and if manure-water or manurial dressings are needed, afford these forthwith.

CHICORY.—The first batch of roots may now be lifted, and packed thickly together in soil, either in 12-inch pots or boxes, placing these in the Mushroom-house, or a warm cellar. The shoots must be kept perfectly dark, to blanch them, and in a temperature not above 56°. In preparing the roots, leave one inch of leaf-stalk. The new tops should be cut or twisted off about half-an-inch from the roots. If the soil used be fairly moist, and the air also, water will not be needed before growth has begun.

CABBAGES may still be planted, and the hoe freely employed amongst the plants of earlier sowings, the soil being at the same time drawn up to the stems

ONIONS.—Where these have been laid out on floors other than of wood, attention may be needed in case these are damp, as the bulbs will quickly decay, or begin to form roots. They should be turned over several times, and when dry put into a dry but not warm store-room. The finest bulbs may be roped and suspended in a cool airy shed, where they will keep to later date than the others.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

THE PREPARATION OF POTTING SOILS FOR NEXT YEAR.—It will be admitted by all persons engaged in gardening that the proper preparation of the potting soils leads to the best results. It is at this season and during the winter that the soils of which the gardener stands in most need should be got together. If the loam depôt is partly empty, some old pasture loam, sufficient in quantity for the whole year, should be cut, carted, and stacked. In stacking it, place a layer of fresh horse-dung between the layers of sods. Two qualities of pasture loam, a light and a heavy, should be obtained if possible, keeping them in separate heaps. I do not approve of the plan of stacking soils under cover, no matter how well the shed may be ventilated, for the heaps should be exposed to the elements, and the stacks so made that enough moisture enters the soil to hasten the decay of the roots of the plants it contains. The soil in which Melons and Cucumbers have grown, on the other hand, may be placed in a shed, and it will be found useful for seed-sowing and other purposes. Leaf-mould should be obtained by sifting the partially or wholly decayed leaves of trees, a large-meshed sieve being employed for the purpose. The mould should be placed under cover. It is not wise or even necessary to prepare it in large quantities, only just as much as will meet the requirements of a month or so. Lime-rubble, silver and other sands, charcoal, &c., should be got in. Peat-soil has usually to be bought, and it should, if fit for use at the time, be placed in sheds, at least that which will be needed during the winter. Large quantities should be stacked like loam, out-of-doors, but without any admixture of manure. All stacks of soil should be kept scrupulously free from weeds, and this is best done by shaving the top and sides with a sharp spade.

HERBACEOUS CALCEOLARIAS.—Pot these plants into 48's and small 32's, using loam one half, leaf-mould, horse-dung, and sand in equal parts forming the other half. Calceolarias are usually placed with the show and fancy Pelargoniums, and both being liable to be infested by green-fly, mild fumigation with tobacco-paper should be afforded them once a week. Cinerarias may likewise be fumigated at the same time.

THE STOVE.—The propagation of quick-growing plants, useful in furnishing and house-decoration, may still be continued; and recently-struck Crotons, Dracænas, &c., now standing in 60's may be shifted into small 48's, thus confining the roots in a smaller space than is requisite in the summer, placing these newly-potted plants on shelves near the glass. The increase of space in the stove consequent upon the removal of deciduous plants to the stove pits will afford the other occupants more space, light, and air than has been possible hitherto. Clean and re-arrange these plants, and stand Poinsettias and Tuberoses amongst them; the first-named lasting in good condition for a long time in the stove. A night temperature of 70° should be kept up, with abundance of moisture on the floors, and stages; and by day 90° may be allowed, provided the house be kept humid.

ADIANTUM FARLEYENSE is a species usually grown in the stove, but it is easily spoiled if the syringe be used on it, or it is exposed to drip. The plant should be so placed that it is not struck by the water when the other plants are syringed. If the fronds need support, a few slender sticks should be stuck into the soil.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

PEACH AND NECTARINE TREES.—Where the erection of new Peach-houses is contemplated, it is prudent to give very great attention to the contrivances for ventilating them [especially when the builders are not specialists. Ed]. The best best kind of roof is the lean-to, and the width, if for early forcing, from 16 feet to 18 feet, planted at first with two rows of trees, standards to be trained to a trellis against the back wall, which should be about 12 feet high, and dwarfs planted against a flat or curved trellis, the foot of which is distant 2 feet from the front wall. This wall, if built on arches, is better than a solid wall, as the roots can then gain access to an outside border. A border to accommodate the trees on the back wall may be 4½ to 6 feet wide; and it may be used as a footpath if covered with an open wooden trellis of battens, and cross-pieces. This gangway should be made in convenient lengths for easy removal. For the earliest peachery the roof-lights should be made removable at will, thus allowing full exposure of the trees after growth for the season is at an end. The hot-water pipes should be in number sufficient to afford the required heat without having to make them excessively hot at any time. A house 18 feet wide will require six rows of 4-inch pipes placed in the centre of the house, and one flow-pipe round the front and end; small pillars should be built in the borders to carry the hot-water pipes above the earth. For late forcing, a span-roof and a width of 25 feet make a very suitable house. It should be furnished with a wire trellis for dwarf-trained trees on each side, with temporary "riders" planted alternately between the permanent trees. The trellis should be 18 inches from the glass, and good provision for ventilation should be made at each side, and at the top of the house. Houses of a large span are often deficient in means of ventilation, and the trees are injuriously affected in bright weather if strict watch be not kept, the heat at the top of a 25 feet span-house being intense. To mitigate the evil, an opening not less than 2 feet wide ought to be provided the whole length of the house. The making of Peach-borders should be carried out in the same way as that recommended for Vines, but concrete is not required in porous soils. On clay-land, and in low situations, a Peach-house should be raised, as regards the site, a foot or more above the surrounding surface, which allows of a rapid drawing away of moisture, and gives a greater depth of good soil. A border may be 3½ feet deep, and 12 or 15 feet wide, and should have a slope of one in twelve to the front. The soil should be a strong turfy loam that has laid in stock for one year, which will not shrink so quickly as fresh soil and to every six cartloads of loam add one of lime-rubbish and charcoal and charred soil, with 1 cwt. of half-inch bones, 1 cwt. bone-meal, mixing all well together. The interior of the house should be a border as well. It is advisable as with Vine borders to make them by piecemeal, so as to benefit the trees by the addition of fresh soil. Good varieties for the early house are Peaches, Hale's Early, Royal George, Violette Hâtive, Abec, Gros Mignonne, Early Rivers; Nectarines, Lord Napier, Hardwick Seedling, Elruge, Hunt's Tawny, Violette Hâtive, Balgowan. For late houses, Peaches Sea Eagle, Barrington, Salway, Dymond, Walburton Admirable, Lord Palmerston; Nectarines, Pitmaston Orange, Pine Apple, Victoria, Rivers' Orange, Humboldt, and Prince of Wales. Plant young, strong, well-furnished trees selected from a good fruit nursery where the stock is known to be of the best quality. Old trees lifted from outside walls are well enough to fill such vacancies as may occur in old houses, but they look out of place mixed up with young ones.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	Oct. 23	Royal Horticultural Society's Committees at the Drill Hall, James Street, Westminster.

SHOW.

WEDNESDAY,	Oct. 24	Fruit Show and Conference at Worcester (two days).

SALES.

MONDAY,	Oct. 22	Dutch Bulbs, at Protheroe & Morris' Rooms. Ferns, Roses, Plants, &c., at Protheroe & Morris' Rooms.
TUESDAY,	Oct. 23	Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms. Clearance Sale of Nursery Stock, at the Nurseries, Sunningdale, Berks, by order of Mr. C. Noble, by Protheroe & Morris (three days).
WEDNESDAY,	Oct. 24	Dutch Bulbs at Protheroe & Morris' Rooms. Important consignment of Japanese Lilies, &c., at Protheroe & Morris' Rooms.
THURSDAY,	Oct. 25	Dutch Bulbs, at Protheroe and Morris' Rooms. Ferns, Roses, Plants, &c., at Protheroe & Morris' Rooms. Twentieth Annual Sale of Nursery Stock, at Hollamby's Nurseries, Tunbridge Wells, by Protheroe & Morris (two days).
FRIDAY,	Oct. 26	Dutch Bulbs, at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	Oct. 27	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—48°.

The Pollination of Pear Flowers.

The United States Department of Agriculture has published an interesting paper on this subject by Mr. Merton B. Waite, in which he lays down lines of experimental procedure, which our fruit growers might imitate with profit. The general result of his observations and experiments with American Pears is the discovery of their extreme barrenness, as a rule, when self-pollination only has taken place, in comparison with the results of intercrossing. The importance of bees is thus shown to be very great, and it even suggests that some advantage might accrue to the Pear grower if he were a bee-master as well. Of course, it is impossible to say whether English Pears resemble the American in this respect without experimental evidence.

Commencing with preliminary remarks on cross-pollination, the author follows Darwin somewhat too implicitly, for he says that "the important laws which his investigations have so clearly demonstrated are now universally accepted by naturalists, as follows:—(1) Nature abhors perpetual self-fertilisation; (2) continued self-fertilisation is injurious, resulting in inferior and less fertile offspring; (3) cross-fertilisation is necessary for the production of healthy seedlings; (4) plants are needlessly modified to secure this end.

Not one of these dogmas, however, can hold its ground thus absolutely stated, but requires some considerable allowance for exceptions. It has long since been proved by Müller, Meehan, Henslow, and others, and it was admitted by Darwin himself, that self-fertilisation plays a large part in the propagation of plants in Nature, and is by no means always "abhorred." The very numerous habitually self-fertilised wild plants bear perfectly healthy and abundant seedlings. Lastly, plants are as often modified to secure self-fertilisation (as in "cleistogamy") as they are for being intercrossed.

What, then, is the interpretation of these apparently conflicting facts? The law of self-adaptation explains both. If a plant has long been specially adapted to insect visitors, its power of self-fertilisation is more or less interfered with, and may be in abeyance, but not necessarily lost. Thus, Darwin showed that Reseda odorata (put down by the author as one of fifty-seven self-sterile species) became, after artificial self-pollination for a few years, more fertile than the crossed offspring, for he says:—

"I expected that the seedlings from this semi-self-sterile plant would have profited in a higher degree from a cross than did the seedlings from the fully self-fertile plants. But my anticipation was quite wrong, for they profited in a less degree." The results were, for crossed to self-fertilised in height, 100 : 92; weight, 100 : 99; fertility, 100 : 100. Hence all differences had practically vanished. Similarly Eschscholtzia, which was self-sterile in Brazil, was not so in England, and in three generations Mr. Darwin raised its fertility as compared with that of crossed plants, in the proportion of 86·6 : 100. Where plants, however, have more or less lost for a time their power of producing plenty of good seed by self-fertilisation in consequence of having been habitually crossed for many generations, then experiments bring out clearly this superiority in the results of crossing; but the remarkable fact is that when the plant recovers self-fertilising powers, it often greatly surpasses the results of crossing.

Now many varieties of American Pears are evidently in the normal condition of requiring to be crossed. Consequently poor results come from self-fertilisation; so that the author's experiments show the trees to be divided sharply into two classes, those which can fertilise themselves, and those which cannot do so. The number of trees were 144, belonging to thirty-eight varieties. Of these, fourteen proved to be capable of self-fertilisation, but still were improved by crossing, as "they seemed to be less certain than under cross-pollination, and were less satisfactory in some seasons than others."

To give a few illustrations:—Three trees of Duchesse d'Angoulême, grown at Brookport, had 170 flower-clusters protected by net from insects; of these, 162 fruits were set, or 14·5 per cent.; while of 40 clusters exposed to insects, 107 fruits were set, or 36·3 per cent.

At another place (Rochester), six trees of the same variety of Pear had 163 clusters covered, of which 71 fruits were set, or 4·6 per cent.; while of 156 clusters exposed to insects, 133 fruits were set, or 15·4 per cent.

When crossed with the Beurré d'Anjou, a self-sterile form, the percentage rose to 22·5; d'Anjou itself, when exposed to insects, gave 15·7 per cent.

The variety Bartlett (Williams) is one of the partially self-fertile varieties, but yet it often fails when left to insects. Certain experiments, however, show "that it is a cross with a different variety that is needed, and that "individual" crossing (i.e., of flowers on the same tree) or even of two different trees of the same variety, is no better than self-pollination of the same flower."

Though Beurré d'Anjou and Williams are both more or less self-sterile, yet the pollen of each is fertile on the other. And the author adds:—"Doubtless, this is the general rule among all the varieties. It is the cross that is needed."

As an instance of a self-sterile Pear which is extremely fertile when crossed, the Kieffer Pear may be mentioned. Sixty-seven clusters on a tree produced no fruit whatever when protected, but when exposed to insects, thirty-seven clusters produced sixty-seven fruits, or 17·7 per cent.; while when six flowers were crossed with the self-sterile Bartlett, all were set, therefore the percentage was 100.

The characters of the fruits resulting from self-fertilisation and of crossing are different. The author has supplied twelve plates of photographs and engravings which illustrate the differences and appearances remarkably well. Thus the fruits of self-fertilised flowers are somewhat smaller as a rule, and have a shorter diameter in the broadest part, while crossed fruits are sometimes better shaped and broader in the thickest part.

The following are the general conclusions (abridged) at which the author arrives:—

"1. Many of the common varieties of Pears require cross-pollination, being partially or wholly incapable of setting fruit when limited to their own pollen.

2. Some varieties are capable of self-fertilisation.

3. Cross-pollination is (only) secured by using pollen from a tree of a distinct horticultural variety, i.e., which has grown from a distinct seed.

4. The impotency of the pollen is due to the lack of affinity between the pollen and the ovules of the same variety.

5. The pollen of two varieties may be absolutely self-sterile, and at the same time perfectly cross-fertile.

6. The state of nutrition of the tree and its general environment affects its ability to set fruit either with its own pollen or that of another tree.

7. Bees and other insects are the agents for the transportation of pollen.

8. Bad weather is injurious, while fine weather favours cross-pollination and the setting of fruit.

9. Pears produced by self-fertilisation are very uniform in shape. They differ from crosses not only in size and shape, but also in some cases in time of maturity, and in flavour.

10. Among the crosses the differences were slight or variable, so that their variations are not to be ascribed with certainty to differences in pollen.

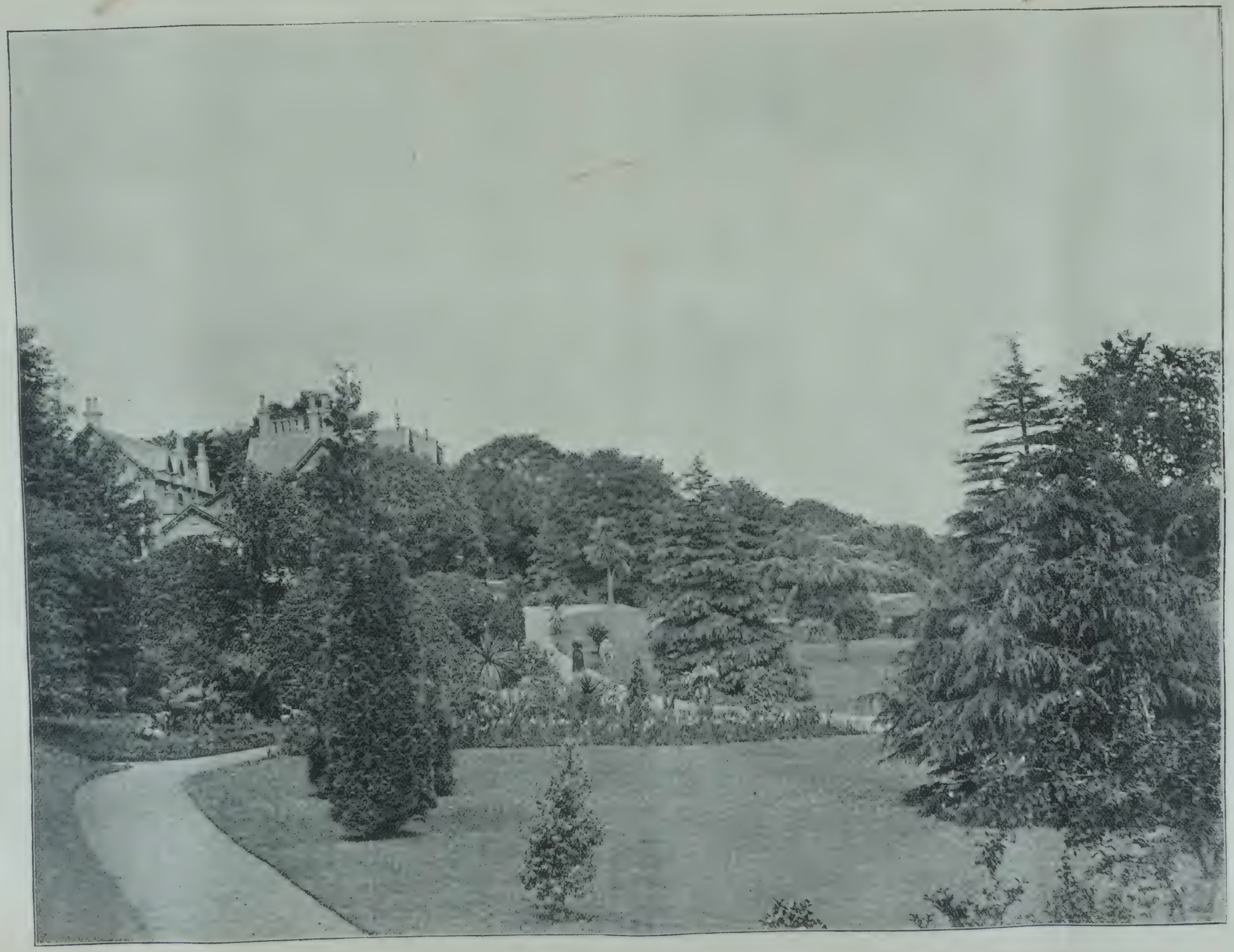
11. Self-fecundated Pears are deficient in seeds, usually having only abortive seeds; while the crosses are well supplied with sound seeds.

12. Even with those varieties which are capable of self-fecundation, the pollen of another variety is prepotent; and unless the entrance of foreign pollen be prevented, the greater number of fruits will be affected by it.

13. The normal typical fruits, and, in most cases, the largest and finest specimens, either of the self-sterile or self-fertile sorts are crosses.

Practical Conclusions.

1. Plant mixed orchards, or at least avoid planting solid blocks of one variety. It is not desirable to have more than three or four rows of one variety together, unless experience has shown it to be perfectly self-fertile.



The Flower Garden, Ericht Bank, Kirn, N.B.

2. Where large blocks of trees of one variety which blossomed well have failed to fruit for a series of years without any apparent reason, it is exceedingly probable that the failure is due to lack of cross-pollination. The remedy is to graft in other varieties, and supply foreign pollen.

3. Be sure that there are sufficient bees in the neighbourhood, or within two or three miles, to properly visit the blossoms. When feasible, endeavour to favour insect visits to the blossoms by selecting sheltered situations, or by planting windbreaks."

ERICHT BANK: VIEW OF THE FLOWER GARDEN AND LAWN (see Supplementary Illustration).—Ericht Bank, a pretty residence, near Kirn, on the Firth of Clyde, is the property of W. BURNLEY, Esq. It is well situated to command a fine view of the Firth. The flower garden is well sheltered from the prevailing strong winds, and the general lay of the land is favourable for vegetation. The climate is salubrious, like that of many other places in South-western Scotland, and comparatively tender plants do well, surviving most of the winters experienced in that part of the country, as will be seen from the list of plants given below, for which we are indebted to Mr. W. HEPBURN, the gardener at Ericht Bank. The tuberous-rooted Begonias grow admirably, and flower profusely, far outdoing the zonal Pelargonium, bidding fair to supersede the latter in flower gardening. Camellia japonica in variety has been planted out-of-doors, and flower freely in their season; Phormium tenax, and its variety, Veitchii, with variegated leaves; such Palms as Rhapis flabelliformis, Latania borbonica, Chamærops Fortunei, grow capitally; as do the New Zealand Ferns, Dicksonia australis and D. squarrosa; tender Conifers, a variety of flowering shrubs, besides Roses, lend much unusual beauty to the garden. Cordyline australis forms a fine specimen planted out on the lawn, having attained a height of 18 feet, and girth of stem of 3 feet at 3 fest from the ground. The plant possessed in August this year five fine spikes of flower.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the society will take place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, October 23. Besides the usual display of flowers, large collections of fruit are anticipated. At 3 P.M. the Rev. Professor GEO. HENSLOW, M.A., F.L.S., &c., will lecture on the "Origin of Common Vegetables, and their value as Food."

THE LINDLEY LIBRARY.—As many persons are unaware of the conditions upon which the Library may be consulted, we think it well to reprint the rules for its use, sanctioned by the Trustees:—"The LINDLEY Library, which by agreement is deposited in the rooms of the Royal Horticultural Society, is open for the use of the public under the following regulations:—1. The library is open for consultation on all week-days from 10 A.M. to 4 P.M.; except on the meeting and exhibition days of the Royal Horticultural Society. 2. The Trustees reserve the right of closing the Library for purposes of re-arrangement, cleansing, &c., when such may be required. 3. The Fellows and officers of the Royal Horticultural Society shall have access to the Library at all times, when it is open, on application to the Assistant-Secretary, Royal Horticultural Society. 4. Gardeners and others, not Fellows or officers of the Society, must make application to one or other of the Trustees, or to the Assistant-Secretary of the Royal Horticultural Society, for permission to use the Library, and shall sign their names and addresses in a book provided for that purpose. 5. Persons requiring the loan of books to be taken from the Library must make written application to the Trustees addressed to the librarian for the time-being, at the offices of the Royal Horticultural Society, who are prepared to accord this privilege on the following conditions, viz.:—(*a*). That the borrower be personally known to one or more of the Trustees or officers of the Society, or at least shall produce satisfactory references. (*b*). That the borrower sign a receipt for the volumes, before removing them from the premises, in a book provided for that purpose; undertake to restore the books in good condition, and generally to comply with the regulations laid down by the Trustees. (*c*). That not more than three volumes be lent to one person at the same time. 6. The Trustees will exercise their discretion as to what books shall be lent out; but, as a rule, unbound periodicals, expensively-illustrated works, and works of common reference, such as are likely to be in frequent use within the Library itself, must not be removed from the premises. 7. All books borrowed shall be returned to the Library within one calendar month from the date of issue; but an extension of time may be granted on application to the Trustees. 8. The Assistant-Secretary or acting librarian is empowered to demand of the borrowers such books as are detained beyond the prescribed time, and to take such steps as may be necessary to secure the prompt return of the same. 9. The loss of any book, or any injury sustained, shall be made good by the person who has lost or injured the same. 10. The Trustees reserve the right of repealing or altering these regulations from time to time, as may be required."

NATIONAL CHRYSANTHEMUM SOCIETY: FLORAL COMMITTEE, OCT. 10.—Several very fine novelties were submitted at this meeting, which was held at the Royal Aquarium, Mr. E. MOLYNEUX presiding. First-class Certificates of Merit were awarded to Japanese Duchess of York, raised from seed sent from Japan, to Mr. JAS. CARRUTHERS, Corstorphine, Midlothian, and exhibited by him, the colour pale yellow, narrow florets, large, full, and very fine, the award being unanimously made. To Japanese Souvenir de la petite Aimée, a large white variety of fine quality, having drooping petals, from Mr. W. WELLS, Earlswood Nurseries, Redhill. To Japanese Mrs. E. G. Hill, white, flushed with pink, a large broad-petalled variety, which also gained a unanimous award. Japanese T. H. Dennis, cinnamon and buff; and Japanese Madame C. Molin, a drooping-petalled white flower, from Mr. W. J. GODFREY, nurseryman, Exmouth. To Japanese Commandant Blusset, a striking flower, which opens of a rich deep crimson, changing to a bright magenta crimson, this also gained a unanimous award, and it was shown by Mr. E. Beckett, the Gardens, Aldenham House, Elstree, Herts. To Japanese Mrs. W. H. Lees, a large full flower, with fine drooping petals, colour sulphur and white, the basal petals delicate pink, the votes for this were also unanimous; from Mr. W. H. Lees, the Gardens, Trent Park, Barnet. Other fine Japanese were President Armand (Wells), Petite Delaux (Godfrey), Prefect Roberts (Godfrey), Winnie's Sweet (Beckett), Arthur Thatcher (Beckett), Montague (Piercy), an October-flowering decorative variety, of a chestnut crimson colour; and Lady Randolph (Molyneux), all of which the committee wished to see again. Plants of Nicotiana colossea variegata, and N. affinis variegata, several of the taller from seed being shown, were highly commended; Apple, Duke's Seedling, was commended, all from Messrs. J. Laing & Sons; and pink Princess May, a pretty perpetual flowering variety from Mr. Fred. Hooper, Bath, was also commended. The great autumn fête and exhibition will take place at the Royal Aquarium, Westminster, on Nov. 6, 7, and 8, when one leading feature will be illustrations of how all sections of the Chrysanthemum, and especially the large blooms of the Japanese varieties can be utilised for general decorative purposes. The whole available space of the Aquarium will be required to display the exhibits, and several valuable special prizes, in addition to the challenge trophy, the Holmes' Memorial Challenge Cups, and the President's piece of plate, are offered for competition. The annual dinner is fixed for Thursday, Nov. 29, and will take place at Anderton's Hotel, Fleet Street, Sir Edwin Saunders, President, in the chair. The musical arrangements will be conducted by Mr. J. Mortimer Dudman, the musical director of the Royal Aquarium.

HORTICULTURAL CLUB.—The first dinner and *conversazione* for the session 1894-95 took place on Tuesday evening, the 9th inst., and notwithstanding that the Gardeners' Provident Association had fixed their annual dinner for the same day, there was a good attendance of members; the chair was occupied by Sir ALEX. ARBUTHNOT, and there were present Messrs. ASSBEE, H. C. SEEBOHM, C. E. PEARSON, A. H. PEARSON, T. F. RIVERS, RIVERS, Jun., WEBBER, G. BUNYARD, COCKETT, and the Secretary. The subject for discussion was the abnormal Pear crop for 1894, which was opened by Mr. G. BUNYARD, in a very interesting paper (an abstract of which is given on p. 475). The paper led to a most animated discussion, in which all those present took part, and many curious facts were elicited. A cordial vote of thanks was proposed by the Chairman to Mr. BUNYARD for his excellent paper. The thanks of the meeting were given also to Mr. T. F. RIVERS for the sumptuous dessert which he gave to the members, consisting of dishes of Muscat of Alexandria and Madresfield Court Grapes, Doyenné du Comice, Beurré Hardy, Louise Bonne of Jersey Pears, and two dishes of splendid Cox's Orange Pippin (Apples). Mr. COCKETT also brought before the meeting a piece of a branch of Ne Plus Meuris Pear, showing the enormous crop produced so near to London as Wanstead. He also had a fine specimen of Pitmaston Duchess from the same locality.

MARKING FOREIGN AND COLONIAL FRUIT FOR THE ENGLISH MARKETS.—The second report of the select committee of the House of Lords, on marking of foreign and colonial produce, states that it has been shown that much misrepresentation is carried on by the sale of foreign fruit by the appellation "English," and that it is customary for the agents of jam-makers in many cases, to supply fruit-growers with baskets stamped with their own name or initials. On the arrival in the market there is nothing to show which are the baskets containing foreign and those containing English. The Lords' committee are of opinion that where the mark on a package, though only that of the owner, or the address, can be shown to the satisfaction of the Customs Commissioners, in effect to be misleading to the customers, these commissioners should frame and issue an order for detaining such packages. To prevent the use of unsound fruit, it is suggested that an efficent inspector should be placed at the ports, and in the factories of fruit arriving in closed casks. Their Lordship's committee are of opinion that the competition, though severe, between English and foreign fruit is not, except in so far as wilful misrepresentation is carried on, on the whole unfair. The committee would appear to be in favour of extending the trade-mark system to all packages of fruit and pressed fruit imported into this country from abroad, and this would seem to be fair. The Board of Trade might easily suggest stencil marks for exporting countries for boxes and barrels and other packages of wood or metal—those of other material could have the foreign index pressed on the address. Of course, identity of contents with invoice ceases when once the fruit is turned out for sale by retailers—the senses of the buyer must, we think, be trusted to guide him to value for money. Respecting foreign jams, we are of opinion that the place of manufacture should be boldy indicated on the jar or bottle—the sanitary condition of certain foreign cities wherein jams are made being very strongly marked. But after all, we fancy our Board of Trade can manage all this without an Act of Parliament, of which there is a sufficiently large supply now on hand.

CROPS ON THE RIVIERA.—Mr. THOMAS HANBURY writes from La Mortola, near Mentone, "The past summer has been normal, the usual drought of three months being only once broken by a violent storm, when on July 11 fully 2 inches of rain fell in a very short period. The vintage proves to be above the average in quality, but the yield is not great. Olives are almost a complete failure near the coast,

but in the mountains a good crop will be gathered; this is, Mr. Hanbury considers, one of the worst trees to cultivate, the yield being so very uncertain. The peasants are much depressed at the miserable price their Lemons realised in the early summer, as low as 5*d.* per 100 for fair quality—not the best. The following are now in blossom in Mr. Hanbury's garden in the open air:—

Acacia Farnesiana, Willd.
Aloe aurantiaca, Baker
Berkheya grandiflora, W.
Bignonia Chamberlainii, Sims
Bougainvillea glabra, D.C.
Cantua bicolor, Lindl. and Paxt.
Carica cundinamarcensis
Cassia Barclayana, Sweet.
Cyrtanthera magnifica, Nees ab. E.
Encephalartos Altensteinii, Lehm.
Eucalyptus leucoxylon, F. v. Müll.
Erythrina caffra, Thunb.
Inga pulcherrima, Cerv.
Pleroma macranthum, Hook.
Polygonum equisetiforme
Quebracho colorado
Rondeletia speciosa, Lodd.
Royena pubescens, Willd.
Schinus terebinthifolius, Radd.
Yucca guatemalensis, Baker

In Fruit.

Aberia caffra, Hook.
Diospyros kaki
Ephedra altissima, De f.
&c.

Pertetual-flowering Pinks.—We have received from Mr. B. Ladhams, Shirley Nurseries, near Southampton, a box of fine blooms of his new perpetual Pink Ernest Ladhams, which have been cut from the open beds. The plants being full of bloom so late in the season, the variety is a good one to plant for supplying cut blooms.

Shirley, Southampton, Mutual Improvement Association.—The monthly meeting of this Association was held at Shirley, Southampton, on the 15th inst., a good attendance of the members being presided over by W. H. Rogers, Esq., J.P., in the unavoidable absence of the President. "British Fungi" was the subject of the lecture, most ably dealt with by the Rev. W. L. W. Eyre, Rector of Swarraton, Hants. An interesting discussion followed. A vote of thanks to the lecturer was most heartily accorded and responded to. There was a large collection of Fungi, numbering over a hundred varieties, contributed by Mr. W. H. Rogers, Mr. E. Bartlett, Mr. E. G. Wilcox (forty varieties), Mr. Rishridges, and some from the New Forest by Mr. Hobby and Mr. B. Ladhams, F.R.H.S.

Peaches.—It sounds curious to English ears to hear a gardener at the present day recommending the propagation of certain good varieties by budding, instead of raising them from seed, which, as he says, is unsafe! Yet the latter is the common method in parts of Germany.

Alteration of Dates of the Manchester Chrysanthemum Show.—The above exhibition will be held on Friday and Saturday, November 23 and 24, instead of 20 and 21.

Vines and Peaches.—On the occasion of the meeting of the Verein zür Beforderung des Gartenbaues in den Preussischen Staaten (Horticultural Society of Prussia), on September 27 (*vide Gartenflora* for October 15, 1894), a large quantity of Grapes, in considerable variety, was shown by Mr. Schreiber, gardener to Trade Councillor Veit-Steglitz. These Grapes were the produce of Vines grown under glass, and consisted of varieties which are commonly found in vineries in this country, such as Gros Colmar, Golden Champion, Foster's Seedling, Madresfield Court, Black Hamburgh (Frankenthal), Mrs. Pinces' Black Muscat—much cultivated in Silesia. Some bunches of Black Hamburgh weighed 2½ kilos. Golden Champion was distinguished as one of the best varieties, a character it does not receive in this country, and of which Mr. Veit-Steglitz had harvested 14 cwt. this year. The gardener asserted that the decay of the berries of Grapes was due to too much syringing, and he only damped the paths. The disease of the footstalks of the berries (shanking) is the consequence in part to too humid an atmosphere, in part to drought, and lastly, to the removal of the shoots and leaves whilst the Vine is in full growth. From the time the berries begin to colour, no more trimming of the Vines should take place, not even to give them a tidy appearance. At this period the leaves are beginning to produce starch, and through that sugar is formed; the Grapes themselves require little then, if any, sunshine. When great heat prevails he uses shading, and shades the Vines after thinning the bunches.

Woolton Mutual Improvement Society.—This Society commenced its sixth session by a horticultural exhibition and instrumental and vocal concert, in the Parochial Hall, Woolton, on the 3rd and 4th inst. The committee being desirous that their *réunion* should be enjoyable and instructive, exhibitors were invited to stage the produce of their gardens in what form they pleased, the Society offering prizes in kind. The results were very satisfactory, many good exhibits having been sent by Messrs. J. Grant Morris, Allerton Priory (gr., Mr. J. Craven); F. H. Gossage, J.P., Camphill (gr., Mr. J. Jellicoe); G. H. Warren (gr., Mr. Ellis); H. Cunningham (gr., Mr. W. Wilson); J. Stephenson, Woolton Hall; Arthur Earl, T. Sutton Timmis, J.P. (gr., Mr. B. Cromwell); Mrs. Cope, Dove Park; Mrs. Duncan, Fernlea, &c.

Floral Decorations at Leeds.—It is stated by a correspondent, writing under the signature of "Urbanus," that upon the occasion of the recent visit of their Royal Highnesses the Duke and Duchess of York to Leeds, floral decorations were very abundantly displayed by the principal tradesmen of the town, plants being freely used with good effects. The Town Hall, Victoria Hall, Yorkshire College, Medical School, were highly decorated, large Palms and other foliage plants, and a great number of plants in blooms being made use of. The fine Town Hall was thrown open to the public after the Royal guests had left, and thousands of persons were admitted. In the decorations, more than 100 vases and baskets, filled with choice flowers, were employed; the banqueting-tables, and the beautiful bouquet presented by the Yorkshire College to Her Royal Highness the Duchess of York, was a masterpiece of the floral art—it consisted of Dendrobium Schroderianum, Cattleya labiata, Vanda cœrulea, Odontoglossum Alexandræ, relieved by Lily of the Valley. Mr. Featherstone, of the Kirkstall Nurseries, had the honour of furnishing this most artistic bouquet.

Sale of Pickering Lodge Orchids.—The last of the lots of this very fine collection of Orchids, was under the hammer of Mr. Protheroe during Tuesday, Wednesday, and Thursday, October 16, 17, and 18, and attracted a very large company. The prices realized were such as one is not accustomed to see in these days, when Orchids are sold every week by the 10,000. It must have been exceedingly gratifying to horticulturists present to see the demand not only for the rare species and varieties, but for every description of plant, showing that recruits are forthcoming in this northern portion of the kingdom to swell the ranks of the rapidly increasing band of Orchid amateurs. The first day's sale netted £1124, or rather more than an average of £3 per lot, and the chief prices realised were 100 guineas for Cattleya Massaiana, a mixture of the gigas and Sanderiana blood; 70 guineas for a plant in indifferent health of Cattleya Hardyana; 50 guineas for Lælio-Cattleya calistoglossa; 75 guineas for small pieces of Lælio-Cattleya bella, and the original Cattleya Reineckiana; 22 guineas for Lælia Tresederiana superba, and lots of others from 20 guineas downwards. On the second day there was great excitement at the bidding of the following lots: Cypripedium insigne Sanderæ, a small, healthy plant in a 4-inch pot, beginning at 100 guineas, and latterly knocked down to the son of the late owner at 260 guineas, a price that has only been eclipsed when Cypripedium Stonei platytænium was sold. This plant was bought by the late Mr. Hardy a fortnight before his death, from Messrs. Sander, for 100 guineas. Also a fine piece of Lælio-Cattleya bella at 150 guineas; Cattleya Schroderi alba 160 guineas; a white Sobralia (small plant), 50 guineas; and corresponding prices for anything choice. The second day's sale realized £1475, or rather over £4 per lot, and among the principal buyers were Mr. F. Hardy, Mr. Thos. Statter, Mr. E. Ashworth Mr. G. Ball, Messrs. Veitch, and several other nurserymen.

Newcastle and District Horticultural Mutual Improvement Society.—The monthly meeting of the above Society was held on October 9, at 25, Westgate Road, at which Mr. Bullock presided. A paper on the "Cultivation of Mushrooms" was read by Mr. Wallace, Oakwood.

New Publications.—*Text-Book of the Diseases of Trees*, by Professor R. Hartig, translated by W. Somerville, D.Œc., revised by H. Marshall Ward. (Macmillan)—*A Manual of Exotic Ferns and Selaginellas*, by E. Sandford. (Elliot Stock.)—*Flore Coloriée de Poche à l'usage du Touriste dans les Montagnes de la Suisse, de la Savoie, du Dauphiné, des Pyrénées du Jura, des Vosges, &c.*, par H. Correvon. (Paris: Paul Klinsksieck, 52, Rue des Écoles.)

MOTHS ON FRUIT TREES: THE WINTER MOTH, CHIMATOBIA BRUMATA.

The Board of Agriculture are advised that the season is approaching when the Winter Moth and other dangerous moths will commence laying their eggs. It has therefore been deemed expedient to warn fruit growers on this subject, and to suggest methods of diminishing the danger.

In the beginning of October the winter moth and the mottled umber moth will come from the chrysalis state in the ground under and near the fruit-trees that were infested in the spring, and the female moths will crawl up the trees for the purpose of laying their eggs upon the twigs and branches (see fig. 62).

It is most important that the passage of these moths up the trees should be prevented. This can be effected by putting sticky compositions round the stems to entrap the moths, or apparatus of wood or tin, or other material, such as stout varnished cardboard, to bar their progress, as they are quite unable to fly, having only rudimentary wings.

Fruit growers who put compositions round their trees last autumn early, and renewed the applications from time to time, and carefully attended to these measures of prevention, were rewarded with good crops of fruit.

These measures must be adopted early in October, and the compositions must be kept in working order as long as moths are seen about.

Tar has been found to injure young trees by causing their bark to contract. It should therefore not be used, except, perhaps, for old trees with thick layers of bark, and in this case it should be largely mixed with grease.

Some manufactured compositions have also been found injurious to the trees. Great care should be taken in the selection and application of all compositions whose ingredients are unknown.

Cart grease made from fats or oils, and without tar, is recommended by practical fruit growers as the best and safest substance. This may be applied directly to the stems, or put upon wide bands of tough grease-proof paper, like that used by grocers, fastened round the trees with string, or bass, or rushes, like those for tying hop bines.

As constant greasing may injure trees, especially young trees, it would be most desirable to adopt the system of spreading the grease upon grease-proof paper bands. When these are employed for old trees their rough bark should be scraped away, in order that the paper may be fastened closely round the stems.

Upon some fruit farms lighted lamps are hung over tarred boards near the fruit trees, at dusk, to entrap the male moths which sometimes carry the females into the trees.

The chrysalids, from which the moths will soon come, are now in the ground near the trees, and, probably, immediately under their boughs. Many chrysalids might be destroyed by digging or hoeing,

in the case of cultivated land, where the trees have been infested, or by digging in or hoeing in lime. Upon grass land the grass should be cut off and removed, or fed off closely. After this the surface might be raked with large iron garden rakes. This would expose the chrysalids, many of which could be smashed if the ground after the raking were beaten down with shovels. *Board of Agriculture, 4, Whitehall Place, October*, 1894.

THE ABNORMAL CROP OF PEARS, 1894.

[A Paper read at the Horticultural Club, October 9, 1894]

The cause of the unusual crop of Pears this season is not far to seek. Pears did not carry much fruit in 1893, and the exceptionally dry and warm season ripened the wood thoroughly, while the autumnal rains plumped up the fruit buds and completed the laying up of organic forces, and the trees were prepared to do their best. They were somewhat early in bloom, and thus escaped the severe frosts that obtained while the Apples were in blossom, and as for the most part the blossoms are pendent, the stigmas were less exposed than in Apples. Thinning had to be seen to very early, and many of our trees required nine out of ten of the fruit which had set to be removed at the first thinning, and twice since that they have been gone over.

The very cold nights and wet days of May and June, caused many to drop, as they were unable under these conditions to progress, and it is noticeable that the fruit near the ground was much affected by spot (Cladosporium dendriticum). This fungus hardens the skins, and when the fruit swells it cracks and becomes useless. It is evidently risky to try and grow such Pears as Easter Beurré, Bergamot d'Esperen, Glou Morçeau, Passe Colmar, Winter Nelis, Beurré Bachelier, and Beurré Diel, while Beurré d'Amanlis, otherwise than on a wall, even in our favoured part of England, has not been good this year; and on the other hand the clean handsome fruit of the late sorts, viz., Duchesse de Bordeaux, Doyenné d'Alençon, Marie Benoist, Beurré Du Buisson, Josephine de Malines, Olivier des Serres, Passe Crassane, Beurré d'Anjou, President d'Osmonville, Brown Beurré, Baronne Mello, and Duchesse d'Angoulême among autumn Pears are unusually clean, thanks to the well-ripened wood of 1893; and it is evident we ought to thin out the branches of our pyramidal and espalier Pears in the open more than we do to get high class fruit on these Pears, and we must not be led away by the fine examples of such a year as 1893, when the tender Pears were superb in quality if somewhat out of season, for the kinds which ripen after Christmas were mostly over by November.

Taken as a whole, the season of 1894 has been unfavourable to the production of clean, handsome, large Pears, and it may probably be well to note those that have been good this cold, wet season. These were: Beacon, a really nice fruit, led off the season. This is a remarkable bearer, and if not left on the tree too long, is quite fair as regards flavour. Clapp's Favourite has been large, clean and handsome. Williams' Bon Chrêtien has been large and good, but rather spotty, and in beauty cannot approach Dr. Jules Guyot, which is gaining favour rapidly as a market fruit. Petite Marguerite will be one of our best August and September Pears. It is of Bergamot shape, and very sweet and pleasant. Fondante d'Automne is not so large as usual, but as good in quality as ever. Pitmaston Duchess, very large and good; this monster Pear is much improved in flavour if it is gathered before it is quite fit and laid by. Beurré Hardy is grand this season, and the crop is the heaviest we have seen. The clean fruit of this variety in the shops from California in September were remarkable. Louise Bonne and Marie Louise are not so good as usual, the weather being too wet and cold for these sorts. Our favourite Pear, Emile d'Heyst, is finer than ever. It is a pity people do not plant this in place of Marie Louise; its pleasant acidity would be greatly appreciated. Conseiller de la Cour is the best crop ever seen, and the perfumed flavour of this kind will always make it welcome; it does well on the Quince in cold soils. Beurré Bosc is not bearing well this year. An orchard tree has a quarter of a crop, but the fruit will be small. Beurré Jean Van Geert is very handsome, and a free bearer, not yet ripe. The red flush on the sunny side will be admired on the dessert-table. Beurré Superfin is small, but a good crop. This may be called an improved Marie Louise. Doyenné Boussoch is very fine on pyramids, and quite clean and good. Doyenné du Comice, fruit rather irregular, owing to the season, but a good crop, and will yet grow to size.

Among the new Pears which have been good are Marguerite Marrillat, a monster fruit, ripening in September, of delicious flavour, melting, and altogether A1, and will take a high position; it bears freely and grows grandly. Beurré Mortillet is another very fine kind, ripening in September; of an unsightly shape, being, so to speak, like a Malta Fig, and generally one-sided, but superfine in flavour. Rivers' Conference is a grand bearer, and the long russety fruit is most elegant, while the flavour is very fine; the habit of the tree is perfect, and it will certainly rank A1. Beurré Fonqueray makes a fine cordon, and is giving us a little fruit, but not yet ripe to report on. It is hardier than Beurré Bachelier, and will probably supersede it. Triomphe de Vienne is

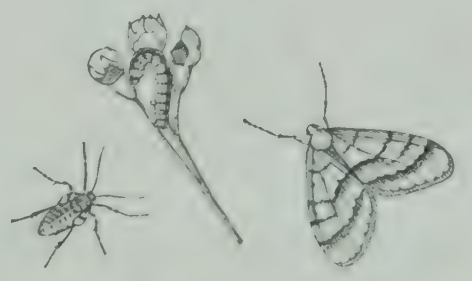


Fig. 62.—THE WINTER MOTH. (SEE P. 474.)

again grand; an enormous bearer, and of fine quality, juicy, and very handsome, being long and russety. Comte de Chambord is a fine bearer (on Pear only) of the Swan's Egg type, very rich, and of Bergamot flavour. Beurré Baltet Père is again grand; it ranks A1 for a close-growing kind, and is large, juicy, and good. Fondante de Thirriot has an enormous crop of clean fruit; a grand, little-known Pear for November. It should be borne in mind that my remarks refer to Pears quite in the open—i.e., not on walls or fences or under glass culture, as for all practical purposes this is the largest culture. Another reliable Pear for general culture is Belle Julie, small, but a great bearer, and of first-class flavour. Stewing Pears are all good, but the very large sorts—Grosse Calebasse, King Edward, General Todtleben, Beurré Clairgeau—are scarcely so big as usual.

A host of better known Pears has necessarily been passed over, but it is probable that we may be years before we see fruit of such a large collection. About 200 kinds have fruited this year, and we shall be able to gain much useful information when they have all been tested. We feel no doubt that, good as the 1894 crop is, we owe it more to the sun of 1893 than to any weather we have had this year. We are fruiting several novelties which may be noticed hereafter, but as a general rule planters cannot do better than stick to the varieties which are now named, for if good in a cold, sunless, and wet season, they will be grand when old father Sol is more propitious. For the poet truly says of him:—

"Hail! Life-giving soul of creation
* * * *
Source of Fertility, Diffuser of Radiance."
* * * *

As may be expected, the Pears on the water-loving Quince stock have come to the front this year, while the same kind on Pear show many spotted leaves, but on both stocks they appear to have made ample provision for next season's fruit.

A word as to orchard Pears. Generally the crop has been enormous, and low prices have ruled. We sold 50 to 60 bushels of Hessel on the trees for 25*s*. For once the town-dwellers will have cheap Pears, and wise growers will severely thin the boughs of their trees as soon as picked, or they will not get a return for many years after the trees have endured such a strain.

Before concluding this skeleton paper our hearers may be as surprised as the reader to learn that in an old book (1650) entitled *The Spirituall Use of a Garden of Fruit Trees*, the writer recommends grafting the Quince on the Pear stock for standards; while in another ancient book (1757) *Eden, or a compleat book of Gardening*, by John Hill, p. 514, of which we possess a complete folio copy, the author states that, "The Quince stock agrees very well with Pears, and should be chosen for those kinds which are melting." He also recommends it for espaliers and bushes, and this agrees with our practice to-day, as the gritty and crisp Pears are not so satisfactory on the Quince stock. The practice of working Pears on the Quince would therefore appear to be more ancient than is generally supposed. *George Bunyard, Maidstone.*

CHRYSANTHEMUMS ABOUT LONDON.

The present year is fast approaching its end, and hopes that have lingered during the whole of a not too favourable summer, that a change might result in an appreciable spell of sunny weather before autumn set in, have now to be abandoned. The advent of fogs and Chrysanthemums proclaim that such hopes are now impossible of fulfilment. Though coupling the Chrysanthemum with the distasteful and unwelcome fogs, it is from no other reason than that they invariably visit us at the same season, and we recognise that the nuisance of the latter is very largely compensated by the presence of such glorious and inspiriting displays as are furnished by the former.

As far as one is yet able to see, it appears very certain that in the near future, at any rate, the Chrysanthemum monopoly of our admiration during the autumn is not likely to be seriously disputed by any rival. As previously, it will reign unique all through our land from this date until well-nigh Christmas, and the shows devoted exclusively to its honour, and the space allotted to its display in every garden, denote a popularity enjoyed by no other flower except the Rose, though in regard to the Rose it may be remembered that this flower enjoys a similar popularity during a season when flowers of every description are numerous, and when it is much more remarkable that so large a share of admiration should be commanded by one of these, than in November.

As to the season that has past and its effect on the Chrysanthemum, there are only a few remarks required. Quite opposite in character to that of 1893, it has not been any trouble to secure water for the plants, and therefore the necessary labour that has been required by any one collection has been considerably below that requisite last year. As far as we have yet been able to observe, and from reports that have reached us from many of the large growers, the general appearance of the plants at the present time promise a richer bloom than last season, and the plants are in better condition and appearance. Especially will this be noticeable in the incurved section, which made such a poor show in 1893, that at the great show at the Aquarium even, the stands of incurved flowers were much below the average quality. There is one respect, however, in which we shall be surprised if there will not be a falling off from last season, and we refer to the colour of the flowers generally. The absence of the sun during the present season is very likely to result in blooms with

less perfect colour than those of last year, though in size they may excel them. Generally, also the plants are a trifle later in flowering.

The Inner Temple.

The display in the gardens belonging to the Benchers of the Inner Temple, though smaller than most of the others, was the first exhibition of the kind opened to the public. The plants are a little later than usual here, and the exhibition was only opened on Thursday, the 17th inst. The houses in which the plants may be seen, afford only very limited room in which to stage them, and this circumstance, together with the central position in which Mr. Newton has to grow his plants, are points to consider when criticising the quality of the display. Visitors will notice many of last year's novelties in good condition, and most of the better-known varieties are represented in the 600 or more plants that have been crowded into the house. The fine golden-bronze or chestnut Japanese, Col. W. B. Smith, had good buds, partly developed, and promise fine flowers in about a week after these notes are printed, and the general display will be at its best about the same time. Louis Bœhmer, and the white variety of this hirsute flower were noticed in good form, and the broad-petalled fine rose-coloured Japanese W. Tricker, also Viviand Morel, Sunflower, Puritan, Val d'Andorre, Prince of Wales, and Mrs. A. G. Hubbuck, are among the popular kinds in good condition; and among the novelties of last season may be mentioned W. G. Childs, valued highly for its splendid colour, William Seward, Chas. Shrimpton, Baron Hirsch, the new and popular incurved, and Chas. Davis. The collection is sure to be visited by a large number of people, who will not be able to see the larger collections further removed from the Strand.

The Parks.

The displays annually created in most of the London parks have already been opened, some of them as early as a fortnight ago, and though perhaps we have nothing new to chronicle respecting these exhibitions, we have again to congratulate all concerned that in so many centres in the metropolis, there are splendid collections open to the populace free of any charge whatever, save such as is met by the rates for the management of the parks. Frequently, through reluctance to spend more money than absolutely necessary, and therefore possessing only inconvenient arrangements for growing and housing the plants, the hands of the Superintendents are not free to do just as they would like in introducing additional varieties or numbers, and in making new features in arranging the display, &c.; and any criticism offered upon such collections must be made with due regard to such circumstances. To many an observer who visits the parks it will occur, that whilst the Japanese, decorative, and incurved varieties are grown largely at each place, it is at the expense of the Pompon section, the quilled or Anemone-flowered varieties, and to the almost complete exclusion of the pretty single-flowered section. This is a pity, and each display would be far more interesting if all the sections were well represented—not necessarily in the same degree—that the flower-loving public could compare one with another, and thus become familiar with the differing forms and attractions of the flowers. Again, in several cases, only a percentage of the plants are labelled prominently, and another source of interest and instruction is lost. Printed labels are not very expensive, and if care is taken to preserve them from season to season the cost of a sufficient quantity would be little. The arrangement of the displays is a little better each year, but much more might be done to add variety and pleasure; and above all, the plants should be grown dwarfer, or a proportion of them, that the whole effect of the groups be not destroyed by the sight of long, bare stems, and ugly flower-pots. In several parks there is required some additional direction to the visitors as to what position in the park is situate the house in which the display is made.

Battersea Park.

The exhibition in this very well-known park is arranged in the same house and under same system as last year, with sloping banks on either side, and a path through the centre. Everything is very neat, and considerable additional effect has been produced by training some of the longest of the plants on to the iron supports that cross the house, thus making a kind of arch each side, partly over the group. The house contains about 2000 plants, and the display was opened to the public on the 6th inst. In the early days of all these exhibitions, a prominent position is taken by that capital white variety Avalanche, and the incurved Mons. R. Bahuant—both of these are very valuable at the commencement of the season. Charlotte de Montcabrier is in very good form at Battersea, and Florence Davis, also a variety that is not happy at every place, yet seems to be pretty easily managed in the Metropolis. Here there were splendid blooms partly developed, and four of them on a plant. Chas. Davis was in about the same stage of development, and the new G. W. Childs also. Gloire du Rocher is another variety done well here; it has capital bright colour, and is prominent among the Japanese. Mons. Tarin, a narrow-petalled Japanese, of good rose colour, not by any means new, is valuable for decoration. Etoile de Lyon, as usual early in the season, was devoid of colour; but Bouquet de Dame, Cæsar Costa, William Tricker (capital colour), Viviand Morel, Louis Bœhmer, and the white variety, and Elaine, were remarkable. This good old variety has not yet dropped from collections, and when well grown, there are but few that equal it; there are larger white ones, but none prettier. Madame Edouard Rey, a very large Japanese flower, of rose, and reverse yellow, must be mentioned as one that has been very good in the early part of the exhibition; and the same might be said of L'Ami Etienne, a large incurved Japanese of pale mauve colour; this was trained along the iron rods mentioned above. H. Shoesmith, one of the newer Japanese, of pale yellow, had fine buds, and will give good blooms; this variety, it is expected, will prove to be a valuable one. The new Duke of York, a Japanese incurved flower of deep silver pink, and very broad petals, was not yet out, but it will have a few fine flowers. President Borel was noticed, and when a good colour this large variety is effective. Madame Clemence Audiguier, that has long been considered of bad because too tall habit, was trained along the rods, and in this way looked well. Good blooms were almost developed of that magnificent white and wide-petalled Japanese Mdlle. Marie Hoste; it is very handsome, with a pale yellow centre, but unfortunately does not stand the fogs for any length of time. Madame Darrier is a bright little incurved flower, and in this collection its colour is unusually bright. Stanstead White will carry good flowers; and Miss Watson, a neat yellow Japanese, and J. R. Pearson, are noticeable. The last-named is very pretty when it has opened, but it afterwards loses its colour entirely. President Hyde and William Seward are new ones also noticed here.

Southwark Park.

The park at Southwark is among the most unfavourable of all for the growth of Chrysanthemums, and most other things. The district is densely populated, and the part is black indeed. Last year we had to mention that Mr. Bailey had a new house at considerable cost in which to display the Chrysanthemums, and the collection now on view is in this structure, together with the small house that previously stood. They form an ill-made T, one of the upper arms being of greater length than the other. For the purpose they are used for the houses are fairly convenient, and the rafters of the roof being clothed well with Cobœa scandens and other plants, a pretty effect is produced. The arrangement of the plants here also is different and more tasteful than at most of the other parks, all of them being in irregular groups with serpentine margins. Mr. Curle, the present Superintendent, has a very large collection, including many of the best varieties, and we noticed a good number also of varieties which have been known for years, such as Peter the Great, Elaine, and others, that are of good quality; Condor, Mons. R. Bahuant, Gloire du Rocher, Beauty of Exmouth, Robert Cannell, Louis Bœhmer, Amos Perry, Edwin Molyneux, Mrs. F. Clinton, William Tricker, Sunflower, Madame Melaine Fabre, and Mdlle. Elise Dordan, were those most worthy remark a few days since. It would be well if the plants had more labels, that the general public could see at a glance those of the varieties they like best. If printed labels are scarce, the effect would not be marred if several plants of a kind were placed together, and a label attached; indeed, this arrangement is preferable, now that so few blooms are grown on a plant, as affording sufficient of a kind to stamp its character upon the visitor. This is not the case when one sees a single flower surrounded by a hundred others of as many varieties. The park is about seven minutes' walk from South Bermondsey Station on the L. B. & S. C. Railway, and the collection is well worth a visit.

(To be continued.)

SOPHRO-CATTLEYA LÆTA.

Our illustration (fig. 63, p. 477), represents the new and extremely pretty Sophro-Cattleya læta, shown by Messrs. Jas. Veitch & Sons before the Royal Horticultural Society, at the Drill Hall, on the 9th inst. As stated in our report of the above meeting, the hybrid is from Sophronitis grandiflora ♂, and Lælia pumila Dayana ♀. The sepals and petals are pale red-pink, the base of the lip white, and the front of a shade of rose. It is something like Sophro-Cattleya × Batemaniana in form, and more nearly like that of S. grandiflora than the seed-bearer.

HOME CORRESPONDENCE.

NOTES ON ORCHID CULTIVATION.—As a constant reader of the *Gardeners' Chronicle*, it gives me pleasure to write a line or two about the treatment of the different species of Orchid at various seasons. Take first the Dendrobium section. Of all—D. Phalænopsis Schroderiana, D. bigibbum superbiens, which have grown better this season in the full sun than when imported, and furnished with grand spikes of flowers. The species known as the King of the Dendrobes, and the Elephant Moth Dendrobe, is, without doubt, the grandest of all autumn-blooming Orchids, and as regards the variation in their colours, I am bold to say, if you wish to see a good display, it is worth while for any Orchid cultivator to go and see them. Another thing I must mention—ours have been grown in much less heat than ever before; in fact, we have grown them in the Cattleya house, where the temperature goes down to 60°. In my collection we have almost a pure white one, except just one mark on the lip, which you can scarcely see; such a grand sound bloom. I have one just like that one the *Gardeners' Chronicle* represented last season out in bloom. This beautiful Dendrobium Phalænopsis Schroderianum will make a good display for such a long time, and is also most useful for cutting purposes; when the spikes show they require a little more heat. I have two grand specimens of Dendrobium nobile which were put out into a span-frame in June; the bulbs then measuring from 25 to 30 inches in length, good stout ones. When taking them into a cool house on September 1, to my surprise I found them to be covered with buds, which fact is an indication that this section of Dendrobiums does not require so much shading as Orchid growers usually afford them. My method of cultivating Dendrobiums of various sections is to afford them full sun and plenty of air. Take, for instance, a few of the crosses of Dendrobium nobile, viz., nobilius, Cooksoni, and D. Leechianum, D. Ainsworthianum, or D. Ainsworthianum roseum, D. Linawianum, D. Findleyanum, D. Dominianum, D. Cypheri var., D. Wardianum Lowii, D. Parishii, D. fimbriatum oculatum, D. Dalhousieanum, and many other species which have made grand bulbs, and are the pictures of health; in fact, D. Dalhousieanum is growing several new pseudobulbs measuring now 3 feet 8 inches in length, and are better than when

imported. The Cattleyas do not like so much sunshine, although mine were not shaded all through the month of September, but plenty of air was afforded them. Lælias will stand plenty of sunshine, especially the varieties Lælia anceps, L. a. alba, L. a Dawsoni, Stella, L. Williamsii, L. Gouldiana, and L. albida autumnalis atrorubens. All these varieties and species have been grown in a frame this season in the full sun, and were put into the Cattleya-house the last week in August. They are making grand growths, and looking full of promise for a good supply of blooms later on; in fact, many of them are showing flower-spikes now. Odontoglossum grande, grown in the full sun this season, in vigorous health, and throwing its spikes of flower. The Odontoglossums have not been shaded half so much as usual this year. Odontoglossum Alexandræ and hybrids are throwing up grand spikes of flowers, also plenty of them; the leaves are a nice dark tint. About Lælia grandis: the best way to successfully deal with L. tenebrosa is to give it a good rest in a cool Dendrobium-house, but start it in heat, with which treatment it flowers and grows most satisfactorily. *C. Sims, Gardener, Brierley Hill, Staffordshire.*

TREES AND SHRUBS NOT COMMON IN GARDENS.—I had a most enjoyable walk lately over the extensive nurseries of Messrs. Robert Veitch & Sons, in the cathedral city of Exeter, and devoted my attention to their enormous collection of trees and shrubs, amongst which are some very uncommon species and many most interesting varieties. It being now near planting time, the following list of what I saw growing there, which contains only those kinds which are not usually met with in gardens, may be of use to arboriculturits in many parts of Great Britain. Doubless, some of them would only survive our winters in the south-western counties, or along the south coast of England. Nevertheless, having flowered Buddleya globosa for eight years at Tonbridge, and remembering a plant of Eriobotrya japonica which lived for seven years out-of-doors and grew 12 feet high near Canterbury, I am strongly of opinion that "warm corners" for many lovely plants could be found outside of Devonshire and Cornwall, which are now rarely seen in other parts of England:—

Abelia uniflora
Abutilon vitifolium
Acacia angustifolia
Arbutus canariensis
,, microphylla
Buddlea Lindleyana
Clematis crispa (crimson externally; white, margined with pink internally)
Cistus capitatus
,, nigricans
,, purpurascens
,, tinctorum
Caryopteris mastacanthus (leaves opposite, flowers pale blue, clusters of them sessile in the axils)
Carpenteria californica
Caragana argentea
Choisya ternata (flowered three times in 1893 near Truro)
Desmodium penduliflorum
Erythrina crista-galli
Escallonia Phillipiana
,, sanguinea
,, rubra
Escallonia littoralis
Eucryphia pinnatifolia
Fremontia californica
Genista Andréana
Garrya Thureti
Hypericum prolificum
,, aureum
Hymenanthera crassifolia
Idesia polycarpa (tree, leaves large, cordate, pointed, bright green, leaf-stalks scarlet)
Ilex Cunninghami
Indigofera Dosua
Olearia stellulata
Osmanthus latifolia
Swammerdamia antennaria
Sorbus macrophylla rotundifolia
Sambucus canadensis laciniata
Satureia diffusa
Tasmania aromatica
Tilia euchloris (leaves very large)
Weigela P. Duchartre (flowers nearly black)
,, nivea

W. T., Hea Moor.

ENCOURAGEMENT FOR COTTAGERS.—I have often thought that if two or three gardeners would co-operate and undertake to visit, during the evening, all the cottage gardens in their neighbourhood, advising and showing the cottagers how the more important operations in gardening, such as pruning, budding, &c., which is so often a failure with them, should be performed, it would encourage them in pursuing gardening as a profitable art. It would be interesting to know what readers of these few remarks have to say on the subject. *C. E. L.* [This is just what is being done under the auspices of some of the Technical Education Committees. Ed.]

RUDBECKIA NEWMANII.—I agree with all that your correspondent, "J.", says about this first-rate herbaceous perennial plant, but here I find it suffers quickly in dry weather, and a few sunny days, even after copious rain, are sufficient to make the leaves flag; and if the plant be not afforded water, or the weather should keep dry, the development of the flower-stems and flowers is checked. At the present time this species makes a fine display in a border here planted alternately with Aster Amellus bessarabicus. *E. M.*

HEDGES IN CORNWALL.—The great similarity of the hedges used in Cornwall to those used in the Holy Land, induces me to copy the account of them given by the Rev. James Neil in *Palestine Explored.* "Throughout Palestine, gardens, orchards, and vineyards, are always enclosed, and the fence employed in almost every instance is the common enclosure wall of the country, called a *jĕdar.* This rude and primitive construction is formed of rough, shapeless, unhewn stones of all sizes. Long practice has made the people very skilful in making *jĕdars;* and the hard marble-like *mizzey* rock, which crops up to the surface in every part of the country, affords them abundant and excellent material for this purpose. The ground is first smoothed, and the stones are then piled up, about 3 feet in width at the bottom, and gradually narrowing towards the top. No mortar of any kind is employed, the stones being merely laid so as to fit closely together. The height varies in ordinary cases from 4 to 6 feet; sometimes they are carried up as high as 12 feet. The whole construction is of course comparatively fragile, though readily repaired at a slight expense without the use of any fresh materials." By the substitution of granite for mizzey, you get in this extract an exact account of most of the boundary fences in Cornwall. Those used for fields and for some gardens are slightly different, in that they are wider at the base, and soil or turf is laid on the top where they are 1 to 3 feet wide. In fields here, nothing is planted at the top, but wind and birds soon provide material for a true hedge of White Thorn, Black Thorn, and other shrubs;



Fig. 63.—Sophro-Cattleya × Batemaniana.

(see p. 476.)

while Blackberries, Potentilla reptans, Hieracium umbellatum, pink and white Milfoils, and numerous other perennials clothe the sides of the walls after a few years, probably growing at first on the top. Similar walls around gardens are planted with Fuchsia, Escallonia macrantha, or Rhododendron ponticum, all of which make beautiful hedge-rows. Roses also are similarly used. Some of the enclosures for old gardens have the base 12 feet or more wide. Upon the top of the wall surrounding two sides of my garden there are Beech and Plane trees 40 feet high, Hollies 25 feet, Fuchsias, Escallonias, and Rhododendrons from 4 to 9 feet high, and several other shrubs. The top of this wall is 10 feet wide. *W. T., Hea Moore.*

THUYA GIGANTEA.—I beg to send you some sprays of Thuya gigantea, with seed, from a tree standing in the grounds at this place, and I should be glad if you could verify it as being the true T. gigantea [yes]. The tree is over 45 feet in height, and is 4 feet 6 inches in circumference round the bole at 3 feet from the ground. Considering that the true Thuya gigantea was only introduced by seed into this country in 1854, I think our specimen a good one. I may add that the tree is covered this season with seed to the very top, like the enclosed sprays show. I think it would be interesting to know where are the finest specimens of T. gigantea, and their dimensions. *G. H. A., Beningborough, York.* [At Orton, near Peterboro', Mr. Harding informs us there is a tree of this species 60 feet high. Ed.]

THE PROPOSED NATIONAL VEGETABLE EXHIBITION.—Will you kindly favour me with a little space in the columns of the *Gardeners' Chronicle* to return thanks to yourself and all of my many correspondents, readers of your paper, who have so readily replied to the circular with respect to the above-named object. Probably few similar suggestions have met with so hearty a response, one that may be practically regarded as unanimous. Almost everyone says, "Such a great exhibition of vegetables should be held, and we wish to render the proposal every help and assistance." That fact shows that there has grown up in horticulture during the past few years a much higher appreciation for vegetables than formerly existed, when no one was proud of his Cabbages and Potatos, but only of his Peaches, Grapes, or Pines. It is somehow now found not to be so terribly difficult to grow these and other fruits, whilst a severe test of a gardener's capacity is permitted in the appearance of his vegetable products. Thus it would seem as if we are better understanding the value of the kitchen-garden products. At the meeting held on Sept. 29 at the Crystal Palace, a small provisional committee, with Mr. H. Balderson, of Hemel Hempstead, as treasurer, and myself as secretary, was formed to carry out the needful preliminary arrangements. That committee will meet on Tuesday next, Oct. 23, and no doubt will prepare a rough kind of outline of what it is desired to do. I shall there report result of circular inviting a wide representative body of horticulturists in the country to give their names as members of a general committee, a somewhat new practice in matters of this kind, and I have no doubt whatever of being able to state that of the replies, there will be 80 per cent. favourable, a very remarkable result, and that of these some 96 per cent. will be entirely favourable. Indeed, I may say that none are otherwise, only one or two favour another course. What that course is I need not refer to here. The next thing to do will be to summon a meeting in London of the whole of the general committee, and it will be for that body to determine what sort and shape the proposed exhibition shall assume, and under what sort of control. I may remind those who have doubts, that the greatest horticultural show of the century, that of 1866, was carried out by an independent committee. That was a grand success. The old Potato shows were so also. The Rose, Dahlia, Chrysanthemum, and other committees or societies are practically independent bodies, organising their own shows, and doing them wonderfully well. Still, help and encouragement, and patronage from every quarter will be, I have no doubt, heartily welcomed. When any body, however commanding, admits that it is impossible for them to do what is desired, there can be no just cause for complaint if others undertake to fill the void. Anything which tends to the welfare of horticulture, provided there be about it no personal or trade aims, no grinding of petty axes, merits the hearty support, help, and sustenance of all who garden, let them be who they may. It is in that spirit this great national vegetable exhibition is proposed, and it is in that high and generous spirit, I trust, it may find national support. Any who have not received circulars, and wish to be members of the general committee, should send in their names at once. They who hesitate are lost. *A. Dean, Kingston-on-Thames.*

THE FRUIT PACKING COMPETITION AT THE CRYSTAL PALACE.—When I read the remarks made upon me by two of your correspondents last week with respect to the above subject, I felt very much as Joe Miller's Jew, who, when about to partake of the forbidden rasher of bacon, was interrupted by a terrific clap of thunder. "Good Heavens!" he exclaimed, "what a row about a bit of bacon." Really, I had to turn to the preceding week's *Gardeners' Chronicle* to see what it was all about, and surprised at the outbreak, I was more surprised, still when I found on what a slender foundation it was based. What did I say about this fruit packing? First, "that I was disappointed." That was so. There was nothing new in what was seen, and some that was indifferent. I have not only seen, but closely observed and criticised all the fruit-packing competitions that have taken place during the past twenty years at South Kensington, Chiswick, and elsewhere, and now at the Crystal Palace, and I hesitate not to say that I have in previous years seen not only far superior average packing, but some better. I have the 1st prize basket of Grapes at the Crystal Palace flung in my face [!] I made no remarks whatever about the Grapes; but the competition in that class was poor. I did not say

that Mr. Woodward's or anyone else's were not well packed, and the assumption is unjust. But where I said Peaches showed nothing new, I was very lenient, because I remember the superb samples of packed Peaches in soft fresh moss that Mr. Coleman, another of his pupils, used to exhibit at South Kensington; and I have never yet seen better packing. Therefore my words were just. I naturally looked for something new and fresh in other directions. Pears came into the same category; they were little indeed, or no better, than what we have seen before, and, perhaps, no worse; but still there was nothing new. If these competitions elicit nothing new or improved, they are of little value. There was a poor competition, in ordinary bushel and half-bushel baskets. There was only one competitor, and that far away behind the packing of such growers as Mr. G. Walker, of Ham. I will not be deprived of my right of independent criticism because others do not properly read their *Gardeners' Chronicle*. *A. D.*

NURSERY NOTES.

FRUIT TREES AT MESSRS. JOHN LAING AND SONS', FOREST HILL.

To many readers this firm may be known solely by the good work it has accomplished—and is accomplishing—with regard to the tuberous Begonia. The recent great hardy fruit exhibition at the Crystal Palace, where Messrs. Laing staged a very fine collection of Apples and Pears (some 137 varieties) was sufficient evidence, however, that efforts are also being very successfully made by the firm in quite another direction of horticultural work.

A call prior to the show just mentioned, to see the fruit *in situ*, revealed much of interest and utility to those of a pomological turn of mind. The fruit nurseries, of some 30 acres in extent, are situated at Rutland Park, Bellingham, and The Farm. The collections were found to include all the best sorts; the stocks, moreover, are exceptionally clean and healthy, and true to name—the latter a very important qualification.

As to "stocks," the suitability of the Quince for Pears, and the Paradise for Apples for garden culture, is amply illustrated here, the stocks in question producing masses of roots near the surface, thus ensuring all the benefits of the sun's warmth, the stimulating action from mulching and watering producing plentifully fine fruit for table or exhibition.

The trees have made a good growth this year, which is attributable to the hot summer of last season thoroughly ripening the trees. Another advantage gained, too, was that the soil was left warm, thus encouraging the production of a quantity of fibrous roots—one of the essential qualifications in successful fruit culture.

Another point of practical importance to cultivators well worth referring to, is the fact that not one tree was pruned in winter—all were summer pinched. This would seem to be a point of special importance, and one which seems to be very much overlooked by those, for instance, who grow their trees within restricted areas, and subject them to much pruning. It may be mentioned that the soil is a light yellow sandy loam, in a splendid piece of maiden land.

Apples.—In a season notorious for the general scarcity of Apples, one noted abundant crops on the sturdy young two and three-year bush-trees. They were a sight, these little 2½ to 3 feet-high trees, loaded with fine fruit, and in the matter of the generally destructive frost on May 21 last, it "went over them," as Mr. Wakelin, Messrs. Laing's manager naively put it, the bigger (taller) trees being comparative failures. The Apple that stood out, so to speak, from all the others by its cropping qualities, and truly fine size, was Bismarck (one particular fruit noticed was about 2 lb. in weight!), its large, flat, dark, red-flushed fruits, were very observable by the visitor in the numerous quarters devoted to Apples. We have never seen in finer condition that very handsome, but otherwise not particularly good, Apple Hoary Morning, with its characteristic dense grey bloom. A fine early kind, and a great bearer, is Duchess' Favourite, sometimes known as Duchess of Gloucester, with a smallish round fruit, and, as seen here, intensely red. The conical Gascoigne's Scarlet was also very noticeable, while Scarlet Crofton is a first quality yellow Russet Apple-flushed.

Amongst other good coloured Apples noted may be mentioned Worcester Pearmain, Lady Sudeley, that very fine and handsome sort, and Scarlet Nonpareil. A great favourite, and of first quality, is Margel, streaked dark red, a firm and well-flavoured fruit; the tender-fleshed Cox's Pomona is red-flushed and streaked; whilst a richly deserved meed of praise must be given to the ever-popular Cox's Orange Pippin, round, yellow, streaked red, and russety. Red Bietingheimer is a large, slightly conical fruit, a handsome German Apple, with a carmine-flush on the sunny-side, a valuable and newish variety. Wealthy and Colonel Vaughan are also well-coloured Apples.

This all too brief reference to some of the higher-coloured Apples may fitly terminate by a reference to the old Sops-in-Wine. We seldom see it now, the last time the writer saw it was at the Great Apple Congress in 1883, when it was noticeable by reason of its small round, angular, scarlet fruits, which are covered by a thick bloom, flesh streaked red; an early and pretty Apple. Amongst other good Apples observed, may be noted Withington Fillbasket, a very large round angular greenish-yellow fruit, as seen here very fine. Of first quality, and a fine handsome fruit largely grown, is Loddington Seedling, a large pale green, flushed fruit; as also the first-rate pale yellow Pott's Seedling, Lord Grosvenor, Lord Suffield, Washington, a very handsome conical Peach-like kind, but succeeding best on a wall or orchard-house, when its melting flesh of excellent flavour is much esteemed. Emperor Alexander, very fine; Bramley's Seedling in grand condition; Stirling Castle, Gold Medal, Lord Derby, Warner's King, The Queen, Schoolmaster, Lane's Prince Albert, Peasgood's Nonsuch, exceptionally fine; Golden Spire, branches literally laden with fine fruits; Waltham Abbey Seedling, Gravenstein, that valuable newish kind Newton Wonder, Gloria Mundi of extra size, Wellington, Hanwell Souring. A newish fruit is Beauty of Stoke, large, somewhat conical, of a uniform brown-russety appearance, and very heavy, quality excellent, a good bearer on pyramids or standards. The Hawthornden types, old, new (winter), or silver and red, were observed in excellent condition, being grown in large quantities. An Irish early Apple called Gibson's Russet, is worth noting, something in the way of Syke House Russet, but larger. It may be added, before leaving this section, that not only have the firm a fine stock of these bush and pyramid trees, but of fine standards on straight, clean, healthy stems, and wanting no stakes to support them. Horizontal-trained trees are quite worthy of a passing reference, as are the cordons in both Apples and Pears. This style of tree is advantageous, doubtless, for covering walls and similar spaces in small gardens in the neighbourhood of towns, affording early and paying crops of fruit.

In an orchard-house we noted a fine lot of established pot-trees for this system of culture in all the leading kinds—kitchen and dessert. And in the same structure was a fine lot of late Peaches in pots, of such sorts as Lady Palmerston, Sea Eagle, late Admirable, Weatland (new), and the very large Salway with yellow melting flesh. A new Pear, named Le Lectier, was noted here. It is a dessert kind—a good cropper—season, November to January. Another newish dessert Pear observed was President Drouard, season, November and December. A fine lot of fruiting-trees in pots (in var.) for cool orchard-house culture (a certain mode of growing large fruit), was noted.

Pears:—In the outside quarters—as may be expected—a good stock of this popular fruit is grown, the trees bearing most freely in all shapes, standards, half-standards, pyramids, dwarf fan-trained, for walls, or espaliers, horizontal trained for the same purposes, bush trees and cordons, single, upright, and diagonal. As to the Quince stock, a strong rich loam suits it best, whilst a lighter soil suits the free stock for Pears. The main advantage of growing Pears on the Quince as a stock is for early fruiting purposes, and producing fine fruit, whereas the generally accepted axiom respecting Pears grafted on the free or Pear stock is, that—

"He who plants Pears,
Plants for his heirs."

Pear culture sometimes fails because the roots are not properly pruned and regulated, a matter of the greatest moment in any fruit cultivation. The roots should always be kept near the surface, except upon sandy soils, and root-pruning must be vigorously carried out in October. To refer to a few varieties of Pears (amongst the many) noted in our visit: a very large and handsome October Pear, with bright red cheek, making a fine cordon, is Beurré de Mortillet (new); Triomphe de Vienne, a newish variety of great excellence, large, pyriform, and of good quality. Magnate is a very large pyriform fruit, yellow and dark crimson skin, handsome, juicy, and hardy, much stronger than its parent, Louise Bonne of Jersey, of which rich, deliciously-flavoured Pear some fine examples were noted. Very large and handsome is Durondeau, large, obtuse, juicy, and sweet. Beacon was over at the time of our visit, but it is worth a note as a bright and handsome prolific fruit, proving a desirable kind for its season (August). A variety of great excellence from America is Clapp's Favourite, somewhat in the way of Windsor in shape. Brockworth Park is a fine exhibition variety. The newish Conference is a large juicy Pear. Fertility is rightly named, bearing a very large crop of rich and juicy medium-sized fruits. Duchesse de Mouchy is a new variety, about which more will doubtless be heard. Succeeding well as a standard is Beurré Alexandre Lucas, fruits above medium size, flesh tender and juicy, a strong grower, attaining a large size. Somewhat new is the Belle d'Ecully (Prénices d'Ecully), a prolific bearer, fruits very large, tender, melting, and very juicy; it forms a medium-sized pyramid, bearing well on cordons. Emile d'Heyst is above medium size, flesh melting and sugary, one of the best of autumn Pears, does well on the Quince, bearing most freely, and is useful for orchard cultivation. That very large, melting Pear, Souvenir du Congrès (seedling from Williams' Bon Chrétien) was over, but worth a note as forming a medium-sized pyramid, a good cordon on the Quince, and being very good against the wall. Hacon's Incomparable is medium, roundish, sweet, rich; making a prolific and handsome tree on the Quince, but does not always bear well on the Pear stock. Knight's Monarch is a very valuable and well-known kind. It is a variety which has the habit of casting its fruit; it should not therefore be heavily thinned. The tree makes a handsome pyramid, bearing well. The splendid Doyenné du Comice, one of the finest Pears known, bears remarkably large fruit on the Quince, and forms a fertile cordon or wall-tree. Beurré Fouqueray is a fine and handsome new Pear of French origin, hardy, bearing very freely, particularly when grown as a pyramid on the Quince. One of the best late-keeping sorts is Marie Benoist, large Bergamotte-shaped, with a brisk perfumed flavour making a good cordon or small pyramid on the Quince. Forming as a fine tree on the Quince when pyramid trained or cordon, is Olivier de Serres, a delicious russety fruit of handsome Apple-like appearance, the best flavoured in its season (February to March). Another good late Pear, worthy of general cultivation, is Josephine de Malines, which does well on Quince or in any other form, bears freely, and is invaluable on account of its extended season. Madame Chandy (new) is a large pyriform fruit, flesh fine, melting.

A Pear that has very few equals in its season (October to November) is Belle Julie; a medium-sized fruit, flesh yellowish, buttery, and very juicy; extremely prolific, and succeeding well as a pyramid or cordon. La France is a new French sort that may be more spoken about later. General Todtleben is a good late Pear, large, pyriform, melting, and rich, forming a beautiful pyramid, and growing well on

the Quince. And then we might refer to such fine varieties as Marie Louise, Marie Louise d'Uccle, Beurré Superfin, Easter Beurré, B. Diel, B. d'Amanlis, B. Clairgeau, Duchesse d'Angoulême, Pitmaston Duchess, and a host of other good sorts grown here, did space permit.

Lengthy fruit-borders, planted only last March, having cordon Apples on each side, backed by Pyramid Apples, Pears, and Plums, have made very satisfactory progress this season, several trees bearing fruit.

In referring earlier in these notes to the Apples, I omitted to note that a good quarter of cordon Apples, transplanted last March, has produced fine crops the first season.

To refer, by way of bringing these somewhat lengthy notes to a conclusion, to a few other specialties:—Plums are grown in all the leading varieties, dwarf-trained, horizontal, cordons, pyramids, and standards. Some of the dwarf-trained stuff made shoots this season 8 feet to 10 feet in length, showing the capabilities of the trees. In Peaches and Nectarines, a fine lot of trained trees were noted—dwarfs, standards, and half-standards. Some two-year-old trees of Peaches and Nectarines, fan-shaped, are fine healthy stuff, forming splendid fruiting wood.

Cherries, too, in all shapes for training or otherwise, are a fine stock; and the cordons, pyramids and standards were noteworthy. Trained Apricots, extra fine fruiting trees, are quite worthy of record, as are the fruiting trees in pots for orchard-house culture, and among the latter may be noted the firm's fine Fig trees in pots. Those useful bush fruits, Currants and Gooseberries are represented by all the best kinds in thriving condition. The firm are sending out a new Strawberry named George Rundle, an improvement on the well-known British Queen. Fruit and colour like British Queen, light red, large size, often weighing more than an ounce, strong grower, distinct dark green foliage. Fruits freely. *Visitor.*

New Invention.

THE SPRINGTHORPE CUP AND TUBE.

This is another form of the telescopic flower-tube intended for the use of exhibitors of Roses, Chrysanthemums, Asters, Dahlias, and flowers generally which, by reason of their weight, are apt to droop their heads, an undesirable attitude for an exhibition bloom. The tubes can be drawn apart separately, and are kept at any desired height up to 7 inches by means of brass springs soldered on to them. It is simplicity itself, and perhaps has an advantage over those which are regulated by moving a tube formed with a spiral thread, seeing that an alteration may be made in height without having to twist or turn the flower about when it is in its place on the show-stand. The patent is provisionally protected.

SOCIETIES.

ROYAL HORTICULTURAL.

Lecture on Popularising Orchids.

October 9.—In the afternoon a paper on "How to Popularise Orchids," was read by Mr. E. H. Woodall, of Scarborough, who commenced by remarking that in order to insure success, one of the first things required was observation. If a gardener used himself to this, a few days would suffice to perceive whether or not a position or treatment accorded a plant was that suited to it or not. If Orchids are to be grown by the million, including those with only meagre house accommodation, it is desirable that a knowledge of the essential requirements of the plants should be more common than at present. He had proved in his own garden, that with one house only, and a frame, it was possible to grow a good number of Orchids, and to obtain considerable pleasure from them. It is desirable that nurserymen should describe the habitats of the plants they collect, give particulars as to climate, temperature, elevation, humidity, &c. If this were done, and cultivators would endeavour to provide similar treatment to that the different species enjoy naturally, it would prevent much of the wicked waste that occurs through tearing these jewels from their native place, and bringing them here, where at present so large a percentage dies.

Cool Orchids have been so successfully grown by the trade and by other large growers, that it is common to see long houses devoted to them, and the impression obtained that without such houses at command it is impossible to succeed with them. Many of them, however, could be grown well by amateurs who have only one ordinary greenhouse and a cold frame. When the lecturer commenced to grow Orchids, he placed them in a rather close and stuffy fernery facing north, but was soon aware that such conditions were adverse to their well-being. He excavated to a depth of about 18 inches under a north wall, and concreted the bottom, which he covered with water. Over this was put a frame, and the plants were stood on pots over the water.

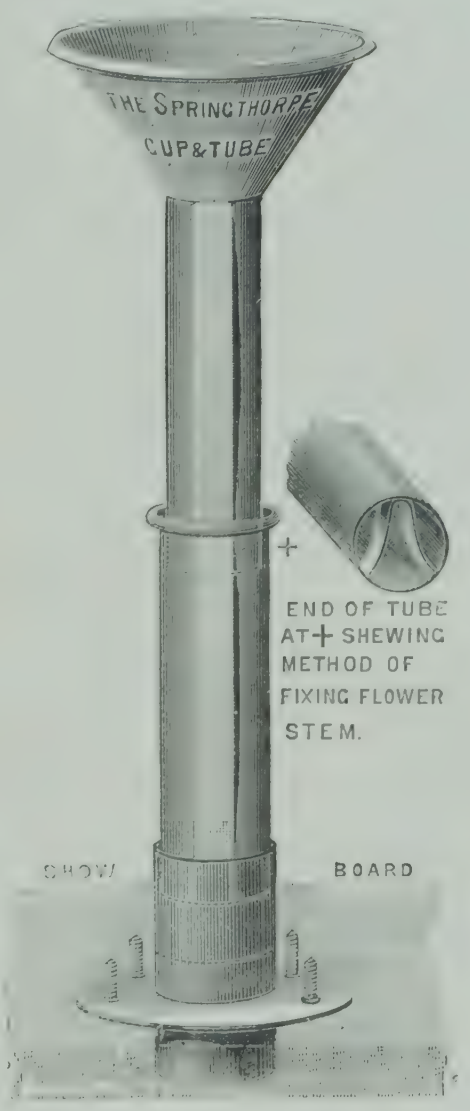


Fig. 64.—THE SPRINGTHORPE CUP AND TUBE.

Many of the cool or equatorial Orchids, as the lecturer preferred to call them, came from close damp woods where there was but little winter or summer, as we know such seasons, and to imitate this as far as possible, the lights were taken off entirely during dewy or wet days, but during dry ones they were closed, and at night if there was dew or rain the lights were taken off. Into this frame the plants were put in the late days of spring, and at the end of September when they were removed from the frame, they had enjoyed the conditions so much that they had recovered themselves greatly and had made abundance of roots. When removed from here, they were placed in an eastern aspect in the greenhouse, and each stood over a saucer of water. The plants fared very well in this position until March, when they required to have canvas screens to protect them from the sun, then beginning to obtain power. Afterwards, when they were put out again into the frame, the plants grew away at once, and in September were remarkable specimens, most of them having in their strong, new growths, healthy flower-spikes. The system had proved successful, and remarkably so, since which time Mr. Woodall had pursued it with unbroken success, excepting during the season 1893, when the hot, dry weather, without any rain during the hottest period of the year, made it exceedingly difficult to keep the plants cool and moist. The idea was to keep the plants as cool as possible and moist during our summer, and they were then better able to withstand the winter; and it should be remembered that, in their native homes, they had neither summer nor winter, but were always moist, always cool. Some of the species he had found especially amenable to such treatment—greenhouse and frame only—were Odontoglossum crispum, O. Pescatorei, O. hebraicum, O. triumphans, O. Rossi majus, and others. Others that enjoy the frame treatment well, but require a slightly warmer place than the cold greenhouse during winter, are Odontoglossum grande and Epidendrum vitellinum. Slight modifications were then described which had been found necessary for other species, many of which only wanted special treatment during part of the season.

Mr. Douglas, who occupied the chair, made a few remarks, as illustrating the serious mistakes the Orchid-grower may make before he becomes acquainted with the exact method of culture required by this or that plant.

Obituary.

H. W. Lewin.—We much regret to record the decease on the 9th inst., of Mr. H. W. Lewin, a gardener of the highest ability, who for about forty years had managed the extensive gardens of Sir D. C. Buchanan, Bart., at Drumpellier, Coatbridge, N.B. Mr. Lewin excelled in every branch of his business, and he was possessed of great energy and refined taste; consequently it was always a great pleasure to the horticulturist to visit the gardens at Drumpellier. We may mention the fact that for some thirteen years in succession he secured the first prize for Cyclamens at the shows of the Glasgow and West of Scotland Horticultural Society. The deceased gardener's earlier years were spent at Kew, Maresfield Park, Sussex, and Lonsdale House, from whence he removed to Drumpellier. A widow and one son survive him.

Edward Spivey.—We are requested to announce the death of Mr. Edward Spivey, which took place at Sawbridgeworth on the 2nd inst. The deceased, who was eighty years of age, was for nearly half a century head gardener to the late J. A. Houblon, Esq., Great Hallingbury Place, Bishop's Stortford, and was well known as a gardener of the old school. He was for many years a contributor to this journal, and at one time a large exhibitor of fruit at the London and other shows.

John Edmondson.—The seed trade generally, and that of Ireland in particular, will learn with regret, of the recent death of Mr. John Edmondson, the head of Messrs. Edmondson Bros., Seed merchants, 10, Dame Street, Dublin, at the age of 71 years. He was a native of Lancashire, and was born at Penketh, Lancashire, in the year 1823. His father was schoolmaster of the place, and a member of the Society of Friends, with which the late Mr. John Edmondson was associated. His early education was gained at his father's school; later on he attended that of his uncle, Mr. George Edmondson, afterwards Principal of Queenwood College, near Romsey, in Hampshire. For some years, while quite a youth, he was associated in business with his uncle, Mr. Thomas Edmondson, the inventor of the Railway Ticket System now in use. In 1846 he was sent over to Ireland to introduce the system on the Great Southern and Western Railway, which was then about to be opened, and in 1850 he paid a visit to America in connection with the Railway Ticket business. In 1851, having relinquished his connection with his uncle, he settled in Dublin, and established himself as a seedsman, trading as John Edmondson & Co., at 61, Dame Street. Eventually the firm took the title of Edmondson Bros., at 10, Dame Street, where it is now located. Garden and agricultural seeds are supplied on a large scale,

and a good business is down with implements. Here the firm will be continued under the title of Edmondson Bros. It may be stated that they are the Dublin agents for Messrs. Thomas Rivers & Sons, Sawbridgeworth. When in Dublin in 1869, I had the pleasure of making the acquaintance of Mr. John Edmondson, visiting him at his private residence near the city. His kindly disposition charmed all, and the consideration with which I was treated, going to Ireland as a stranger, made a deep impression upon me. His brother, Mr. Thomas Edmondson, started, in 1869, *The Irish Gardeners' Record*, and continued it for some years, but failed to establish it for lack of support from those whom it was particularly desired to benefit. *R. D.*

TRADE NOTICES.

Messrs. Dobbie & Co., Seed Merchants and Florists to the Queen, Rothesay, have just arranged for a lease of the Chelsfield Estate Farm, Orpington, Kent. This farm is finely situated, 13 miles south of London, and is intersected by the main line of the South Eastern Railway. It is about 60 acres in extent, and will be used by Messrs. Dobbie entirely for seed-growing purposes.

Messrs. W. L. Lewis & Co., of Chaseside, Southgate, London, N., desire to announce the fact that they have admitted Mr. F. W. Ashton, sometime their representative, as a partner in their firm. The business will be conducted under the same style as heretofore.

LAW NOTES.

A HORTICULTURAL SOCIETY AND PRIZE MONEY.

An action which aroused considerable interest among local horticulturists was heard at Warwick County Court on Wednesday, the 10th inst. Wm. Robbins, gardener, of 17, Rugby Road, Leamington, sued Henry Parker, Hon. Sec. to the Milverton Horticultural and Industrial Society, for payment of 14*s.* 6*d.*, being amount of money prizes awarded at the recent annual show of the Society. Mr. Crowther Davies appeared for the plaintiff, and Mr. A. E. Overell for the defendant. Plaintiff said the exhibits for which he gained the prizes were genuine, fair, and honest, in accordance with the rules of the Society. They were all grown on his own allotment. Mr. Overell submitted that the case was beyond the jurisdiction of the court, on the ground that the Society's rules claimed final judgment in all cases of dispute. His Honour, however, overruled the objection. Mr. Overell: Do you know that the small committee was formed for the purpose of visiting these allotments? Yes.—And were you told on the day of the show that the committee had reported against you? I was told after the judges had awarded the prizes to me that the committee wanted to see me in the tents.—And what did they tell you? The Chairman said I had not grown the stuff I exhibited; he said I had not got room to grow them in my garden, and I had not got more than three rows of Potatos.—And the judges disqualified you? The committeemen disqualified me.—And the judges assented? They were not there.—Did you not afterwards meet a Mr. Pratt, and say to him, "You are a fine fellow to speak to a man as is out of work?" I don't recollect.—A garden needs to be kept in good order to produce show exhibits. It requires a good deal of attention.—Weren't there some weeds in your garden? Yes; it was rather weedy.—Some of the weeds were almost as high as the Peas themselves? Mr. Davies: We didn't show any weeds.

A number of witnesses were called in support of the plaintiff's case. Witnesses were also called by the defendant, and these stated that the condition of the plaintiff's garden at the time of the show precluded the idea of him having grown what he had exhibited.

His Honour said it rested with the defence to make a case out, because the prizes were actually awarded. The evidence was very conflicting, and he could not say he had no doubts in his own mind. At the same time, he was not satisfied that the plaintiff did not grow the vegetables, and he should, therefore, give judgment for the plaintiff; but the small amount of the claim did not carry costs.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 13.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	63	0	+ 325	− 63	4 −	173	38·7	15	32
1	3 +	61	0	− 59	− 4	4 −	159	27·2	18	34
2	4 +	74	0	+ 35	− 61	2 −	162	19·3	13	32
3	2 +	74	0	+ 48	− 109	3 −	157	19·7	11	35
4	4 +	81	0	+ 42	− 96	4 −	149	18·7	12	32
5	3 +	85	0	+ 94	− 126	4 −	150	22·0	17	35
6	4 +	77	0	+ 39	− 75	7 −	161	35·1	10	32
7	4 +	89	0	+ 183	− 124	4 −	159	25·4	11	33
8	4 +	94	0	+ 108	− 83	8 −	162	28·9	25	38
9	5 +	85	0	+ 45	− 36	2 −	178	28·0	17	30
10	4 +	90	0	+ 71	− 71	6 −	162	29·8	17	32
*	2 +	104	0	+ 251	− 18	9 −	166	23·5	48	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending October 13, is furnished from the Meteorological Office:—

"The *weather* during this week was very dull over our Islands generally, with a good deal of wet mist and fog. A little rain fell at nearly all stations during the middle part of the period, and again in the north and east towards its close. A thunderstorm was experienced, locally, at Wisbech on the 7th, and heavy rain fell on the same day at Strathfield, Turgiss.

"The *temperature* exceeded the mean in all districts, the excess varying from 2° in 'England, E. and the Channel Islands,' to 4° in 'Scotland, N.W.,' and many parts of 'England,' and to 5° in 'Ireland, N.' The highest of the maxima were recorded on rather variable dates, and ranged from 68° in 'England, S.W.,' and 67° in 'England, S. and the Channel Islands,' to 61° in 'Scotland, N.' The lowest readings occurred, as a rule, towards the latter part of the week, when the thermometer fell to 29° in 'Scotland, E.,' to 35° in 'Ireland,' and to 36° in 'Scotland, W.,' 'England, S.W.,' and the Midland Counties.' Elsewhere the minima ranged from 37° in 'Scotland, N. and England, N.E.,' to 43° in 'England, N.W.,' and to 45° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts, the deficit being considerable.

"The *bright sunshine* was in excess in the 'Channel Islands,' but in all other districts there was a marked deficiency. The percentage of the possible duration ranged from 10 in 'Scotland, W.,' and 11 in 'England, E. and N.W.,' to 25 in 'England, S.W.,' while in the 'Channel Islands,' the percentage was as high as 48."

MARKETS.

COVENT GARDEN, October 18.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ficus elastica, each	1 0	7 6
Aspidistra, per doz.	12 0	30 0	Foliage plants, doz.	9 0	24 0
— specimen, each	7 6	21 0	Lilium Harrisii, per dozen	12 0	24 0
Asters, per dozen ...	3 0	6 0	Marguerites, p. doz.	6 0	12 0
Chrysanthemums, per dozen ...	6 0	15 0	Mignonette, p. doz.	3 0	6 0
Cyperus, per dozen	4 0	10 0	Palms, various, ea.	2 0	10 0
Dracæna, each ...	1 0	5 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	Pelargoniums, scarlets, per doz. ...	3 0	6 0
Ferns, various, doz.	4 0	12 0	Primulas, per dozen	4 0	6 0
— small, per 100	4 0	6 0	Solanums, per dozen	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	4 0	6 0	Orchids:—		
Asters, per doz. bun.	3 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, p. bun.	0 6	1 0	Odontoglossum crispum, 12 blm.	2 0	4 0
Carnations, 12 blms.	0 9	2 0	Geraniums, scarlet, per 12 bunches ...	4 0	6 0
— per dozen bun.	9 0	12 0	— 12 sprays ...	0 6	0 9
Chrysanthemums, per 12 blooms ...	1 6	6 0	Pyrethrums, 12 bun.	2 0	4 0
— per 12 bunches	4 0	8 0	Roses, Tea, per doz.	1 0	2 0
Eucharis, per dozen	3 0	6 0	— coloured, p. dz.	2 0	4 0
Gaillardias, dz. bun.	1 6	2 0	— yellow (Maréchals), per dozen	1 6	4 0
Gardenias, per doz.	3 0	4 0	— red, per dozen	0 6	1 0
Gladiolus, doz. bun.	18 0	24 0	— outdoor, per dozen bunches ...	6 0	12 0
Lapageria, 12 blms.	1 0	2 0	Stephanotis, dozen sprays	2 0	4 0
Lilium Harrisii, doz.	4 0	6 0	Tuberoses, 12 blms.	0 4	0 6
— — per 12 blms.	0 9	1 6			
Maidenhair Fern, per 12 bunches ...	4 0	6 0			
Marguerites, 12 bun.	1 0	3 0			
Mignonette, 12 bun.	1 0	3 0			

Orchid-bloom in variety; rather scarce.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, American, per barrel ...	10 0	12 0	Grapes, Muscat, per lb.	1 6	2 0
— Cooking, per sieve	4 0	6 0	— Muscat, 2nd quality, per lb.	0 9	1 0
— Dessert, half-sieve	2 6	4 0	— Guernsey, per lb.	0 5	0 9
Cobs, per 100 lb. ...	25 0	30 0	Melons, each ...	1 0	2 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	Pears, sieve, small	1 6	2 0
— English, 2nd quality, per lb.	0 6	1 0	— Dessert, half-sieve	2 0	4 0
			Pine-apples, St. Michael, each ...	2 0	5 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, Runners, siv.	1 6	2 6	Mushrooms, per lb.	1 0	...
Cauliflowers, p. doz.	1 0	...	Onions, per bush. ...	2 0	2 6
Cucumbers, per doz.	2 0	3 0	Tomatos, per lb. ...	0 4	0 6

Potatos.

In the absence of extra supplies, our markets continue firm, and the opinion of the trade generally is in favour of better prices, based principally upon the estimates for America, although the report per last mail, both New York and Philadelphia, are less encouraging. Prices of last week are fully maintained. *J. B. Thomas.*

SEEDS.

London: *October* 17.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report fair demand for winter Tares at the unusually tempting rates now accepted; values, indeed, have reached quite a holding-over level. Sowing Giant Rye is also exceedingly cheap. New Mustard and Rape seed offer likewise on most moderate terms. There is not much now doing in either Clover or Trefoil seeds; but rather more attention is being given to Alsyke. The colder weather has naturally somewhat improved the trade for boiling Peas and Haricot Beans. Bird seeds continue a slow sale.

FRUITS AND VEGETABLES.

Borough and Spitalfields: *October* 16.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* 6*d.* per tally; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* to 2*s.*; Parsley, 8*d.* to 1*s.* 6*d.* per dozen bunches; Horseradish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, foreign, 2*s.* to 2*s.* 6*d.* per bag; do., English, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Apples, English, 2*s.* to 6*s.* per bushel; Pears, 9*d.* to 3*s.* 6*d.* per half sieve.

STRATFORD: *October* 16.—The supply to this market during the past week was all that could be wished, and the trade was brisk, there being a large attendance of buyers. Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Savoys, 2*s.* to 3*s.* do.; Greens, 2*s.* to 4*s.* do.; Cauliflowers, 9*d.* to 1*s.* per dozen; do., 3*s.* to 4*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; Carrots, household, 40*s.* to 50*s.* per ton; do., cattle-feeding, 35*s.* to 40*s.* do.; Parsnips, 9*d.* to 1*s.* per score; Mangels, 12*s.* to 16*s.* per ton; Swedes, 16*s.* to 18*s.* do.; Onions, English, 60*s.* to 70*s.* per ton; do., Dutch, 2*s.* to 2*s.* 6*d.* per bag; Apples, English, 2*s.* to 4*s.* 6*d.* per bushel; do., American, 11*s.* to 13*s.* per barrel; Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per half-sieve; Cucumbers, 1*s.* to 1*s.* 6*d.* per dozen; Damsons, 2*s.* 9*d.* to 3*s.* per half-sieve.

FARRINGDON: *October* 17.—Quotations: Parsnips, 50*s.* to 60*s.*; Carrots, 40*s.* to 45*s.* per ton; Celery, 8*s.* to 10*s.* per doz. rolls; Onions, English, 70*s.* per ton; Beetroots, 60*s.* per ton; Cabbages, 2*s.* 6*d.* to 3*s.* per tally; Cauliflowers, 5*d.* to 1*s.* per dozen; Spinach, 1*s.* to 1*s.* 3*d.* per half peck; Cucumbers, 1*s.* to 1*s.* 9*d.* per dozen; Melons, 6*s.* per case of 24; Tomatos, 6*s.* per doz. lb.; Walnuts, Green, 4*s.* per bushel; Grenoble Walnuts, 20*s.* per bag; German do., 10*s.* do.; Grapes, 9*d.* per lb.; Apples, 4*s.* to 5*s.* per bushel; Pears, 3*s.* to 6*s.* do. Horseradish, 1*s.* to 1*s.* 2*d.* per bundle.

POTATOS.

BOROUGH AND SPITALFIELDS: *October* 16.—Quotations ranged from 45*s.* to 85*s.* per ton.

STRATFORD: *October* 16.—Quotations: — Magnums, Dark-land, 45*s.* to 50*s.*; do., Light-land, 50*s.* to 70*s.* per ton.

FARRINGDON: *October* 18.—Quotations: — Bedford's Colossal, 80*s.* to 90*s.*; Triumphs, 90*s.* to 100*s.*; Sutton's Abundance, 70*s.* to 80*s.*; Main Crops, 70*s.* to 80*s.*; Bruces, 60*s.* to 65*s.*; Magnums, 60*s.* to 65*s.* per ton.

LONDON AVERAGES: *October* 17.—Snowdrops, 80*s.* to 90*s.*; Kidneys, 60*s.* to 80*s.*; Magnums, 50*s.* to 70*s.*; Main Crop, 65*s.* to 85*s.*; Hebrons, 70*s.* to 85*s.*; Black-lands, 45*s.* to 55*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 132*s.*; do., inferior, 45*s.* to 128*s.*; hay, best, 60*s.* to 120*s.*; do., specially picked, 130*s.*; do, inferior, 38*s.* to 60*s.*; Mixture, 90*s.* to 120*s.*; and Straw, 22*s.* to 38*s.* per load.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six varieties should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BEGONIA REX VARIETIES: *X. Y. Z.* The upper surface of the leaves was much gnawed by white thrips, of which great numbers were noticed still alive and active. You should use some means to exterminate the insects from these and other plants upon which they are doubtless to be found, before they come into greater activity in the spring. Some of the spraying insecticides would be useful on these Begonias, whose leaves cannot be sponged or dipped without injury to their appearance. The spraying should take place at intervals of a month or less, if the insects are observed. They are not easily got rid of by ordinary fumigation—besides, it does harm to the leaves. Whilst the Begonias are resting, during which time most of the leaves will have dropped, would be a good time to spray or dip them.

BOOKS: *Decorator.* The book to which you allude is out of print. Enquire at the office of the *Bazaar*, 171, Strand, London, W.C.—*S. P. D.* The most suitable for you is Williams' *Manual of Stove and Greenhouse Plants.* Anderson's work is a good one, but it is not up to date.

CATTLEYAS AND LÆLIAS FLOWERING IN THE AUTUMN: *S. W.* Cattleya labiata, C. l. Peacatorei; C. Eldorado, C. bicolor; and Lælia elegans prasiata, L. autumnalis and vars., L. Amanda, L. monophylla, L. Lindleyana, and L. Perrini, and vars.

CEDAR OF LEBANON ON CLAY SOIL: *Cedrus.* The trees would make good growth if the land be drained, and some amelioration of the staple can be effected by mixing with it during the carrying out of the trenching a good quantity of lightening matter, such as sand, gravel, ballast, &c. The stations for the trees ought to be raised 1 foot or more above the surrounding level, and a few dozen nurse plants planted round about, the aspect being exposed to the east. Larch, Spruce, Austrian Fir, Alder, Poplar, &c., would do.

COLD FRAMES FOR WINTER USE: *Richards, Cheshire.* See reply given to "X." at p. 418, of our issue for October 6.

CORRECTION.—In article on "Thinning Forests," p. 401, column 3, line 41, read 1875, not 1873; and in line 77 of same article, after 7 inches read cube.

DAISIES IN LAWN: *M. K. G.* Watson's Lawn-sand is said to destroy them. Spudding is an effectual but a tedious method. Where the mowing-machine is used Daisies increase amazingly, and if the plants are not very numerous in your lawn, letting the grass grow long, and mowing it at intervals of a month or six weeks with the scythe checks seeding. Machine-mowing at short intervals weakens the plants, so that the flower-stalks become very much dwarfed, and many flowers are passed over by the machine, which produce seed in due time. A dressing of guano will help the Grasses to overcome the weeds.

D.ŒC: *Forester.* "Œconomiæ Doctor" is a degree granted by some of the German Universities, such as that of Munich, after study in the Staatswirthschaftlich Facultät. No British University grants any such degree.

EARTH-WORMS: *J. T.* The earth-worms may be brought to the surface by watering the soil with water impregnated by quick-lime, letting the water become clear before it is used. The worms when once at the surface should be gathered up. If on turf, they may be swept or raked up. We do not think that the Lilium auratum bulbs have been killed by the worms, although you have found them at the heart of the bulbs; and the Primroses may have been gnawed just above the ground by slugs, the grubs of weevils, or what not. The worms are quite incapable of gnawing through the stem of a Primrose. The slugs and the weevil larvæ are responsible for much loss of plants in the garden. If slugs abound, treat them to salt and lime, or salt and wood-ashes in the evening at feeding-time; or when frost appears certain, and the ground is still soft, spread litter very thinly about among your plants, and the slugs being fond of shade and shelter, will creep under this, but it being no protection against frost, they will be killed wholesale by the low temperature.

GRAPES: *A. P., Cardiff.* The Grapes are badly shanked, which may be due to a variety of causes, the chief of which are a soured pasty soil, insufficient drainage, denudation of large quantities of leaves and shoots at or about the colouring period, and over-cropping; almost every variety is liable to it in a greater or lesser degree. You yourself will be better able to judge of the cause of your Grapes shanking than we.

INSECTS: *Geo. Abbey.* We were unable to find any in or about the mould you sent with young Cabbage plant. Probably none enclosed, or, if enclosed, then killed, and afterwards undiscernible. —*Eurycles: W. R.* The bulbs are attacked by the grubs of the Narcissus-fly (Merodon); this may give you some clue to the history. There is no connection with any former attack of Eucharis mite. Carefully destroy all infested bulbs, and replant the sound ones in fresh clean earth. *R. McL.*

LILIUM HARRISII: *J. T.* This is properly L. longiflorum, variety Harrisii, and it may be planted at this season in pots or the open ground—it is the proper season to plant bulbs which spoil by being kept out of the soil. They may be kept, however, out of the soil as late as June, if wrapped in clay, and kept cool in the Japanese method. It is best not to allow Lilium auratum to remain in the soil all the winter unless the latter is warm, dry, well drained, and rats do not exist about the place. Take them up and pot them, keeping the soil damp and cool, storing them out of doors in tree leaves with tiles or pieces of slate over the pots, so as to afford no ingress to rats and mice. Do not put so many leaves about the pots as will induce warmth by fermentation, it being only the frost that should be excluded, and exciting warmth in the winter would cause growth, that is, top growth before any roots form.

MONSTERA DELICIOSA: *R. M.* A soil rich in vegetable matter; say leaf mould and peat, with sufficient sand (coarse) to keep it open and prevent rapid souring. Good drainage and large pots or tubs, or a border. Grow in an ordinary hothouse; the plant does not suffer if grown in a shady place, although to ripen the fruits properly it should have direct sunlight. The leaves do not readily burn except under very large panes of glass, and they are very close to them. Keep moderately moist in the winter, and afford plenty of water, and occasionally manure-water whilst actively growing. But unless there is plenty of space for the plant to ramble, the latter should be rarely afforded, and certainly not the first year after planting in fresh soil. The plant looks well if planted at the foot of a stout oaken post or a young Larch tree in the rough, or allowed to run over rockwork. If you would keep the plant of moderate dimensions, grow it in a pot and re-pot biennially. It belongs to the N. O. Aroideæ, and is a native of Jamaica.

NAMES OF FRUITS: *W. N.* 1, Flemish Beauty; 2 Louise Bonne of Jersey; 3, Beurré d'Aremberg.—*F. W. S.* 1, Beurré d'Amanlis; 2, Beurré Superfin; 3, Marie Louise; 4, Beurré d'Aremberg; 5, Not known; 6, Verulam.—*P. M.* Most of the numbers detached from the fruits, having been pinned on—a bad practice. The large long Pear is Uvedale's St. Germain, the large round one Gansell's Bergamot, the reddish-skinned Beurré Clairgeau, small fruit Beurré Diel. No. 3, Brown Beurré.—*G. Davison.* 1, Josephine de Malines; 2, Knight's Monarch; 3, Fondante d'Automne; 4, Beurré Bachelier.—*W. T. Holmes.* 1, Belle de Bruxelles; 2, Louise Bonne of Jersey; 3, Not known.—*W. S. L.* 1, Van Mons. Léon le Clerc; 2, Rotten; 3, Cox's Pomona or Emperor Alexander.—*D. E.* 1, Glou Morçeau; 2, Marie Louise d'Uccle.—*Burghley.* 1, Beurré Superfin; 2 Paradis d'Automne; 3, Apple Alfriston.—*Quintin Read.* 1, Pear Deux Sœurs; 2, Dutch Codlin; 4, Fearn's Pippin: 7, Landsberger Reinette. The others we do not know—not at all familiar to us. *T. A. N.* 1, Beurré Superfin; 2, Beurré Diel; 3, Marie Louise; 4, Louise Bonne of Jersey; 5, Passe Colmar.—*H. O. N.* (Thanks for 5*s.* for Orphan Fund.) 1, Van Mons. Léon le Clerc; 2, Chaumontel; 3, Not known; 4, Pitmaston Duchess; 5, Beurré Rance; 6, Past recognition.—*D. McDougal.* 1, Hoary Morning; 2, Ribston Pippin; 3, Margil; 4, Lemon Pippin.—*Carnarvon.* 1, Duchesse d'Angoulême; 2, Durondeau; 3, 7, Not known; 4, Doyenné Gris; 5 Maréchal de la Cour; 6, Yorkshire Greening.—*R. K.* Your Pear is Pitmaston Duchess.—*Preston.* Pear Virgoleuse, a very old variety, which is shy in fruiting when young, but is fruitful when aged. On warm soils in the south it is usually good, but on cold soils and districts almost worthless.

NAMES OF PLANTS: *E. J. B.* Cratægus punctata.—*J. C. Stogdon.* 1, Peziza aurantiaca; 2, Ticket loose; 3, Phallus impudicus; 4, Lenzites betulina; 6, Polystictus versicolor; 8, Stereum hirsutum; Polyporus betulinus. Two specimens in state of putrefaction could not be named; all badly packed. Each specimen should have been in separate paper. *M. C. Cooke.*—*W. Smith.* Ruellia Portellæ.—*C. J. Bottey.* Cornus mas, the Cornelian Cherry; flowers in very early spring.—*G. H. A.* 1, Thuya gigantea; 2, Cratægus coccinea; 3, a Viburnum; we cannot tell which from the specimen sent.—*J. K.* Juniperus chinensis.—*W. J. P.* 1, probably Pinus Lambertiana; 2, Cassinia fulvida, commonly, but erroneously, called Diplopappus chrysophyllus; 3, Alnus glutinosus var. laciniata; 4, Prumnopitys elegans; 5, Retinospora plumosa, silver variegated; 6, not recognised; send when in flower.—*The Hon. Mrs. F.* The word Dendrobium was a printer's error. Your plant is Saccolabium bigibbum.—*W. T., Cheltenham.* Ceanothus azureus var.—*L. C., Rugby.* The Cattleya, of which you send leaves, is suffering badly from fungous disease. It would be safer to isolate the plant.—*H. M.* Ficus rubiginosa, sometimes grown as F. australis.—*J. B. C.* Sibthorpia europea.—*S. P. D.* Agave americana variegata. The other is a species of Acacia, probably A. inermis.—*C. W.* 1, Prunella grandiflora; 2, Aster Amellus; 3 and 4, forms of Helianthus rigidus; 5, Helenium autumnale; 6, Montbretia crocosmæflora.

Orchid Committee: *Observer.* You are mistaken; the chairman, as is invariably the case, and as we have the best reason for knowing, had left the table before his exhibits were adjudicated upon by the committee.

Orchids at Manchester Botanical Garden: *B. A.* Our correspondent has the right to express his opinion. We cannot enter into the controversy.

Selling Price of Cypripedium Crosses: *S. W.* The prices vary so greatly, that we are unable to give even an approximate figure. Why not apply to someone cognisant with the value of Orchids, showing him the plants, descriptions having not much value in such cases.

Shrivelled Grapes: *Anxious One.* There was no fungus present on the Grapes sent, except superficial forms, which follow decay, and the shrivelling of the fruit must be due to imperfect treatment. Examine the state of the roots near the surface, and also low down in the soil, and send us some for inspection. *G. Massee.*

Smilax (properly Asparagus): *R. M.* The tender species do well in either peat or loam in the intermediate-house. If not required to ramble much, grow them in pots; but they do best planted out. Propagation is by means of suckers. The American fashion of training the shoots is by securing these to pieces of thin twine, stretched on the roof or front of the glasshouse, by which method long shoots can be removed intact. The plant does not require much water at any time.

The Best Grafter of Vines in England: *L. K. S.* The art is not much practised in this country, inarching by approach being the method usually adopted by gardeners. Sometimes the union of green shoots, i.e., in a half-grown state, is obtained by grafting. The method adopted by the continental vineyard cultivators is to take an ordinary bottle cork, split it in half lengthwise, cut out a shallow channel in the middle of each half, make a tongued splice of stock and scion, put the two pieces of cork round the point of union, taking care to have *one* bud on the stock just *beyond* the top of the cork, then complete the job by putting a tie of wire round the top and the bottom of the cork, twisting it tightly with the pliers. This kind of grafting should be done in the early spring, and it will succeed out of doors or under glass. When the graft has taken, the growth from the stock may be shortened and eventually cut clean away, and the joined parts covered with soil, which is easily done, seeing that the grafting is done quite low down. The cork being elastic will give way under the pressure of growth, and if ordinary thin bouquet-wire be used, that also will soon rust away, so that the removal of cork and ligature is unnecessary. We are unable to say who is the best grafter in this country. One of the best manuals on Vine culture is that by Mr. A. F. Barron, entitled, *Vines and Vine Culture*, published at 171, Fleet Street, E.C. The 3rd edition was brought out in 1892.

Tomatos: *R. J. B.* Except so far as it may have resulted from shade caused by leaves, &c., we are unable to account for the irregularity you complain of.

Vines: *J. H, Alnwick.* In view of the small fungus which moleats your Vines and the fruits, it would be advisable to use the Bordeaux Mixture about the house and on the Vines, making it rather weaker than the ordinary formula for safety's sake, and keep flowers-of-sulphur in pans of water in spots where it may be readily evaporated; also smearing the hot-water pipes with white-wash containing sulphur. Do not put any in evaporating-pans over the pipes when forcing begins, as these pans with or without sulphur are more injurious than otherwise.

Communications Received.—J. Busby.—G. C., Ochtertyre, next week.—D. McG.—C. W. Leyland, next week.—A.S.—M. T.—Barr & Son.—R. B.—W. T. T. D.—Tong.—J. H.—B. G.—C. M.—R. P.—Heaton.—J. D. C.—Constant Reader.—G. Kent.—W. W.—T. H. C.—A. C.—J. R. W.—F. J.—S. P. D.—H. R.—E. C.—T. A. N.—J. W. W.—J. C. S.—Dam. & Co.—J. J. W.—W. Brockbank.—W. G.—C. P. S.—J. P.—J. F. M.—F. G. B.—J. H.—J. B.—U. Dammer, Berlin.—N, S.—S. K.—T. H. S.—J. U.—H.—W. A. C.—J. E., Nostel.—E. M.—N. E. B.—F. Kränzlin, Berlin.—H. W. W.—C. C.—D. M., Dunrobin.—J. Hudson.—J. Lambert.—T. T.—C. T. D.—Rev. H, H. D.—A. P.—C. de B., Antwerp.—G. W.—R. D.

Photographs Received with Thanks.—J. R. (under consideration).—Keynes, Williams & Co.—Lane & Son.

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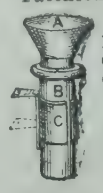
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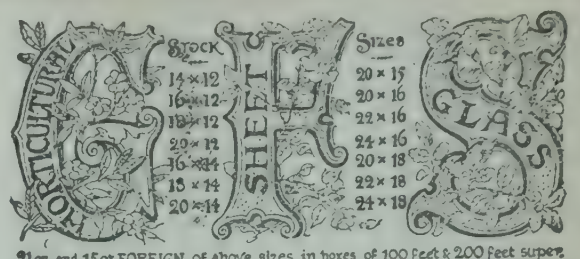
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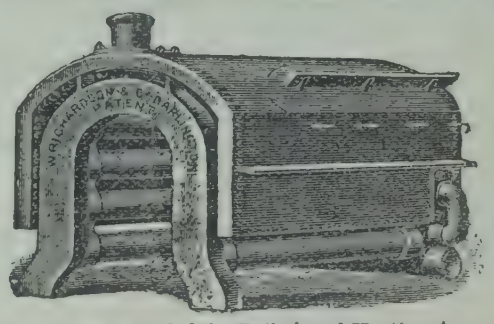
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Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.
1 Cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paint for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.
Grove Works, Lombard Road, Battersea, LONDON, S.W.
and BACHELOR'S WALK, DUBLIN.

XL ALL LAWN SAND.

NOW IS THE TIME TO USE IT.

An exterminator of Daisies, Plantains, Docks, and other unsightly Weeds from Lawns, and a Fertiliser for the Grass combined in one. Guaranteed the finest and most effectual preparation ever offered for the purpose. Please note the following, from a well-known Gardener:—"The Lawn Sand which I had from you last autumn far exceeded my expectations in results. Used on a very weedy and impoverished part of the lawn, the same has this season been most conspicuous by the luxurious growth and absence from weeds. I have no hesitation in stating that whoever may give it a trial will also be satisfied with the result. — T. TURTON, The Gardens, Maiden Erlegh, Reading."

A fine dry powder, supplied in air-tight tins:—2 lb., 1*s.*, 7 lb., 3*s.*; 14 lb., 5*s.*; 28 lb., 8*s.* 6*d.*; 56 lb., 16*s.*; 112 lb., 30*s.*

Carriage paid on 1 cwt. and upwards.

Full directions for use on all tins.

G. H. RICHARDS, Manufacturer, Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.

Trade supplied on best terms,

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10*s.* per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.

Terms, Cash with Order.

E. S. WILES AND LEWIS, Bone Crushers, St. Albans.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.*, from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

FISH MANURE for VINES and PLANTS.—GEO. HARRIS, Esq. (Head Gardener to His Grace the Duke of Northumberland), Alnwick Castle Gardens, writes:—"I have applied your Manure to Vines and many kinds of plants with excellent effect." In 1 cwt. bags, £3 10*s.* per ton, 4*s.* 6*d.* per cwt. Carriage paid.—THE GREAT GRIMSBY POULTRY GRIT AND MEAL COMPANY, Grimsby.

CROSS'S GARDEN FERTILISER.—For Vines, Pot Plants, Fruit Trees, Vegetables.

MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.

ALEXANDER CROSS AND SONS, 79, Mark Lane, London.

HUGHES' VAPOUR ROLL
FUMIGATORS.

ONE SHILLING EACH.

For Houses, 1200 cubic feet. Can be divided for smaller Houses.

They burn with a pleasant aromatic smell, kill green-fly, thrip, &c., and are the safest ever made. Sample rolls, post-free, twelve Stamps. Sold by all Seedsmen.

Patentee—

E. GRIFFITHS HUGHES,

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WANTED, Gardeners and others, to send for particulars of NEW DOUBLE LADDER. It stands quite independent, or by withdrawing bolt at top you have two ladders.—Particulars of BATCHELAR, 48, Hammersmith Road, W. Patent applied for.

C. BEESON'S MANURE.—Composed of Blood and Bone. The Best Fertiliser for all purposes. Sold in tins, 1*s.*, 2*s.* 6*d.*, and 5*s.* 6*d.*; also in air-tight bags, ¼ cwt., 6*s.*; 1 cwt., 10*s.* Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.

"12, Knowle Road, Brixton, London,

"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.

"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

ARMITAGE'S INVINCIBLE MANURE.

STIMULATING! ECONOMICAL! LASTING!

The Best Fertilising Compound.

Report of Analysis made by Alfred Sibson, F.C.S., the Analytical Laboratory, 23, St. Mary Axe, London, E.C.:—

"This is a HIGH-CLASS CHEMICAL MANURE, especially suited for Garden use. It contains about 6½ per cent. of Ammonia derived from Organic matter, Ammonia Compounds, &c., and with a good proportion of Phosphates (both soluble and insoluble), Potash, &c. As its physical properties or 'condition' is also well attended to, it will, in my opinion, be found a VALUABLE MANURE for GENERAL HORTICULTURAL PURPOSES. (Signed) ALFRED SIBSON, F.C.S."

PRICES.—In Tins: 3*d.*, 6*d.*, and 1*s.* each; or Free by Post for 6*d.*, 10½*d.*, and 1*s.* 6*d.* In Bags: 7 lb., 1*s.* 6*d.*; 14 lb., 2*s.* 6*d.*; 28 lb., 4*s.*; 56 lb., 7*s.* 6*d.*; 112 lb., 14*s.* 6*d.*

☞ All Orders for **One Cwt.** and upwards **delivered Free** to any **Railway Station** in the Kingdom.

ARMITAGE BROS., NOTTINGHAM.

☞ Please name this Paper.

THOMSON'S
VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at Home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.

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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.

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SOLD BY ALL SEEDSMEN.

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WOOD'S PRIZE MANURES
AGAIN TO THE FRONT.

W. WOOD & SON have much pleasure in announcing that numerous First and other Prizes have been awarded to users of their Manures, one Gardener alone having taken SIX PRIZES, and this has been his yearly record every year for Six Years past—SIX PRIZES EVERY YEAR FOR SIX YEARS!

Unsolicited Testimonials from most of the REPRESENTATIVE GROWERS THROUGHOUT THE KINGDOM prove that, for Best and Most Lasting Results—

WOOD'S MANURES ARE UNEQUALLED!

ORCHID, AND OTHER PEATS.

W. W. & S. ORCHID PEAT, Best Quality in the Market! FULL OF RICH, BROWN, HARD BRACKEN FIBRE.

W. W. & S. HARDWOOD PEAT (Square Tough Turves!) is especially good this season, FULL OF THE REAL FIBRE—FOR STOVE PLANTS. SPECIAL OFFER WITHIN THE NEXT FORTNIGHT TO CLEAR GROUND.

W. W. & S. GENERAL or **RHODODENDRON PEAT,** 15*s.* per ton, free on rail, Hants.

BROKEN RICH BROWN PEAT, 6*s.* per yard.

☞ *ORDER EARLY TO INSURE THIS QUALITY.*

LOAMS.

W. W. & S. are still cutting their celebrated SURREY LOAM, SELECTED TURVES, FULL OF FIBRE. Also a Good Useful Fibrous Loam, ready for Use. On rail from yard, Wood Green; reduced to 6*s.* per yard. *This is an exceptionally Cheap Line! Order Early to insure this Quality.*

W. WOOD & SON, F.R.H.S., WOOD GREEN, LONDON, N.

ECONOMICAL—SAFE—LASTING
CLAY'S MANURES

CLAY'S FERTILIZER LONDON — TRADE MARK.

Are used by the Leading Growers Royal Botanic Society, Royal Horticultural Society, Royal Parks, London County Council, throughout the United Kingdom and in

S.C. CLAY'S INVIGORATOR — TRADE MARK.

EVERY QUARTER OF THE GLOBE, FOR

ALL HORTICULTURAL PURPOSES.

SOLD by SEEDSMEN, FLORISTS, and NURSERYMEN, In 6d. and 1s. Packets, and SEALED BAGS:—

7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
2s. 6d.	**4s. 6d.**	**7s. 6d.**	**12s. 6d.**	**20s.**

Or direct from the Works, Carriage Paid in the United Kingdom for Cash with order (except 6*d.* Packets).

☞ **The respective Trade Mark is printed on every Packet and Bag, and also impressed on the lead Seal attached to the mouth of each Bag, which is**

THE ONLY GUARANTEE OF GENUINENESS.

Crushed Bones, Peruvian Guano, Sulphate of Ammonia, Nitrate of Soda, and other Manures. Tobacco Cloth and Paper. Best Qualities only. Prices on Application.

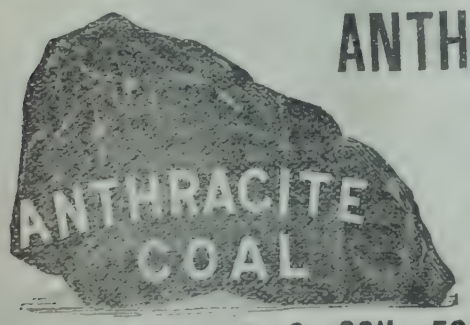
CLAY & SON,

Manure Manufacturers, Bone Crushers, &c.,

TEMPLE MILL LANE, STRATFORD, LONDON, E.

THE BEST & CHEAPEST FUEL for GREENHOUSE BOILERS, STOVES, & HEATING APPARATUS.

ANTHRACITE SMOKELESS COAL.



G. R. CARTER AND SON supply their large NUT or COBBLE COALS (the Nuts being about the size of a Walnut, and the Cobbles about the size of a man's fist), delivered by van, at any address within the 4 mile radius of Charing Cross; or in truckloads, at any Railway Station. This Coal is **absolutely smokeless,** and it requires much less attention than any other description of fuel, burning for twelve hours at least without any supervision, and giving from five to ten degrees more heat than Coke. Quotations on application to—

G. R. CARTER & SON, 53, 54, & 55, COAL EXCHANGE, LONDON, E.C.

NEW ILLUSTRATED LIST, Post-free.

1000 HOUSES IN STOCK to Select from.

W. COOPER, LIMITED,

HORTICULTURAL PROVIDERS—*the Original Inventors of Cheap Greenhouses,*

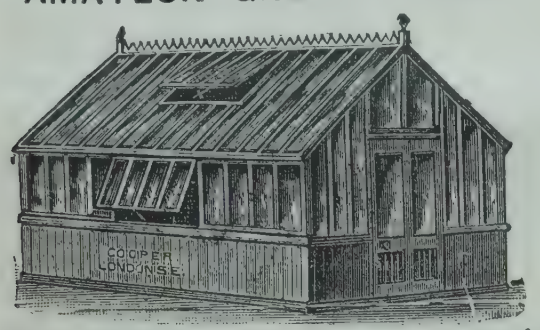
755, OLD KENT ROAD, LONDON, S.E.

NURSERIES—HANWORTH AND FELTHAM.

The Largest Steam HORTICULTURAL WORKS In the World.

Inspection Invited

AMATEUR GREENHOUSES.



This Illustration is an exact copy of my Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with Ventilators, Irons for Opening, Staging, Glass, &c. Made in Sections, so that they can be erected by any gardener or handy man in a few hours. Simply screwed together.

Delivered and erected complete within 20 miles.

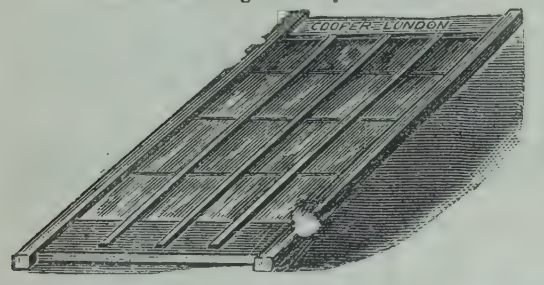
Length.	Width.	Height.		On Rail.	
7 ft. ...	5 ft. ...	7 ft.,	4 ft. to eaves	£2 16	£4 0
8 ft. ...	5 ft. ...	7 ft.,	4 ft. ,,	3 10	5 0
9 ft. ...	6 ft. ...	7 ft. 3 in.,	4 ft. ,,	4 0	5 10
10 ft. ...	7 ft. ...	7 ft. 6 in.,	4 ft. 6 in. ,,	5 0	6 15
12 ft. ...	8 ft. ...	8 ft.,	5 ft. ,,	6 0	8 0
15 ft. ...	10 ft. ...	8 ft. 6 in.,	5 ft. ,,	8 10	12 0
20 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	12 0	16 0
25 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	16 0	21 0
50 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	30 0	40 0
100 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	50 0	70 0

Deduct 10 per cent. if required for brickwork.

Any size made. For Price of Lean-to, see List.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



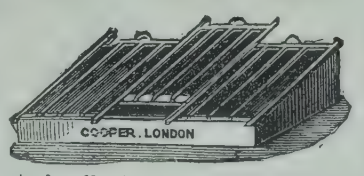
These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	5 0
4 ft. by 3 ft., ,, ,, ...	6 6
6 ft. by 4 ft., ,, ,, with 21-oz. glass ...	9 0
6 ft. by 4 ft., unglazed lights	3 6

Special quotations for large quantities.

See page 278 in List.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz., 100 ft.,	21-oz., 100 ft.
4ths	... 8*s.* 3*d.*	... 11*s.* 3*d.*
3rds	... 9*s.* 0*d.*	... 12*s.* 3*d.*

10,000 Boxes to select from.

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 16*s.*; per cwt., 34*s.*

IMPORTANT.

We beg to inform all readers of this Paper that the Third Edition (100,000 copies) of our Revised PRICE LIST, consisting of 400 Pages and about 1200 Illustrations, bound in cloth, is Now Ready. We shall have much pleasure in forwarding to all applicants one post-free. This List is the most complete in the Trade, and has cost several thousand pounds to produce.

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Special Quotations given for large quantities of Timber, Iron, and Glass.

Address all Communications, "Trade Dept."

MANURES, PEAT, SAND, FERTILIZERS, &c.

1-lb. tins Fertiliser	per dozen	£0 4 9
1-lb. tins Sunshade	,,	0 6 3
Cocoa-nut Fibre Refuse	per sack	0 1 0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0 2 0
Best Orchid Peat	,,	0 3 0
,, Rhododendron Peat	,,	0 1 0
,, Brown Fibrous Peat	,,	0 2 0
,, General Peat	,,	0 1 9
,, Loose Peat	,,	0 1 9
,, Surrey Loam	,,	0 1 9
General Potting Compost	,,	0 1 6
Fern Compost	,,	0 1 6
Bulb Compost	,,	0 1 6
Leaf Soil, well decayed	,,	0 2 0
Pure Wood Charcoal	,,	0 2 6
Worm Destroyer	per ½-pt.	0 0 6
Insecticide	... each	0 0 3
Tobacco Paper, 6*d.* per lb.	per cwt.	1 16 0
Wonderful New Mushroom Spawn ...	... bushel	0 2 6

All Sacks and Bags free. Send for List, post-free.

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WELL-SEASONED RED and YELLOW DEAL.

SASHBARS. 1¼ in., 3*s.*; 2 in., 3*s.* 9*d.*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

MATCH BOARDS, ⅝, 6*s.* per square; 1-in., 10*s.* 6*d.* per square.

FLOOR BOARDS, 1-in., 9*s.* per square.

FEATHER EDGE BOARDS, ¾ by 6, 6*s.* 6*d.* per square.

DEALS, 3 by 11, Yellow, 4*d.*; 3 by 9, 3¼*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d.*; 2 by 6, 1*d.*

CUTTING FLATING, 9*d.* per 100 ft.; Deeping, 2*s.* 3*d.* dozen 12 ft.

SLATING BATTENS, ¾ by 2, 1*s.* 3*d.* per 100 ft.; ¾ by 1, 7*d.* per 100 ft.

HALF GLASS DOORS, 4 ft. 6 in. by 2 ft. 6 in., 6*s.* each, 6 ft. by 2 ft. 6 in., 7*s.*; Marginal Light, 6 ft. 6 in. by 2 ft. 6 in., 10*s.*

VENTILATORS, TOP or SIDE, 2 ft. 6 in. by 2 ft., 2*s.* each.

FINIALS, MACHINE-TURNED, 12 in. high, 6*d.* each; 4*s.* 6*d.* per dozen.

TRELLIS, Planed, Extended—

Open.	s. d.	Open.	s. d.
12 ft. by 1½ ft.	2 0	12 ft. by 3½ ft.	4 6
12 ft. by 2 ft.	3 0	12 ft. by 4 ft.	5 6
12 ft. by 2½ ft.	3 6	12 ft. by 5 ft.	6 6
12 ft. by 3 ft.	4 0	12 ft. by 6 ft.	8 0

MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9, best Red Deal, all planed, rabbeted, &c., ready for use. Send for Specification.

The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

All Timber consigned at the Cheap Timber Rate to all parts of the country. Send for TIMBER LIST.

POULTRY HOUSES.

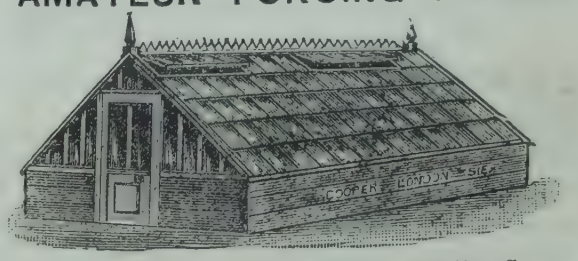
Well and substantially constructed, are warranted waterproof, complete with door, ventilator, and slide, from 20*s.*



5ft. by 4 ft.	25*s.*
6 ft. by 4 ft.	30*s.*
7 ft. by 5 ft.	36*s.*
9 ft. by 6 ft.	42*s.*

Send for List.

AMATEUR FORCING HOUSE.

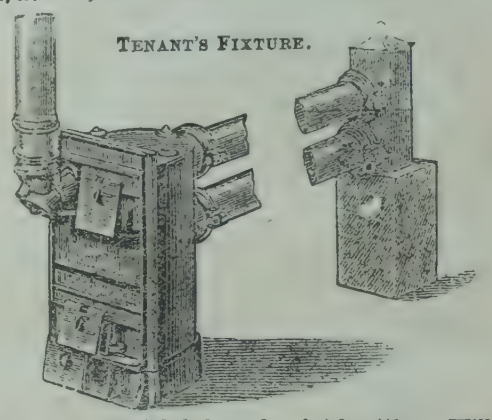


The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft., £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s*; No. 6, 500 ft., £9; of 4-in. pipes.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

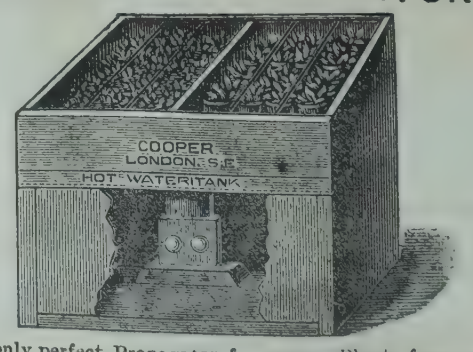
Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 45 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

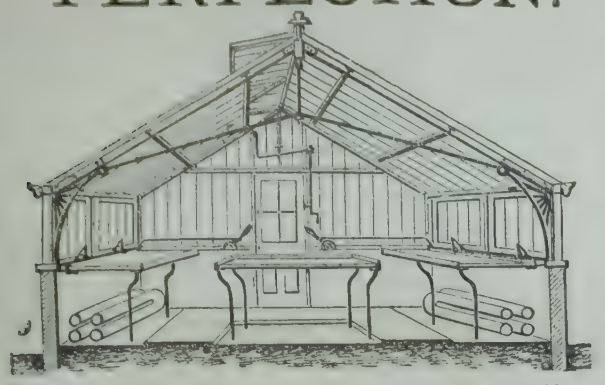
THE RAPID PROPAGATOR.



The only perfect Propagator for raising Plants from seeds, slips, or cuttings:—

1 ft. 8 in. by 1 ft. 6 in.	£1 0 0
2 ft. 6 in. by 1 ft. 10 in.	1 4 0
4 ft. by 2 ft.	1 8 0

"PERFECTION."



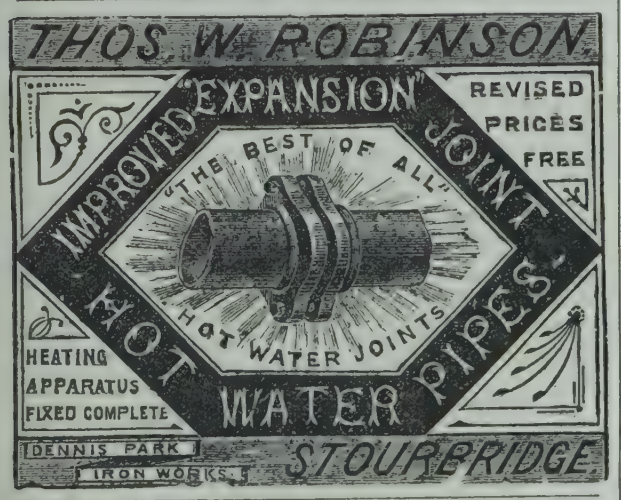
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W. PARHAM, Northgate Works, BATH.



ORCHID BASKETS, RAFTS,

BOATS, and CYLINDERS,

AND ALL GARDEN SUNDRIES.

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From the Largest Manufacturer in the Trade,

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21, GOLDSMITH ST., DRURY LANE, W.C.

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ARE THE **FLOWER POTS** BEST.

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SAMPLES and LISTS FREE. Crates packed.



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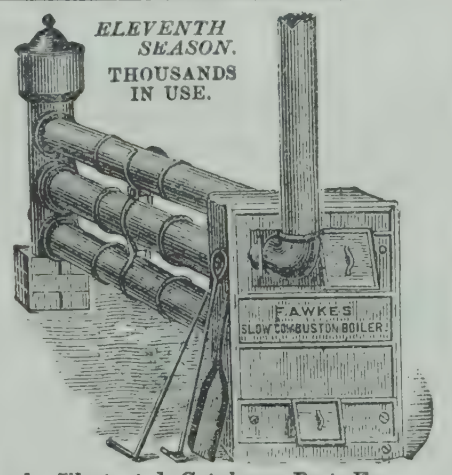
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Most Efficient and Cheapest in existence.



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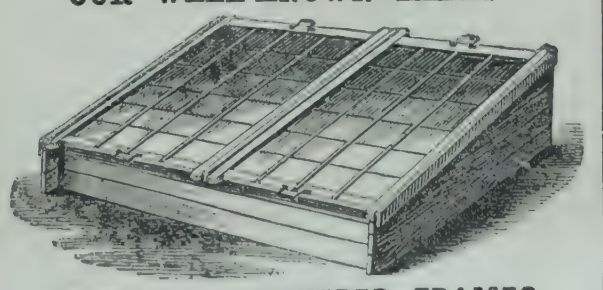
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Publishing Office and Office for Advertisements,
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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

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THE

HORTICULTURAL DIRECTORY
For 1895.

NOTICE.—Gardeners who have changed their Situations during the present year, are requested to send the Editor of above Annual, AT ONCE, full particulars of their appointments.

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GARDENING APPOINTMENTS.

MR. W. JUPP, formerly Gardener at West Hill House, Dartford, Kent, as Head Gardener to Mrs. W. G. HEAD, Ingress Cliff, Greenhithe, Kent.

Mr. FRANCIS ALLEN, formerly Gardener at Hylton Castle, Sunderland, as Gardener to the Right Hon. Viscount MASSEREENE, Antrim Castle, co. Antrim, Ireland.

Mr. W. THOMAS MAXWELL, for the past two years General Foreman at Ayton Castle, Berwickshire, N.B., as Gardener to Mrs. FOX LARRATT, Ellary, Ardrislaig, Argyllshire.

Mr. S. HORTON, Head Gardener to Mrs. REID, Shipton Court, Chipping Norton, Oxfordshire.

Mr. R. HATCHER, fourteen years Gardener at Dobroyd Castle, Todmorden, Lancashire, as Gardener to Mrs. J. S. TAYLOR, Ashdown, Apperley Bridge, Leeds, Yorkshire.

Mr. ARTHUR HENRY COOPER, late Gardener at Malvern House, Sydenham, as Assistant Superintendent, Botanic Gardens, Old Calabar.

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WANTED, as GARDENER and GROOM, a steady, respectable Man, not over 40 years of age, thoroughly understanding both duties, including Greenhouses. State age, what family, wages required.—SIDDONS, Wynnstay House, West Bromwich.

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GARDENER.—The DOWAGER LADY LEWIS recommends a Gardener, age 30, single, as Second of four, or First of two or three. Ten years' experience as Second in good Gardens. Satisfactory references.—J. GRIFFITHS, Harpton Court, Kington, Herefordshire.

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GARDENER (UNDER).—Age 19; four years' experience Inside and Out. Been apprenticed; total abstainer; small premium offered.—F. BEAUMONT, The Central Schools, Bournemouth.

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FOREMAN, in the Houses, in large establishment.—Age 29, single; good character from last situations in large establishments as Foreman.—W. WRIGHT, Tilbury Hill, Halstead, Essex.

FOREMAN, in a good establishment.—Age 27; fourteen years' experience in Fruit and Plant Culture. Good references.—W. GATES, 38, Stamford Road, Fulham, S.W.

FOREMAN.—Age 26; eleven years' practical experience Inside and Out; house and table decoration. Good references. Disengaged November 10.—GREENLEES, Leed's Castle Gardens, Maidstone, Kent.

FOREMAN or GROWER (experienced).—Age 28; fifteen years' experience; good character.—GROWER, 2, Orchard Terrace, Chichester.

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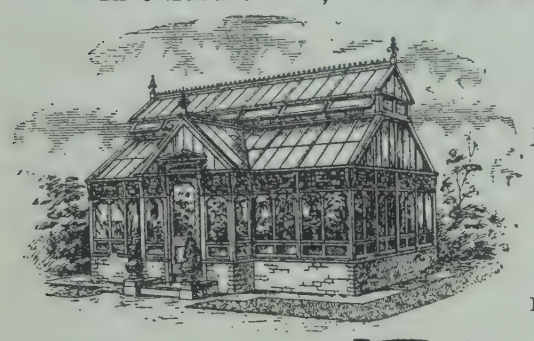
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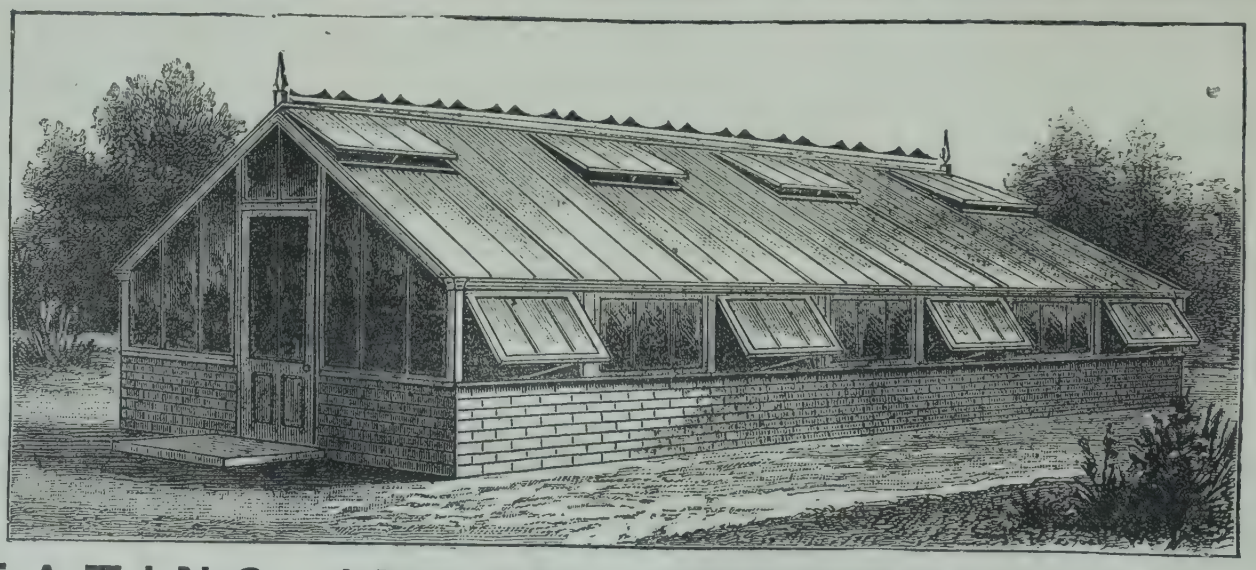
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A grand lot of Maréchal Niel, 32's, 6 to 8 feet; 24's, 12 to 14 feet. Gloire de Dijon, 8 to 10 feet; in 24's, do. from ground, 3 to 4 feet. White Banksian, 4 feet. W. A. Richardson, in 32's, 5 feet; extra strong, 8 to 10 feet. L'Ideal, 5 to 6 feet; do., 10 to 12 feet. Madame Pierre Cochet, 6 feet; do., 10 to 12 feet. Madame Carnot, 10 to 12 feet. Reine Marie Henriette, 10 to 12 feet. Climbing Niphetos, 6 feet; do, 10 to 12 feet. Cheshunt Hybrid, 8 to 10 feet. Climbing Perle des Jardins, 6 to 8 feet. Beauty of Glazenwood, 3 feet. Splendens, 3 feet. Bennett's Seedling, Williams' Evergreen, Dundee Rambler, Ruga, and many others of this section. A grand lot of Tea Roses, in 48-pots, fine healthy stuff, including Madame Falcot, Catherine Mermet, Sunset, Souvenir d'un Ami, Isabella Sprunt, Madame Lambard, Perle des Jardins, Saffrano, Francisca Kruger, and many others. Standards and Dwarfs, a fine lot, consisting of the best kinds in cultivation.

25,000 CLEMATIS,

And other Climbers, including fine strong stuff, including Jackmanni, J. superba, Star of India, Duchess of Edinburgh, Gipsy Queen, Beauty of Worcester, Lucy Lemoine, rubra violacea, lilacina floribunda, Mrs. Bush, Grand Duchess, and other first-class varieties; also 2000 Ampelopsis Veitchii, 3 to 4 feet, and 4 to 5 feet; A. Hederacea, 4 feet; 500 A. hirsuta, 4 feet; Hoggi, 1½ foot, bushy; and Veitchi purpurea, 3 feet; Hederacea, new clinging variety; 250 Escallonia Ingrami, 3 feet; 200 Bignonias of sorts, 3 feet; 5000 Ivies, in variety, including Hedera Maderiense variegata, 3 to 4 feet; Emerald Gem, H. Donerailense, 3 to 4 feet; H. Taurica, 3 to 4 feet; H. Cavendishi variegata, 2 feet; H. latifolia maculata, 3 feet; New Bronze, 3 feet; canariense, 3 to 4 feet; chrysophilla, H. marginata rubra, 3 feet; H. marmorata minor, 3 feet; and many other varieties; many thousands of Akebia quinata, 3 feet; Cotoneaster Simmondsi, C. microphylla, bushy; Plumbago of sorts, Cydonia japonica and Maulei, fine bushy stuff; Jasminum nudiflorum, Loniceras, in great variety; brachypoda, 3 feet; flexuosa, 3 feet; Hallii, 3 feet; Cratægus Lelandi, 2½ feet, well-berried; Passiflora cœrulea, hybrida elegans, 3 feet; edulis, 3 feet; and Constance Elliot, very strong, 3 to 4 feet; Habrothamnus coccineus, 3 feet; and elegans, 3 feet. Magnolia grandiflora, 3 to 4 feet; extra fine, and many other popular varieties.

25,000 CARNATIONS and PICOTEES, named varieties, Consisting of all the finest varieties, including Germania, the best yellow; Mrs. Reynolds Hole, salmon-apricot; Mrs. Frank Watts, the best white; Horace, a brilliant rich scarlet; Terra-cotta, very free-blooming; Redbraes, purple-edge Picotee; Sir Beauchamp Seymour, orange-buff; Gloire de Nancy, large white Clove; Lord Byron, brilliant scarlet; Alice Ayres, pure white, striped carmine; Princess Alice, rich bright salmon; Danger, brilliant scarlet; Fireman, rich bright scarlet; and many other first-class varieties, in the finest possible condition; also,

5,000 NEW CARNATIONS,

Consisting of Lady Wantage, the finest White yet raised; Duke of York, rich blood crimson; Duchess of Fife, bright rosy-pink, a grand market variety; Mrs. E. Nelmes, bright rose-pink, fine strong plants in pots. 10,000 HER MAJESTY PINK, ERNEST LADHAMS, and others. Thousands of Pink and other Malmaison Carnations.

10,000 HOLLYHOCKS, selected to colour.

Pyrethrums, Phlox, Pæonies, all of the best varieties, both single and double, and all strong plants.

250,000 of finest Berlin Crowns LILY OF THE VALLEY.

100,000 SPIRÆA COMPACTA MULTIFLORA, Spiræa japonica, Dielytra spectabilis, clumps and crowns, Lily of the Valley, Spiræa palmata, S. Astilboides, Spiræa palmata alba, Solomon's Seal, Helleborus, Calla nana compacta, Calla Little Gem, Calla æthiopica, and many other first-class varieties.

100,000 SEAKALE, ASPARAGUS, &c. RHUBARB, GLOBE ARTICHOKES, &c.

50,000 LILIES and NARCISSUS, extra fine home-grown; among these will be found extraordinary fine roots of Lilium Colchicum, Browni, Chalcedonicum, Humboldti, the lovely Lilium Lowii, from Burmah; Lilium Nepaulense, Wallichianum, Harrisi, Martagon album Pardalinum, Dalmaticum, Washingtonianum, speciosum album, rubrum, and roseum, very fine bulbs; giganteum, and other rare and beautiful varieties.

ORNAMENTAL TREES and SHRUBS.

A grand lot of fine bushy plants, consisting of 2,000 Veronica Traversi, Buxifolia, carnosula, Cotoneaster microphylla, fine stuff, in pots; Cistus, of sorts, 500 Olearia Haasti, and Gunniana, Lombardy Poplars, fine stuff, 10 to 14 ft., well furnished; a grand lot of Aralia Sieboldi; 1,000 Oval-leaved Privet, good stuff; Deutzia gracilis, Hydrangea paniculata, and many other useful varieties; thousands of Hellebores, and other choice perennials, including Eulalias, hundreds of Pampas Grass, fine stuff, in 48's, and other Ornamental Grasses, Everlasting Peas, Anemone japonica, several varieties; Sunflowers, Gaillardias, Poppies, Centaurias, Doronicums, Lychnis viscoria splendens plena, Campanulas, Rudbeckias, Yuccas; a grand collection of Iris, fine strong clumps, including the best forcing varieties; Pumila of sorts; Olbiensis of sorts; Sibirica of sorts; Florentina, the sweet-scented variety; Germanica in great variety; Kæmpferi, and many others; Delphiniums, thousands of Hollyhocks, and hundreds of other important families too numerous to mention.

The Stock may be viewed any day prior to the Sale. Catalogues may be had on the premises; and of the Auctioneers, Land and Estate Agents and Valuers, 67 & 68, Cheapside, London, E.C

Whitstable-on-Sea.

Several FARMS, from 2 to 18 acres. Also COTTAGE FARM-HOUSE, and Farm Buildings, all in excellent repair, with Garden and Orchard, 13 acres of rich old Pasture Land, known as Pye-alley Farm, situate on the main coach road from Canterbury to Whitstable. The various lots are adapted for Dairy and Poultry Farming, Market Gardening, and Fruit Growing.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at the Mart, Tokenhouse Yard, E.C., on TUESDAY, October 30, at 2 o'Clock, in several lots.

May be viewed. Plans and particulars may be had at the Mart; of Messrs. GODWIN AND SON, Solicitors, 51 and 52, Wool Exchange, E.C.; and of the Auctioneers, 67 and 68, Cheapside, E.C.

Shortlands Nursery, Bromley, Kent.

CLEARANCE SALE of well-grown NURSERY STOCK, owing to the expiration of lease of this Branch Nursery, by order of Mr. J. B. Bryant, without reserve.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, the Shortlands Nursery, Beckenham Lane, Bromley, Kent, on WEDNESDAY, November 7, at 12 o'Clock, 1000 BORDER SHRUBS, in great variety; 400 SHRUBS in pots, 1000 CUPRESSUS and THUIAS, 2 to 7 feet; HOLLIES, YEWS, 1000 LAURELS, 2 to 4 feet; PRIVET, 600 Standard and Dwarf ROSES of the choicest named sorts, 2000 Flowering and Deciduous SHRUBS, 2000 LIMES, CHESTNUTS, POPLARS, and other Standard Trees; 1000 APPLES, PEARS, and other Fruit Trees; 200 named CARNATIONS in pots, &c.

May now be viewed. Catalogues may be had on the Premises; at Mr. BRYANT'S, Home Nursery, opposite Shortlands Station; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Ottershaw Nurseries, near Chertsey, Surrey.

About 1 mile from the Chertsey Station.

Highly important FOUR DAYS' SALE of exceptionally well-grown NURSERY STOCK, for which these Nurseries are so famed, by order of Messrs. Fletcher Brothers, in consequence of the decease of the late Mr. William Fletcher, and retirement of his Executrix from the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on November 12, and THREE FOLLOWING DAYS, at 12 o'Clock precisely each day, without reserve, 20,000 Evergreens and Conifers, adapted for immediate effective planting, and including 100 lots of fine grown Border Shrubs, and extensive quantities of Cupressus, Retinosporas, Thujas, and Piceas, 10,000 Weymouth and other Pines, 1,500 Gold and Silver, Variegated and Green Hollies, 500 Bushy Portugal Laurels, 3,500 Laurels in variety, 1500 Rhododendrons, 1½ to 5 feet, best named sorts, 2,000 Ponticum Rhododendrons, 1½ to 2½ feet, 500 Kalmias, 5,500 Standard and Dwarf Roses, embracing 1,500 Standards, and 4,000 Dwarfs, all carefully named; 30,000 Manetti Stocks, 10,000 Apple Stocks; 4,000 Standard Ornamental and Forest Trees, 6 to 15 feet, consisting of Limes, Poplars, Elms, Horse Chestnuts, Birch, Planes, Laburnums, Spanish Chestnuts and Mountain Ash; 500 Weeping Elms, with fine heads and good stems; 3500 Copper Beech, 3 to 7 feet, beautifully coloured; large quantities of Flowering and Deciduous Shrubs in variety, 30,000 extra strong Quick, 7000 strong Larch, 2 to 4 feet, Ampelopsis Veitchi, Ivies in pots; 8700 Fruit Trees, cleanly grown and true to name, comprising 3000 Standard and Bush Plums and Cherries, 1500 Farleigh Damsons, 2000 Standard and Bush Apples, 2000 Standard and Bush Pears, 250 Dwarf Trained Peaches, Apricots, Nectarines, and other Stock.

May be viewed any day prior to sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

The Windlesham Nurseries, near Bagshot, Surrey.

By order of the Executors of the late Mr. Richard Mason, in consequence of the disposal of the Nurseries.

PRELIMINARY NOTICE of an Important SALE of magnificently grown young NURSERY STOCK, particularly suitable to the Trade and other large purchasers.

Absolutely without reserve.

MESSRS. PROTHEROE AND MORRIS, having Sold the Freehold and Leasehold Nurseries, will SELL the above by AUCTION, on the Premises, on MONDAY, November 19, and FOLLOWING DAYS.

Catalogues will shortly be prepared, and fuller particulars duly announced.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE, on FRIDAY NEXT, November 2, without reserve,

CATTLEYA DOWIANA,

a small, but good consignment, ODONTOGLOSSUM KRAMERI, O. LUDDEMANNIA, O. LEHMANNI, the sensational Orchid of the Orchid Conference. Racemes of large flowers like old gold, very difficult to import. CYPRIPEDIUM CAUDATUM MAJOR, the largest and handsomest form, fresh imported. TRICHOPILIA FRAGRANS NOBILIS, large, fragrant, snow-white. ODONTOGLOSSUM ASPIRHINUM, new species. ONCIDIUM OBRYZATUM MAJUS, ERIOPSIS SPECIES, TERRESTRIAL ORCHIDS, &c.

On view morning of Sale, and Catalogues had.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

PORTION of LAND MUST BE CLEARED.

Important to Fruit Growers and the Trade.

CLIFFE, NEAR ROCHESTER.

A CATALOGUE OF

100,000 FRUIT TREES,

CONSISTING OF

35,000 Apples, Pears, Plums, and Cherries, of the latest new kinds for market; about 20,000 two-year Apples on English Paradise, consisting of Duchess of Oldenburg, Bismarck, Worcester Pearmain, Ecklinville, Quarrenden, Yellow Ingestrie, Mother, Beauty of Stoke, Jubilee, Chelmsford Wonder, Duchess of Gloucester, Lord Derby, Cox's Orange, Blenheim Orange, Bramley's Seedlings, Cox's Pomona, Irish Peach, Gladstone, Domino, Gisborne Plums, Cox's Emperor, River's Early Prolific, Bush, Victoria, Sultan, Monarch, Napoleon; Cherries, Morello, Elton, Frogmore, Governor Wood, Waterloo, Bigarreau, Amber Heart, William Pears, Durondeau, Doyenné d'Ete, Lectier, Hessall, Chalk, Pitmaston Duchess, Beurré Clairgeau, &c., &c.,

15,000 BOB and LAD GOOSEBERRIES,
Two and Three-year Trees;

20,000 of the Noted BALDWIN BLACK CURRANTS, Two Years.

30,000 FALSTAFF and SEMPER FIDELIS RASPBERRY CANES,

50,000 STRAWBERRIES,
Empress of India, Gunton Park, Lord Suffield, Laxton's Noble, and Paxton's;

15,000 CONNOVER'S COLOSSAL ASPARAGUS,
Two and Four years old, from Imported Seed, direct from Paris;

25,000 HOP SETS,

3,000 of the NEW DESSERT APPLE, BEAUTY OF BATH, Are also included in the above Sale, which will be

SOLD BY AUCTION, BY



BEAUTY of BATH—the coming Apple.

This is the FINEST NEW FIRST EARLY DESSERT APPLE introduced for many years.

It has gained honours at every Exhibition where shown.

First-class Certificate Royal Horticultural Society, and First Prize for the Best Dessert Apple in Competition with Thirty-five Dishes staged against it; and was included in the 1st Prize Dish of Dessert Apples at the recent International Fruit Exhibition, Earl's Court, open to all England, August 26 and 27, 1892.

MESSRS. PROTHEROE AND MORRIS, on the Premises, Perry Hill, Cliffe, near Rochester, adjoining Cliffe Station, South Eastern Railway, on WEDNESDAY NEXT, October 31, 1894, at half-past 11 o'Clock punctual, owing to the quantity of Lots, by order of Mr. W. HORNE. LUNCHEON at 11. SALE at 11.30.

The Auctioneers desire to call attention to this Sale. It is seldom an opportunity is offered for securing new and rare kinds in such large quantities. All are well-grown and healthy. Fruit Growers and others who intend planting this Season are invited to inspect the Stock and attend the Sale.

CATALOGUES may be had on the Premises; Bull Hotel, Rochester; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Monday Next.

40 Large Azaleas and other Continental Plants in variety, 200 Dwarf Roses, Ferns and other Greenhouse Plants, Ornamental Plants, Hardy Border Bulbs, &c.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, October 29, at Twelve o'Clock.

On view Morning of Sale, and Catalogues had.

Thursday Next.

200 Azalea indica, 250 A. mollis and Rhododendrons from Belgium, English-grown Lilies, Hardy Border Plants, choice Greenhouse Plants and Ferns, Cyclamen Seed, Winter Aconites, Pearl Tuberoses, Chinese Sacred Lilies, Carnations, Hollyhocks, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 1, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

By Order of Messrs. W. L. Lewis & Co.

Established and Semi-Established ORCHIDS, comprising CATTLEYA AUREA, the celebrated type from the district whence all the Hybrids have been obtained, also Oncidium concolor, O. Rogersii, Leptotes bicolor, Sophronitis coccinea, S. cernua, Lælia species probably new from quite a new district, fine varieties in flower of Cattleya labiata and Lælia Pinellii, Cattleya Trianæi, C. Mendeli, and C. Mossiæ in sheath, Disa grandiflora, Lælia anceps, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 2, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, November 2.

A Splendid COLLECTION of well-grown ESTABLISHED ORCHIDS, the Property of a Private Gentleman, comprising:—

Cattleya Wagneri
" Mossiæ, very fine
" Arthuriana, rare
" Skinneri alba
" Gaskelliana albens
" Calumnata magnifica
" Trianiæ eboracensis
" Mossiæ Reineckiana
" Eldorado Wallisii
" Schroderæ alba
Cœlogyne cristata alba
2 Dendrobium nobile Cooksoni
3 " " " nobilius
" " " album
2 Oncidium Loxense
" Pollettianum
" Mantini
Odontoglossum vexillarium superbum
" Humeanum
Odontoglossum læve
2 Cypripedium Leeanum superbum
2 " Charles Canham
" Bortele superbum
" Savageanum "
" Morganiæ
" Leucorrhodum
" vexillarium superbum
" Thibautianum
" œnanthum superbum
" Schroderæ splendens
" caudatum Wallisii
" macrochilum
Lælia anceps
Lycaste Skinneri alba
Masdevallia Elephanticeps
2 " melanocantha
Trichopilia tertile album

MESSRS. PROTHEROE AND MORRIS will sell the above by auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on Friday next, November 2nd, at 12.30 o'Clock.

On view Morning of Sale, and Catalogues had.

Friday Next, November 2.

DENDROBIUM HILDEBRANDTII.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. Charlesworth & CO., Heaton, Bradford, to OFFER by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, November 2, at half-past 12 o'Clock, the whole stock of the new and beautiful

DENDROBIUM HILDEBRANDTII, Rolfe,

Offered for the first time by public auction; Flowers, sulphur yellow, to a trifle darker towards the centre 3 to 3½ inches in diameter; lip of same colour, unusually large and open, with an orange blotch in centre. The plants are very distinct in appearance, resembling slightly Dendrobium nobile; the bulbs, however, are flat, varying in length, from 10 to 30 inches, and show an abundance of flower spikes. The plants offered are in robust health, and are well established, and will flower in spring.

CYMBIDIUM SPECIES.

Very distinct, collected from the Dendrobium Hildebrandtii district. A few plants only arrived alive, which are offered. The plants were collected 200 miles from the nearest inhabited place.

DENDROBIUM SPECIES.

Probably new; in the way of Dendrobium fimbriatum. Very slender, and thin growths, which produce flowers with great freedom. Not seen in flower by the collector. Also a fine lot of

DENDROBIUM DALHOUSEIANUM

and other choice Orchids.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. JAMES AND BAXTER will SELL by AUCTION, at their spacious Sale Rooms, 35, Temple Street, Birmingham, on TUESDAY NEXT, October 30, 1894, at half-past 11 o'Clock, Three Tons of HYACINTHS, TULIPS, CROCUS, and other DUTCH BULBS; also Ten Cases of Roman HYACINTHS, Roman and Paper White NARCISSUS, FREESIAS, LILIUM CANDIDUM, L. HARRISII, Italian HYACINTHS, &c. Catalogues free.

Thursday Next.

MESSRS. JAMES AND BAXTER will SELL by AUCTION, at their Sale Rooms, 35, Temple Street, Birmingham, on THURSDAY NEXT, November 1, at half-past 11 o'Clock, 1000 AZALEA INDICA, fine well-budded plants; 250 AZALEA MOLLIS, 6 baskets of mixed PALMS, FICUS, &c., from Belgium; a very fine collection of Hardy HERBACEOUS PLANTS, FRUIT TREES in variety, 600 DWARF ROSES and POT ROSES, 200 lots of DRACÆNAS, GARDENIAS, CROTONS, FERNS, and other GREENHOUSE PLANTS; 250 lots of RHODODENDRONS, CONIFERÆ, LAURELS, HOLLIES, CLIMBING PLANTS, and other General NURSERY STOCK; 3 tons of DUTCH BULBS, LILIUM HARRISII, Roman HYACINTHS, &c.

On view morning of Sale. Catalogues free. Commissions carefully executed. Goods packed and despatched.

Messrs. JAMES AND BAXTER, many years with Messrs. Protheroe & Morris, hold SALES of BULBS, STOVE and GREENHOUSE PLANTS, and General NURSERY STOCK, EVERY TUESDAY and THURSDAY throughout the Season, at their well-known Rooms, Temple Street, Birmingham. Sales and Valuations conducted in any part of the country. Fourteen years' practical experience.

Wednesday Next.

MESSRS. JAMES AND BAXTER will SELL by AUCTION at their Rooms, Temple Street, Birmingham, on WEDNESDAY NEXT, Oct. 31, at Twelve o'Clock, a large COLLECTION of ORCHIDS in Flower and Bud, Established and Imported Plants, by order of Mr. G. Bethell, of Whiteley's Nurseries, Hillingdon. Catalogues free.

Wednesday Next.

IMPORTANT SALE of PLANTS and BULBS.

A splendid Collection of STOVE and GREENHOUSE PLANTS from Ghent, consigned direct, comprising 300 Azalea mollis, and 200 Azalea indica to name, well furnished with Flower-buds, Aspidistras, Latania borbonica, Kentias, Arecas, Euonymus, Aspleniums, Dracænas, Aralias, &c.

Grand Importations from Holland, comprising an extra fine COLLECTION of HYACINTHS, including a fine Lot of specially LARGE BULBS for GLASSES. Choice NARCISSUS, a great variety of TULIPS, 20,000 large yellow CROCUSES, a Collection of beautifully-grown SMALL DECORATIVE SHRUBS, for pot or border culture several hundred Dwarf and Climbing ROSES, LILIUMS of sorts, HYDRANGEAS, &c.

300 DWARF ROSES to name, from a leading English grower; PINKS, CARNATIONS, PICOTEES, and a collection of other BORDER PLANTS; 10,000 TUBEROSES, PALM SEED, LILIUM HARRISI and SACRED LILIES from Bermuda, L. CANDIDUM, French forcing Bulbs; 70,000 best Berlin LILY OF THE VALLEY CROWNS, &c., &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, October 31.

On view morning of Sale, and Catalogues had.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

West Drayton, Middlesex.

TENTH ANNUAL SALE of NURSERY FRUIT STOCK.

MESSRS. NORMAN AND SON are instructed by Messrs. SMITH AND SON, to hold the Tenth Annual Sale of Nursery Fruit Stock, on the Ground, on TUESDAY, November 6, 1894, at 11 o'Clock punctually, in consequence of the number of lots, comprising about 7500 2, 3, and 4 years old Standard and Half-Standard APPLE TREES, including several new kinds which have not been brought before public notice except at these Sales; about 8000 Standard and Half-Standard PLUM TREES; 3000 Cluster DAMSONS; 850 Standard CHERRY TREES; 800 PEARS; 53,500 CURRANTS and GOOSEBERRIES; a large quantity of RASPBERRY CANES, of excellent sorts, including Semper Fidelis, Victoria, and Carter's; PEACH TREES, &c.; and about 6 Acres of RHUBARB STOOLS, full grown, and suitable for forcing and other purposes, including Linnæus, Champagne, Albert, &c., of which particulars will be given in the Catalogues.

On View the Day prior to the Sale, and Catalogues had of Messrs. J. SMITH AND SON, Growers, Sipson, and 448 and 449, Covent Garden Market, London, W.C.; and of the Auctioneers, Uxbridge, Middlesex, and Beaconsfield, Bucks.

WANTED, to LEASE, as MARKET GARDEN, or land suitable for same; from 5 to 10 acres, with house on or near, with or without Glass; near London.—G. NEWMAN, Post Office, Kelvedon Common, Brentwood.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.
All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE.—Compact little NURSERY, with Dwelling-house, and attractive Florist's Shop, in Main Street, doing good Local Trade. The Houses are Modern, well Heated, and in good condition, and filled with thriving young stock. Long Lease, low rent.—Full particulars of—
FLORIST, 41, Wellington Street, Strand, W.C.

FLORIST, SEEDS and FRUIT BUSINESS for SALE.—First-class Double-fronted Shop. In good position. Busy Market Town. All at low price of £95.—ALPHA, Post Office, Luton.

SUSSEX.—TO BE LET, about 1000 feet run of GLASS, efficiently heated, standing on about 3 acres of ground; admirably adapted for Market work. There is an unlimited supply of water, and a good seven-roomed house with usual packing shed, &c. Terms on application to—
W. GOARING, Horticultural Valuer, Haywards Heath.

Essex (10 miles from London).

TO BE LET, a NURSERY of 3a. 1r. 4p., with 11 Greenhouses, Dwelling-house, and Stables. Lease twenty years. Rent £45. Price for Lease, Glass, and Stock £300, or offer. Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

RASPBERRY CANES (Fillbaskets), very strong; Seakale, Asparagus, and Rhubarb Roots for sale. Apply to THOMAS WILD, Sipson Farm, via Slough, Middlesex.

FOR SALE, a large quantity of Double White NARCISSUS ROOTS.
Apply, E. H. MANN, Isleworth.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12s. per doz.; six sorts of PALMS, in 48's, 9s. and 12s. per doz.; large KENTIAS, in 60's, 5s. and 6s. per doz.; eight sorts of PALMS, in 60's, 4s. and 5s. per doz.; do. in large thumbs, 3s. per doz., 20s. per 100; ARALIAS, in 48's, 5s. and 6s. per doz.; FICUS, in 48's, 12s. per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5s. per doz.; twelve best sorts of FERNS, 12s. per 100; ASPARAGUS PLUMOSUS NANUS, 6s. per doz.; variety of FERNS in 48's, 5s. and 6s. doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.

LORD'S CARNATIONS.

Highest Awards wherever exhibited. Winner of the First Prize at twelve consecutive Exhibitions of the National Carnation and Picotee Society (Northern Section), as well as at other principal exhibitions. Good plants, my selection, 6s. per dozen; 3s. 6d. per half dozen; purchaser's selection, as far as possible, 9s. per dozen, free for cash with order.

NEW CARNATIONS.—Selected from his Seedlings, viz.: Duke of York, S.B., 1s. 6d.; Bruce Findlay, C.B., 2s.; Thaddeus, C.B., 1s. 6d.; Arline, P. & P.B., 1s. 6d.; Edith Annie, C.B., 2s., and Magpie, P.F., 1s. 6d. One plant of each, 9s., free for cash. Send for LIST.

T. LORD, Holebottom, Todmorden.
Please mention this paper.

First Arrival.

LILIUM AURATUM.—1000 immense exhibition bulbs, just arrived overland *vid* Brindisi, direct from Japan, in finest condition. Immense size. 12s., 15s., and 20s. per dozen; sample, 3 for 4s.
FIRST ARRIVAL.—LILIUM LONGIFLORUM, pure white, large Japanese bulbs. 6s. per dozen, 6 for 3s.; smaller, 3s 6d. doz.
CHINESE SACRED LILIES, for growing in bowls or pots, to flower at Christmas, 6s. per dozen, 6 for 3s. 6d.; LILIUM LANCIFOLIUM ROSEUM, grand bulbs, 4s. 6d. per dozen, 6 for 2s. 6d.; ALBUM, pure white, 8s. per dozen; LENT LILIES, 2s. per 100; SCILLA SIBIRICA, sky blue, 2s. per 100; Spanish IRIS, 1s. 6d. per 100; Double White TULIPS, 4s. per 100; Single Scarlet Duc, 3s. per 100; Pheasant's Eye NARCISSUS, 2s. 6d. per 100.
NOTE.—Everything Carriage Paid. NOTE.—Everything First Quality. Half quantities, half prices. BULB CATALOGUE free.

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HYACINTHS, TULIPS, | CROCUS, LILIUMS, &c.

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ROMAN HYACINTHS and LILIUM AURATUM a Specialty.

MICHAEL RAINS & CO.,

BULB GROWERS AND SEED MERCHANTS,
34, MANSELL STREET, ALDGATE, LONDON, E.,
And THE NURSERIES, HAARLEM, HOLLAND.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

GOLDEN EUONYMUS, good colour, 9 to 12 inches, 30s per 100.
GREEN EUONYMUS, 12 inches, 20s. per 100, for cash with order. Samples, 1s. each, post-free.
H. H. MOORE, The Nurseries, Chichester.

FOR SALE, Malmaison CARNATION LAYERS, good strong plants, at 30s. per 100; also 38 pots of Eucharis LILIES, grand plants.
J. LITTON, Grosvenor Cottage, Bath.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
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VICTORIA PLUMS.—Excellent Standards, fibrous roots, clean stout stems, fruiting heads.
CORDON PEARS and APPLES. Well spurred fruiting Trees, 5, 6, and 7 feet.
FORCING ASPARAGUS. Grand clumps.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

1000 PHEASANT'S EYE NARCISSUS (NARCISSUS POETICUS), 13s. 6d., carriage paid. All strong flowering cultivated bulbs.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

1000 LENT LILIES (SINGLE DAFFODILS), 13s. 6d., carriage paid. All strong free-flowering bulbs.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

1000 NARCISSUS BIFLORUS, 13s. 6d., carriage paid. All strong cultivated bulbs.
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1000 MIXED HARDY DAFFODILS and NARCISSUS, 15s., carriage paid. All beautiful varieties.
F. MILLER AND CO., 267, Fulham Road, London, S.W.

1202 BULBS for 21s.; half, 11s. 6d.; quarter, 6s.—100 Lilium candidum, 150 Gladiolus The Bride, 100 Anemones, assorted; 40 Amaryllis, large; 30 Cyclamens, large; 250 Narcissus, large; 8 Hippeastrums, 50 Lilium Harrisii, 150 Galanthus Elwiss, 150 Chionodoxa, assorted; 12 large Arums, 150 Freesias, good; 8 Pancratiums, extra large; 4 Eucharis amazonica.

Orchids.—Orchids.—Orchids.

Four Oncidium altissimum, 4 O. luridum, 4 O. Cavendish anum, 4 Primrose Orchids, 4 Hyacinths, 4 Epidendrum celosus. Above 24, large pieces, sent free for 21s.; half, 11s. 6d.; qr., 6s.
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GREAT SALE OF ORCHIDS.

JOHN COWAN & CO. (LIMITED),

Have received instructions from
D. DE Y'BARRONDO, Esq., of Ullet Road, Liverpool,
to sell his entire collection of Orchids for him by private treaty, as he is relinquishing the cultivation of Orchids for the present. With this end in view, the collection has been removed to the Company's premises at Garston.

Mr. de Y'barrondo has for many years been known as an ardent collector of Orchids, and his collection is well-known in this neighbourhood, and indeed, throughout the country. The collection is in fine condition, and there are many fine specimens as well as numerous rare and fine varieties in each section.

The Company have also just purchased from the trustees of the estate of the late
E. G. WRIGLEY, Esq., of Victoria House,
Dukinfield, near Manchester, the collection formed by that gentleman. The principal feature of this collection is a choice lot of

HYBRID AND OTHER DENDROBIUMS.

Mr. Wrigley's collection was purchased and sold in this establishment nearly twelve months ago, but Mr. Wrigley immediately commenced to collect again and devoted his attention specially to Dendrobiums, bringing all his previous large experience to bear on securing only the choicest and best of each kind. The result is a most valuable collection of choice gems.

These two lots taken together will form one of the best collections which has ever been offered by the Company; and they are now on view. Catalogues have been prepared, and will be posted to all the Company's patrons, and to any one who may send their name and address for that purpose, on FRIDAY, the 26th inst., and the collection will be on sale from MONDAY, the 29th inst. Orders will be executed strictly in rotation, and no prices will be quoted or Catalogues shown to anyone before the date named, so that all purchasers may have an equal chance.

JOHN COWAN & CO., LTD.,

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. per 100; large ditto, in 48's, 10 best selling sorts, 6s. per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6s. and 8s. per dozen; ditto, for making large plants quickly (bushy), 16s. and 20s. per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6s. per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1s. each. Seedling Ferns, 6s. per 100. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

RHODODENDRONS ON THEIR OWN ROOTS

The finest named hardy kinds can now be supplied. These are much to be preferred to grafted plants, which are in many instances most unsatisfactory to the purchaser.

ANTHONY WATERER,
KNAP HILL NURSERY, WOKING, SURREY.

300,000 STRONG RASPBERRY CANES,

At Low Prices per 1000.

BAUMFORTH'S SEEDLING,	sample 100	...	...	9s. 0d.
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FILLBASKET, very strong	,, ,,	...	...	5s. 0d.
NORWICH WONDER	,, ,,	...	...	4s. 0d.
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R. H. BATH, Osborne Farm, Wisbech.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

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FERN NURSERIES, SALE, near MANCHESTER.

ORCHIDS.—ORCHIDS.

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ORCHID SPECIALISTS, MARKS TEY AND COLCHESTER.

Importations continually coming in. Thousands of Semi-established and Established ORCHIDS always in Stock. Excellent men to grow them.

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To MARKET and PRIVATE GROWERS.

We hold an extensive Stock of all kinds of the above, in first-rate quality, and at reasonable prices
Intending Planters would do well to send for Descriptive Catalogue, free on application.

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SOLICIT AN INSPECTION OF THEIR EXTENSIVE

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Covering over 150 ACRES,

CONSISTING OF

DECIDUOUS AND EVERGREEN TREES and SHRUBS

IN GREAT VARIETY,

ROSES, FRUIT TREES,

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FOREST TREES, &c.

ALL IN FINE, HEALTHY CONDITION.

Descriptive Catalogue free.

THE NURSERIES, BERKHAMSTED, HERTS.

EXHIBITIONS.

CRYSTAL PALACE.
THE GRAND
EXHIBITION of CHRYSANTHEMUMS,
FRIDAY and SATURDAY, November 2 and 3, 1894.
Schedules and Entry Forms post-free, on application to Mr. W. G. HEAD, Superintendent, Garden Department, Crystal Palace, S.E.
Entries close on Friday, October 26.

DEVIZES GRAND CHRYSANTHEMUM SHOW will be held in the Corn Exchange, on TUESDAY, November 6. Schedules of Prizes on application to—
The Castle Gardens, Devizes, Wilts. THOMAS KING.

THE SIXTH ANNUAL CHRYSANTHEMUM EXHIBITION of the LEEDS PAXTON SOCIETY will be Held in the Town Hall, Leeds, on TUESDAY and WEDNESDAY, November 6 and 7 next, when upwards of £170, including Four Silver Challenge Cups, will be given in Prizes. Entries close October 29. Schedules may be had from
JAMES CAMPBELL, Hon. Sec.
The Gardens, Methley Park, Leeds.

BRIGHTON AND SUSSEX (NEW) HORTICULTURAL SOCIETY'S CHRYSANTHEMUM SHOW, TUESDAY and WEDNESDAY, November 6 and 7. Class 1, a Silver Cup, £5, kindly presented by T. Billing, Esq., "Treasurer." Also a Clock, valued £5, presented by a few Residents of Brighton, for the best set of Plants in either Classes 4, 6, or 8. Schedules of the Secretary, MARK LONGHURST, 18, Church Road, Hove.
(Entries close November 1.)

WATFORD CHRYSANTHEMUM SOCIETY.
President: the Right Hon. The Earl of Clarendon.
The NINTH ANNUAL EXHIBITION of CHRYSANTHEMUMS and other AUTUMN FLOWERS and FRUITS and VEGETABLES, will be held in the Clarendon Hall, Watford, on TUESDAY and WEDNESDAY, the 6th and 7th of November, 1894. Entries close on Thursday, the 1st of November.
CHAS. R. HUMBERT, Hon. Sec., Watford.

NATIONAL CHRYSANTHEMUM SOCIETY.
GREAT
AUTUMN CHRYSANTHEMUM FESTIVAL
£350 in Money Prizes, Valuable Challenge Cups, Plate, &c.
The Largest Display of Chrysanthemums in the United Kingdom.
ROYAL AQUARIUM, WESTMINSTER,
November 6, 7, and 8, 1894.
Schedules of Prizes on application to RICHARD DEAN, Hon. Secretary and Superintendent, 42, Ranelagh Road, Ealing, London, W.

TO CHRYSANTHEMUM GROWERS,
PROFESSIONALS and AMATEURS.

NEWBURY CHRYSANTHEMUM
WINTER FLOWER and FRUIT SHOW.
SECOND ANNUAL EXHIBITION, Corn Exchange, Newbury, on WEDNESDAY, November 7, 1894. Last day for entries, October 30. Schedules to be obtained of—
H. S. HANINGTON, Hon. Sec.

THE SECOND ANNUAL SHOW of the DONCASTER and DISTRICT CHRYSANTHEMUM SOCIETY, "OPEN to ALL ENGLAND," will be held in the Corn Exchange, Doncaster, on NOVEMBER 7 and 8, 1894. —Schedules can be had on application to the Secretary,
J. W. HARESIGN, 31, Scot Lane, Doncaster.

ASCOT & DISTRICT CHRYSANTHEMUM SHOW. Grand Stand, Ascot, November 7 and 8.
Two open classes, with prizes in each of £4, 45*s*., 30*s*., 10*s*., for 24 incurved, 18 distinct varieties; and for 24 Japanese, 18 distinct varieties. Apply to—
F. PATION, The Links, Ascot.

THE BATH CHRYSANTHEMUM SHOW, NOVEMBER 7 and 8, 1894. Entries close November 2.
For Prize Schedules, &c., apply— B. R. F. PEARSON, W. JEFFERY } Secs.
2, Northumberland Bdgs., Bath.

KINGSTON AND SURBITON CHRYSANTHEMUM SOCIETY.
President—G. C. SHERRARD, Esq., J.P.
The EIGHTEENTH ANNUAL GRAND SHOW of CHRYSANTHEMUMS, FLORAL DECORATIONS, FRUITS, VEGETABLES, &c., will be held in the DRILL HALL, KINGSTON-ON-THAMES, on TUESDAY and WEDNESDAY, November 13 and 14, 1894, when the Seventh Champion Challenge Vase, value 25 Guineas, will be offered for competition, open to all subscribers of 21*s*. Also more than £150 offered in Prizes.
Schedules and all information may be had of the Hon. Sec., Mr. F. J. HAYWARD, 40, High Street, Kingston-on-Thames, Entries close November 9.

FARNHAM CHRYSANTHEMUM SOCIETY.
A Show will be Held at the CORN EXCHANGE, Farnham, on NOVEMBER 13 and 14. PRIZES to the value of £33 for Chrysanthemums, Fruit, Flowers, and Vegetables will be offered in the open classes. Schedules and entry forms from—
F. WELLER-POLEY, Hon. Sec.
Waverley Abbey, Farnham.

RUGBY CHRYSANTHEMUM EXHIBITION.
November 14 and 15, 1894. Entries close November 7.
Schedules from—
WILLIAM BRYANT, Secretary.
8, Barby Road.

BIRMINGHAM.
GREAT
CHRYSANTHEMUM, FRUIT, VEGETABLE, & PRIMULA SHOW.
IN PRIZES — £270 — IN PRIZES.
WEDNESDAY & THURSDAY, NOV. 14 & 15, 1894.
ENTRIES CLOSE NOVEMBER 7.
SCHEDULES, POST-FREE ON APPLICATION.
J. HUGHES, Sec., High St., Harborne,
BIRMINGHAM.

READING CHRYSANTHEMUM SOCIETY.
ANNUAL SHOW, November 14, 1894, Queen's Hall, Valpy Street, Reading. WM. L. WALKER, Secretary.
Dunollie, Bulmershe Road, Reading.

THE TIVERTON CHRYSANTHEMUM SOCIETY will hold their next Show on THURSDAY, November 15. For Schedules apply to—
R. P. COSWAY, Hon. Sec.

CHESTERFIELD CHRYSANTHEMUM SOCIETY.—The ANNUAL EXHIBITION of the above Society will be held in the Market Hall, Chesterfield, on November 16 and 17. Three Classes, viz.:—Open to All England; Distinct Class, open to Growers residing within 10 miles; and Amateur Class (6 miles radius). For full particulars apply to the Hon. Secretary—
Mr. A. H. JOHNSON, New Square, Chesterfield.

SHEFFIELD CHRYSANTHEMUM SOCIETY.
ANNUAL SHOW, Corn Exchange, Sheffield, FRIDAY and SATURDAY, November 16 and 17, 1894. £200 in Prizes, Schedules free on application.
WM. HOUSLEY, Secretary.
177, Cemetery Road, Sheffield.

YORK CHRYSANTHEMUM SHOW.—
The FIFTEENTH ANNUAL SHOW,
In the FINE ART EXHIBITION BUILDING, will be held on November 14, 15, and 16, 1894.
Challenge Prize, value £20, added to First Prize, £10, for 36 Cut Blooms. Liberal Prizes for Plants, Cut Flowers, Fruits, and Vegetables.
Schedules, &c., to be had from—
13, Feasegate, York. J. LAZENBY, Secretary.

Preliminary Advertisement.
ROTHERHAM and DISTRICT CHRYSANTHEMUM SHOW. THURSDAY, November 22, 1894.
Schedules to be obtained on application to Secretary—
Mr. F. ASH, Clifton Grove, Rotherham.

CHRYSANTHEMUM EXHIBITION.

The Finest Trade Show in Great Britain.

We have pleasure in announcing that our Stock, including all the finest Novelties, is in splendid condition, and that our ANNUAL SHOW will open on November 1, and be on view until the 24th. Admission each day, until 1 o'Clock free; from 1 to dusk, 6*d*.

Beeston Station, Midland Railway, is 12 minutes' walk from the Nurseries.

J. R. PEARSON & SONS,
CHILWELL NURSERIES, NOTTS.

HARRISONS' VEGETABLE & FARM ROOT SHOW.

(OPEN TO ALL ENGLAND.)
WILL BE HELD, by kind permission of the LEICESTER CORPORATION, in the
MARKET HALL, LEICESTER,
WEDNESDAY AND THURSDAY, NOVEMBER 14 & 15, 1894.
VALUABLE PRIZES
WILL BE GIVEN FOR
CELERY, CARROTS, CAULIFLOWERS, PARSNIPS, SAVOYS, BRUSSELS SPROUTS, LEEKS, ONIONS, BEET, AND POTATOS.
SILVER MEDALS
FOR
HARRISON'S NORMANTON GLOBE MANGOLD,
" DEFIANCE SWEDE,
" IMPROVED GREEN BARREL TURNIPS.
To be grown from SEED SUPPLIED by HARRISON & SONS (Potatos excepted).
For further particulars and conditions, apply to—
HARRISON & SONS Seed Growers, **LEICESTER.**

EXPIRATION OF LEASE.—To be Sold, Cheap, 5000 good transplanted SCOTCH FIRS, 5 to 10 ft., well furnished.
E. TANNER, Nurseryman, Groombridge, Sussex.

TO BE SOLD. — A COLLECTION of ORCHIDS, the property of the late H. E. Hole, Esq.— Apply to J. POWELL, The Gardens, Quorn Lodge, Loughborough, Leicestershire.

KENT STRAWBERRY RUNNERS. — Paxton's, Queen's, Eleanor's, 2*s*. 6*d*. per 100 (carriage extra). Sample 100, post-free, 1*s*.
R. WOODGATE, Crofton Road, Orpington, Kent.

OLD CLOVE. — Bushy, vigorous healthy layers, 10*s*. per 100. Unrooted Cuttings, Alegatière, 3*s*. 6*d*. per 100 for cash.
W. L. MILNE, The Nursery, Hampton Hill.

LOBELIA CARDINALIS, Queen Victoria, 10*s*. 6*d*. per 100, 1*s*. 6*d*. per dozen, or exchange for good varieties of CARNATIONS.
GARDENER, Eden Hall, Langwathby, R.S.O.

FOR SALE, ARUMS, 35*s*. per 100, £12 per 1000, showing bloom, in 48's. Maidenhair Ferns, £15 per 1000, in 32's.—A. TULETT, Swanley.

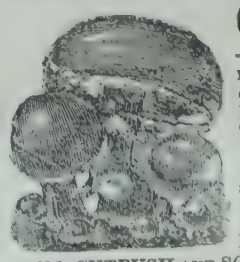
CARNATIONS, ROSES, PANSIES, VIOLAS, &c.—Her Majesty the Queen in accepting a water-colour painting depicting a group of Empress Pansies (specially selected by me for growing in Her Majesty's Gardens at Frogmore), graciously expressed her interest in the details of the industry now being carried on at my Flower and Fruit Farms. This industry, which has recently been reported upon by the Government, has grown to such an extent that it is now the largest of its kind either in England or the Continent. Catalogues now ready.—R. BATH, Wisbech.

LONDON PLANES.—Splendid Trees, straight stems, fine roots, 12 to 14 feet, 4*s*.; 14 to 16 feet, 5*s*.; 16 to 18 feet, 6*s*.; 18 to 20 feet, 7*s*. 6*d*. each.
IRISH IVIES in pots, beautifully furnished, 4 to 5 feet, 12*s*. 5 to 6 feet, 15*s*.; 6 to 8 feet, 21*s*.; 8 to 10 feet, 30*s*. per dozen.
LIGUSTRUM OVALIFOLIUM AUREUM (best Golden Privet), 12 to 18 inches, 6*s*.; 18 to 24 inches, 9*s*. per dozen.
BERBERIS AQUIFOLIA, 9 to 12 inches, 10*s*.; 12 to 18 inches, 12*s*. 6*d*.; 18 to 24 inches, 20*s*. per 100.
ROSES, FRUIT TREES, SHRUBS, CLIMBERS, BULBS, GARDEN REQUISITES, TOOLS, &c., of every kind. Priced descriptive LISTS on application.
W. FROMOW AND SONS, Sutton Court Nursery, Chiswick, London, W. Established 1829.
WANTED.—AUCUBA CUTTINGS. State price per 1000.

NOTICE!—LILIES OF THE VALLEY.

Owing to the severe Drought of last Summer, 3-year-old Flowering Crowns will be very scarce this year, and prices are sure to advance.
To insure a supply, and first quality, send your Orders without delay. 2½ Millions of Crowns offered for Forcing and Planting Out, of unsurpassed quality. Prices on application to
T. JANNOCH,
Lily of the Valley Grower by Special Appointment to H.R.H. The Prince of Wales,
DERSINGHAM, KING'S LYNN, NORFOLK.

SUPERLATIVE
RASPBERRY.
THE TRUE RAISER'S STOCK.
GEORGE BUNYARD & CO., MAIDSTONE
Hold a large lot this year of this, by far the finest Raspberry, and as many former applicants could not be supplied, early orders are requested.
First size ... ... 30*s*. per 100; 5*s*. per dozen.
Second size ... ... 20*s*. per 100; 4*s*. per dozen.
A few extra large, 9*s*. per dozen.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6*s*. per bushel, 1*s*. extra for package; or, 1*s*. per cake, free per Parcel Post.
WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

CATTLEYA LABIATA AUTUMNALIS.
HUGH LOW & CO.
Have at present at their Clapton Nursery two houses full of unflowered Plants, in sheath, of this useful Winter-flowering Cattleya, of which they respectfully invite inspection.
CLAPTON NURSERY, LONDON, N.E.

COOPER'S BULB LIST

NOW READY, POST-FREE.

COLLECTIONS—CARRIAGE PAID.

No. 1.—50 Bulbs for 1/6.—3 Hyacinths. 10 Crocus, Blue; 10 do., White; 10 do., Striped. 3 Tulips, Single; 2 do., Double. 6 Anemones. 6 Snowdrops.

No. 2.—120 Bulbs for 2/6.—6 Hyacinths. 25 Crocus, Blue; 25 do., White; 25 do., Striped or Yellow; 6 Tulips, Single; 4 do., Double. 12 Scilla Sibirica. 5 Anemones. 12 Snowdrops.

No. 3.—175 Bulbs for 3/6.—4 Hyacinths, Red; 4 do., White; 4 do., Blue. 25 Crocus, White; 25 do., Blue; 25 do., Striped or Yellow. 18 Tulips, Single; 18 do., Double; 6 Ranunculus. 6 Anemones. 20 Scilla Sibirica. 20 Snowdrops.

No. 4.—250 Bulbs for 5/-.—3 Hyacinths, Red, for pots; 3 do., White, for pots; 3 do., Blue, for pots; 3 do., Red, for glasses; 3 do., White, for glasses; 3 do., Blue, for glasses. 35 Crocus, choice, for pots; 30 do., White; 30 do., Blue; 30 do., Yellow; 30 do., Striped. 6 Tulips, Single, for pots; 6 do., Double, for pots. 12 Ranunculus. 6 Anemones, Double; 6 do., Single. 12 Scilla Sibirica. 12 Snowdrops, Single; 12 do., Double. 5 Polyanthus Narciss.

No. 5.—396 Bulbs for 7/6.—6 Hyacinths, named, for pots; 4 do., Red, for pots or glasses; 4 do., White, for pots or glasses; 4 do., Blue, for pots or glasses. 4 Tulips, Single, for pots; 6 do., Single, for borders; 6 do., Double, for pots; 6 do., Double, for borders. 24 Crocus, for pots; 50 do., Yellow; 50 do., White; 50 do., Blue; 50 do., Striped. 25 Iris, English. 12 Ranunculus. 12 Anemones. 25 Scilla Sibirica. 25 Snowdrops, Single; 25 do., Double. 6 Polyanthus Narciss.

No. 6 Collection, 10/6.—6 Hyacinths, choice, named, for pots; 6 do., do., for glasses; 12 do., for borders. 100 Crocus, White; 100 do., Blue; 100 do., Yellow. 20 Tulips, Single; 20 do., Double. 25 Daffodils, Single; 25 do., Double. 25 Winter Aconites. 25 Ranunculus. 12 Anemones, Single; 15 do., Double. 25 Snowdrops, Single; 25 do., Double. 10 Polyanthus Narciss.

No. 7 Collection, 15/-.—9 Hyacinths, choice, named, for pots; 8 do., do., for glasses; 9 do. Red, for borders; 8 do., White, for borders; 8 do., Blue, for borders. 150 Crocus, White 150 do., Striped; 150 do., Blue. 25 Tulips, Single; 25 do., Double. 50 Daffodils, Single 20 Anemones, Single; 20 do., Double. 25 Scilla Sibirica. 30 Snowdrops, Single; 30 do., Double. 30 Ranunculus. 25 Narcissus Poeticus.

No. 8 Collection, 21/-.—20 Hyacinths, selected, named, for pots; 12 do., do, for glasses 30 do., for borders. 200 Crocus, White; 200 do., Striped; 200 do., Blue. 50 Tulips, selected, Single; 50 do., selected, Double. 50 Daffodils, Single; 50 do., Double. 25 Anemones, Single; 25 do., Double. 50 Aconites. 50 Ranunculus. 50 Snowdrops, Single; 50 do., Double.

No. 9 Collection, 30/-.—30 Hyacinths, extra selected, named, for pots; 15 do., do., for glasses; 15 do., do., Blue, for borders; 15 do., do., White, for borders; 15 do., do., Red, for borders. 200 Crocuses, selected, White; 200 do., do., Striped; 200 do., do., Blue. 75 Tulips, extra selected, Double; 75 do., do., Single. 75 Daffodils, Single and Double. 50 Anemones, Single and Double. 75 Aconites, Winter. 50 Ranunculus. 75 Snowdrops, Single; 75 do., Double. 35 Polyanthus Narciss. 75 Narciss Poeticus.

No. 10 Collection, 42/-.—40 Hyacinths, choicest selected, named, for pots; 20 do., do., for glasses; 50 do., selected Colours, for borders. 550 Crocuses, selected, White; 220 do., do., Striped; 250 do., do., Blue. 100 Tulips, extra selected, Double; 100 do., do., Single. 100 Daffodils, Single and Double. 75 Anemones, Single and Double. 100 Aconites, Winter. 50 Ranunculus. 75 Snowdrops, Single; 75 do., Double. 45 Polyanthus Narciss, named. 100 Narciss Poeticus. 50 Spanish Iris. 25 English Iris.

SPECIAL OFFER OF NURSERY STOCK.

Buy at once and pot on now for winter-blooming.

PRIMULA (Single).—Various colours, very large flowers, fine healthy plants, out of small pots, 3*s.* per doz., free.

„ (Double White).—Strong rooted plants, out of 3-in. pots, 4*s.* per doz., 28*s.* per 100, free.

CINERARIA HYBRIDA.—Special line to help out our enormous stock, an Exhibition strain, strong plants, out of 3-in. pots, 1*s.* 9*d.* per doz., 13*s.* 6*d.* per 100, free.

do., do., transplanted, 1*s.* 2*d.* per doz., 2*s.* per 2 doz.

EXTRAORDINARY VALUE IN THE BEST CREEPERS,

For covering walls, trellis-work, &c.

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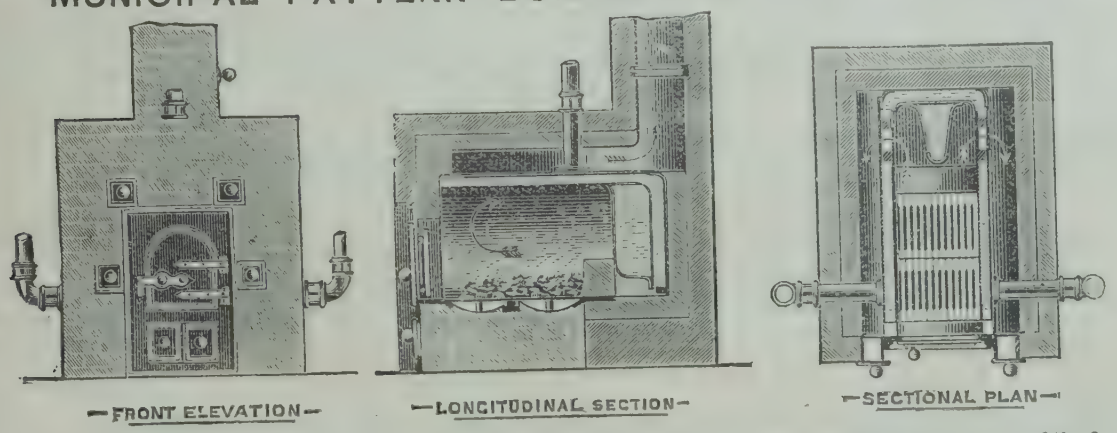
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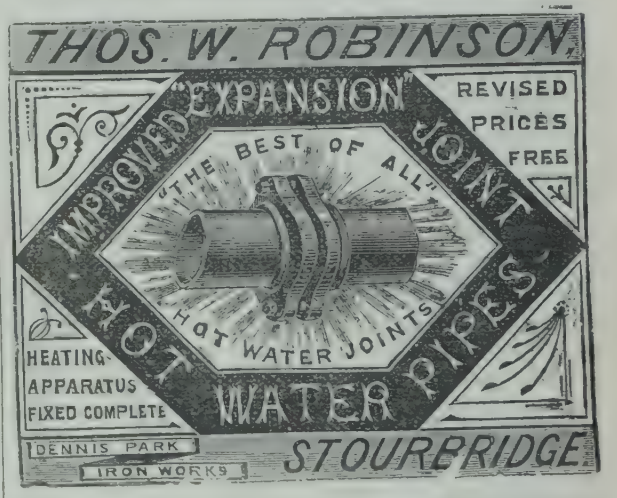
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Per Packet, 2s. 6d.

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This high-class seedling was raised by Mr. Gilman, of Ingestre Hall Gardens, and is the result of a cross between Hero of Lockinge and The Countess, two well-known varieties of superior quality. The fruit is globular in shape, of medium size, and a bright golden-yellow, most beautifully netted, with very thin skin. It has great depth of flesh, which is almost white, very sweet and juicy, and the flavour superb. The plant is of robust constitution, and a very free setter.

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Raised by Mr. Wythes, and quite distinct from the older form, being dwarfer, the flowers larger and deeper blue, with more substance. The plant is of dwarf pyramidal habit, exceedingly free-flowering, and clothed with foliage to the ground. The growth being strong and erect, staking may almost be dispensed with. As a decorative plant, this variety is invaluable, the plants being covered with bloom, which lasts a very long time.

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SPIRÆA ANTHONY WATERER.
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Gardeners of character and experience recommended.
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A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.
The Illustrated and Descriptive Catalogue of Fruits, post-free, 3*d.*
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THE
Gardeners' Chronicle.
SATURDAY, OCTOBER 27, 1894.

CHASSELAS GRAPES.

FROM August till October is a busy Grape-selling time with the peasants of Thoméry, near Fontainebleau. They have the natural monopoly of the production of the Chasselas Grapes—familiarly known as the "Queen of French table Grapes"—and raise them with a combination of care—aye, almost affection. The soil, climate, and position of Thoméry also unite to produce this splendid Grape, and which is so delicately preserved as to be able to supply the tables of the Pope and the Czar up to the month of March. In the Paris market, the Thoméry Chasselas Grapes command next to any price asked. But there are large plantations of Chasselas near Montpellier, and their cultivation forms an important industry near Algiers. Switzerland also cultivates a variety of Chasselas for making white wine. The Chasselas has many characteristics in common; the young leaves at their development have a peculiar russet colour, the berries are spherical-shaped, and the juice deliciously mild and sugary. The Chasselas comprises four principal varieties, which in turn have sub-varieties; the Doré, the Violet, the Rose, and the de Falloux. The "Doré" is very widely spread; peculiarly conical in shape, skin delicate, and flavour delicious. It is precocious, thrives in divers conditions, but a good rich light soil, and a temperate climate suit it best. When intended for wine-making, a strong soil and an exposed situation are preferable. The Chasselas is kept short pruned. The "Violet" yields a fruit equal in savour and beauty to the Doré, but is more cultivated for wine-making—and especially in Switzerland; the Grapes can to a certain degree resist slight and early frosts. The "Rose" is a variety—but less grown—of the Doré, while the leaves are more long than broad, the berries are spherical and pass from a clear green to a deep red. The "de Falloux" kind has large berries, very agreeable, juicy, and of a bright rose colour. It is remarkably noted for its fertility, and the beauty of its fruit.

The general crop of Chasselas is gathered about the middle of October. It requires skill to know when the Grapes are ripe; the berries should be transparent and of a blond yellow when examined in the shade; or, cut a berry in two, if the pulp remains all jelly, it is mature; if juice streams, it is not fully ripe. The Grapes ought to be gathered in the morning when the dew has evaporated, and before they become heated by the sun's rays. The Grapes are cut with scissors generally, leaving attached to the stem of the bunch 2 inches of the branch on each side of its point of junction. The bunches

*

are then deposited as carefully as if they were eggs, in small baskets, lined with paper shavings or leaves, to be carried to the fruit-room, so as not to remove the bloom from the berries. The Grapes lowest down on the Vine ripen earliest, and should be cut accordingly. Grapes gathered from Vines growing on dry light soils keep better than those raised on humid land; old Vines yield fruit better perfumed fruit, and of superior quality, while keeping better than that gathered from Vines only twelve years old.

At Thoméry, the Chasselas are raised either as ordinary espaliers against walls, or in open alleys against stakes; or in rows with three lines of galvanised wire, and known as *contre espaliers*. But there are many systems for training the shoots; the main point is to allow plenty of space, of air, and of light. When the berries commence to form, sharp scissors are used to remove all that are stunted, or which appear to be too closely pressed together; indeed, many growers remove the moiety of the berries. But this is not all; to secure the golden blend tint, what the peasantry illustrate by the popular saying, "*Le renard a pissé dessus*," the leaves should be gradually pinched off, to admit the sunlight.

Grapes, when crushed in the wine-vat, constitute the must. The latter has a very complex composition; in 100 parts, the water varies from 70 to 85, the sugar 12 to 30, and the mineral matters from 2 to 4, according to the soil, climate, and the variety of Grape. The sugar, salts, and acids are in the juice; the essential oil and tannin in the skin and pips, and the colouring matter in the cells of the interior of the skin. As the fruit ripens, the acids are changed into sugar under the influence of heat and light, the potash and phosphoric acid augment in proportion as the Grapes become sugary. The varieties of table Grapes are legion, and of late, wine-making Grapes are largely sold for consumption—1½*d*. per lb. The colour of the seeds, or pips, of table Grapes varies from a mother-of-pearl white to a black-violet. The largest table Grapes are not the best flavoured; they are somewhat insipid, have the skin thick, and the percentage of sugar is low. In France white Grapes are preferred for table purposes, for their firmness, flavour, and more beautiful shape—hence the favour of the Chasselas, Royal Madeleine, and White Muscat. Of black Grapes, the Frankenthal the Crusant, the Black Muscat, and the Blue Portuguese, are preferred. The two grand secrets in table Grape culture are, the cutting out of unpromising berries when commencing to form, and pinching off the leaves, when ripening sets in. The preservation of the Grapes fresh up to March, necessitates a room at once dry, of a sustained uniform temperature, and dark; the Grapes may lie on little slabs of wood, or be suspended from the ceiling, or hung from racks or the severed stem allowed to dip into open-mouthed, bottles of water—the latter to be periodically renewed. Once a week the room ought to be visited, and all objectionable berries removed.

In 1892, France imported French ordinary table Grapes, chiefly from Spain and Algeria, to the extent of 3,703 tons, valued at £44,000. She exported in the same year, 357 tons of table Grapes for £4,300, of which 8 tons to England, 15 to India, and 269 to Switzerland. The best foreign customers for the Thoméry Chasselas are the Imperial Court of Russia and the Vatican. The Czar receives the first and the last of the crop—the latter fetching 19*s*. per lb. Just now peasants—always old men in black hats and blouses—parade the streets of Paris with tasty little baskets, containing, as they say, true Thoméry Chasselas; 2 lb. of fruit for 2½ francs. The vendors are only made-up peasants, and the Grapes are Chasselas, but from Algiers, and two-thirds cheaper. About five dealers in the Central Markets form a "trust" or ring, to monopolise the products of Thoméry. And if the visitor went to this noted village he would not be supplied with the fruit, unless the hotel-keepers raise the Grapes themselves, which is questionable. It may be presumed, a good deal of the Grapes to be had there come from Algeria. But the difference is easily detected, not alone by the eye, but by the taste. The Algerian Chasselas has a trace of toughness in the skin—and lacks the melting, ambrosial-nectar pulp of the genuine Thoméry Chasselas Grapes. *E. Conner.*

NEW OR NOTEWORTHY PLANTS.

VANDA KIMBALLIANA, *Rchb. f.*, Var. LACKNERÆ, *Krnzl.*

This is the best variety we noticed in a large stock of the typical Vanda Kimballiana in the collection of Mr. C. Lackner, at Steglitz near Berlin. The flowers are snowy-white, without even a tinge of purple, and with only a very few small golden spotlets in the mouth of the spur. The size of the flower is the same as in the best specimens of the type, or even rather bigger. It is a true albino. This character is so pronounced in the whole appearance of the plant, that typical ones and such as belong to the variety are discernible even in the non-flowering state. The typical plants of Vanda Kimballiana have, as everybody knows, a dark purplish or a dark green colour, so densely covered with purple spots that the whole appearance of the plants, from the uppermost leaves to the end of the thriving roots, is a very sombre one. In the variety the general colour is a very clear green, the purplish colour being reduced to small widely dispersed spots. The roots are pea-green, with some white "velamen" just before the tip of the growing points. The contrast between the typical specimens with the rosy flowers and the chaste snowy ones of the variety, is a very lovely one. It seems that the variety is a very rare plant. Among more than a hundred large and luxuriantly growing specimens in the collection of Mr. Lackner, we found only one single specimen of the variety. It is dedicated to Mrs. Lackner in sincere acknowledgment of the interest she has manifested in horticultural and especially orchidographical questions in her hospitable home at Steglitz. *F. Kränzlin.*

HYBRID AUTUMN AND WINTER BEGONIAS.

The autumn-flowering Begonias are most useful at the dull period, when bright flowers are most appreciated. If I am enthusiastic with regard to their value at this season, it is because we have so few autumn flowers which produce their flowers in such profusion and last so long. As is generally well known, this section is the result of crossing Begonia socotrana with the pollen of some of the tuberous varieties. By this cross the season is prolonged; indeed, it may be said to be continuous, as there is no difficulty in blooming these hybrids to the time the tuberous kinds come in, and should there be any gap, the evergreen or perpetual-flowering kinds fill up the vacancy. The first hybrid raised, and what may be termed a winter bloomer, was John Heal, and doubtless it is still one of the best of the trio, for though the flowers are a little smaller than those of the later hybrids, they remain so long a time on the plant before they shrivel, that I look upon this variety as the most valuable of the type. This variety was raised at Messrs. Veitch's nursery by the well-known hybridist who has done so much to improve the Amaryllis, the hybrid or greenhouse Rhododendrons, and other plants, and was first exhibited in October, 1885. It was at once noticed by the horticultural press as a great gain, and a valuable winter-flowering variety. With the rage for huge Chrysanthemums, we are apt to overlook our other winter flowers of more graceful character, and certainly more lasting. The other varieties raised in a similar way to John Heal are, Adonis, certificated in 1887; this is one of the first named progeny, John Heal being crossed with one of the tuberous varieties. The flowers, though of a rosy-carmine, are more scarlet towards the centre, and larger than in the first hybrid, but continue a long time in full beauty, lasting for weeks in an intermediate-house temperature; the flowers are best during November and later, thus showing the plant's true character as a winter-bloomer. Winter Gem is a lovely winter-bloomer, the flowers remaining in perfection for weeks, and not dropping, like the evergreen and tuberous-rooted section. This last-named variety produces large corymbs of rich scarlet-crimson flowers, much the same in size as those of John Heal.

The varieties John Heal and Adonis are readily raised by cuttings—these struck in the spring or early summer, make nice plants for winter bloom; struck in a sandy compost in a gentle heat, they soon root, and may be grown in frames during the summer, and in September or October placed in warmer houses near the light for winter bloom. B. Winter Gem is more readily increased by propagation of the small growths at the base of the stem; they strike in heat, but require to be sparingly supplied with moisture at the start. They are best grown in small or medium-sized pots, with ample drainage, as in a large pot they get too much moisture in dull weather, unless carefully watered. The plants do not require the rest or drying off in the same way as do the tuberous-rooted kinds, but I find a short rest in a cooler and dryer house after flowering beneficial. When in bloom, food may be given to robust plants, keeping the flowers free of moisture, and near the light, to secure the bright colours so much admired in the flowers. *G. Wythes.*

KEW NOTES.

Sternbergia macrantha.—Bulbs of this beautiful species have lately been sent to Kew by Mr. E. Whittall, of Smyrna, and they are now in flower in a border and in pots in a cold greenhouse. The species is described by Baker as having a bulb 1½ inch in diameter, with a neck 4 to 6 inches long, pale brown tunics, lorate glaucous leaves ¾-inch broad; flower-stalk as long as the bulb-neck, flowers bright yellow, produced in autumn, the tube cylindrical, 2 inches long, the segments oblong, over an inch wide. In other words the flowers are as large and effective as those of well-grown Colchicum speciosum, and as yellow as Crocus aureus. The species is new to cultivation, and is one of the best of the many good things we owe to the enthusiasm and enterprise of Mr. Whittall. A figure of it will shortly be published in the *Botanical Magazine.*

Hæmanthus Clarkei×.

This is a hybrid between H. albiflos and H. coccineus, which was raised years ago by Colonel Trevor Clarke, who presented a plant of it to Kew in 1882. It is grown in pots and also in an unheated frame, and it flowers freely every year. It is more like H. coccineus than the other parent, having several leaves 4 inches wide, glabrous on both surfaces, smooth-edged and dull-green. The scape is 5 inches long, slightly flattened, the bracts 2 inches by 1½ inch, coloured dull crimson, the flowers crimson, paler at the base, the anthers golden; and the pistils, which are a ¼ inch longer than the stamens, white. So far as I know, it is the only hybrid Hæmanthus known. The Kew plants have been labelled H. Clarkei for some years, but the name is only now published for the first time.

Honckenya ficifolia.

Specimens of this plant have lately been sent to several London nurserymen, who have submitted them to Kew for identification, and asked if the plant is known to be in cultivation. It has been grown at Kew since 1889, when seeds of it were received from Lagos along with specimens of the Jute-like fibre extracted from its stems (see *Kew Bulletin*, 1889, p. 15). The genus is related to Sparmannia and Corchorus, H. ficifolia being the only species. It forms a shrub, or small tree, probably something like Sparmannia, with hairy, lobed leaves, about as large as the leaves of common Sycamore, and the flowers are borne in short few-flowered terminal racemes. They are nearly 4 inches across, purple, the sepals narrow, brown, and hairy; the

petals 1½ inch wide, cordate, and stalked at the base, with a cluster of yellow stamens in the centre, as in Sparmannia. So far, the plant has grown badly at Kew, but it is worth struggling with, as the flowers are decidedly handsome. *W. W., Kew.*

THE PULSOMETER IN FRUIT CULTURE.

During the spring of 1892, W. Welchman, Esq., my employer, was persuaded to buy a pulsometer on wheels for watering purposes in his orchards, of about 27 acres in extent, running small grips or trenches near the trees, so as to saturate the soil with water. The machine pumps 3,800 gallons per hour; and having been informed by the makers that it would lift water by means of a 2-inch pipe to a height of about 70 feet, I thought it would work three or four small lengths of indiarubber hose. Having fixed four small nozzles on to the machine to carry ⅝-inch pipe with Stott's sprayers, we made a trial of it with the best possible results. By having a small piece of hose-pipe joined on to the suction-pipe and furnished with a tap, a liquid insecticide can be used with the water, and the supply of the former can be regulated to a nicety at the will of the operator, and the spray is thrown with regularity. The pulsometer uses 2 cwt. of coal per day, and with it we can syringe 27 acres in four days, costing about £1 per day, including the price of the insecticide. The sprayers can be set to throw a fine mist or coarser, as may be desired. Some of the fruit trees were badly attacked last year with red spider; but the sprayer completed their destruction. The sprayers are sometimes as far as 170 yards distant from the engine, and work without any diminution of power. We have 260 yards of hose; but, with the exception of one part of the orchard, we have water all round it, and have no need to use so long a piece. One orchard is 8 acres in extent and nearly square. To get the water readily in this one, we cut a drain, 6 feet deep across it, and sunk petroleum casks about 25 yards apart to serve as water reservoirs for the machine. A 3-inch suction pipe is used, and the insecticide being drawn in with the water, it all goes through the pulsometer and becomes perfectly mixed together. For tall trees we have jointed brass rods, 6 feet long, to screw into each other, with a sprayer on the end. I now use the hose for watering, instead of the grips as formerly. *Wilson C. Smythe, Upwell, Wisbech, Cambs.* [Our illustration (fig. 65) shows the Pulsometer at work. Ed.]



Fig. 65.—The pulsometer: an apparatus for watering, spraying, etc.

The Rosary.

THE ROSE GARDEN IN OCTOBER.

This most disappointing season is over, for although we may still look for some flowers, especially amongst our Teas, yet the thoughts of the Rose-grower will be more directed to the future than to the present, and those thoughts will take the shape of what he shall do to alter or improve his garden for another year. I sometimes see articles written by nurserymen, who have of course thousands and tens of thousands of Roses, detailing what they have done or intend to do, but these are utterly useless to the amateur, whether he be an exhibitor or not. My main object is to write for those who, like myself, are owners of a small garden. It would be very little use, for instance, for anyone to suggest the grouping of Roses; this requires a considerable amount of room, and would be impossible.

I think that anyone who means to do anything in his garden in the way of Roses should first pause and consider what he wants; does he wish to have such flowers as he is in the habit of seeing at exhibitions, or does he want quantity rather than quality? much both of the manner of treatment and the varieties he

grows will be regulated by these considerations; if he have room he will perhaps consider with the Scotchman, "Baith's best," but for my own part, I much prefer one good bloom at the end of a shoot to three or four inferior ones crowded together, and, should the weather be wet, a mass of pulp rather than Roses, and I therefore contrive to have the second shoots which give us autumnal blooms disbudded as carefully as in the proper Rose season. On looking through my small Rose-garden to-day, I have found some instances in which this has been overlooked, notably, in a plant of Margaret Dickson, one of our best autumnal bloomers; where disbudding was carried out there are some clean shapely blooms, but on one which had been overlooked, there were four flowers huddled together, the outer petals all discoloured, and the whole bunch certainly not comely. There is another point on which he should make up his mind, viz., whether he is going to grow many garden Roses; there seems to me a good deal of exaggeration and misconception on this point. A good deal is said about our old garden favourites, of the Hybrid China, Hybrid Bourbons, Provence, and other classes; we are told of the delicious perfume of the old Cabbage and the beautiful form of Coupe d'Hébé, but I do not hesitate to say that in every respect wherein the excellence of the Rose consists, whether in form, size, colour or perfume, we can match and even excel them amongst the more modern Roses, whilst these latter have the very great advantage of sometimes favouring us with autumnal blooms. We are told that the tendency of the public is very much running in the direction of garden Roses. I question this; there are some of a different character altogether, such as the single Roses and the dwarf Polyantha, which are very desirable, the former lasting, it is true, only a short time, but the latter from the prevalence of Tea blood in them continuing for some months; my advice, therefore, would be to those who own small or moderately-sized gardens, not to be wheedled by any feelings of sentiment into giving much space for the "dear old garden Roses!" but to select those which from among the H.P.'s and Teas are well known for their beauty and good constitution. There is another point on which I think growers ought to be very decided, viz, not to admit any scentless flowers into their rosary. Invariably, when one is given a Rose, one puts it to one's nose to inhale its perfume, and the term sweet-scented, as now applied to some Roses, shows that this unpleasant innovation of scentless flowers has made its way amongst us. I believe that Victor Verdier was one of the first delinquents in this particular, and any Rose that has been in any way connected with that flower appears to have inherited this character. Baroness Rothschild is, no doubt, a very beautiful Rose, but it altogether lacks perfume, and yet no doubt it will continue to be a favourite Rose, this defect notwithstanding.

In filling up gaps, I do not think that much expense will have to be gone to in the purchase of new Roses; I do not believe that there is one of the French Roses of 1893 that has made any mark, and it is to our home-raisers that we are to look for novelty. Thus, Marchioness of Londonderry, Mrs. Sharman Crawford, and Marchioness of Downshire, of Messrs. Alexander Dickson & Sons; the Clio and Spencer of William Paul & Son Clara Watson of Mr. Geo. Prince; Charles Gater of Messrs. Paul & Son, will be looked for by those who wish to add beautiful and good constitution Roses to our collections. There is no doubt, too, that the Hybrid Sweet Briars raised by Lord Penzance, and to be sent out by Messrs. Keynes, Williams & Co., of Salisbury, will be equally sought after by those who have space for pillar Roses, or may wish to cover fences or walls.

With regard to the autumn treatment of plants and preparation for the winter, we in the southern part of England are placed at a considerable disadvantage, the entire absence of straw having compelled us to litter our Roses with German moss litter. This is quite inapplicable to the purpose of mulching the beds, which I am always in the habit of doing in the autumn; last year, in accordance with the recommendation of a well-known rosarian in the pages of a contemporary, I covered my beds with a plentiful supply of leaves. They all looked very nice for a while, but the first gale that arose carried them off in all directions, and left the beds bare. They were not only scattered over the garden, but got into my greenhouse and pit, and gave everything a general air of untidiness; so that I resolved never to try that experiment again. Straw, however, is now abundant, and one may hope in some way or other to give the beds a mulching before severe weather sets in. Were nothing else available, I should simply earth-up the plants, and then cover the beds with bracken, which is abundant in our neighbourhood.

My plants, and I hear from others that they are in the same state, have made very strong shoots this summer, and everything should be done to make these available for next season's work. September, which gave us in this locality the heaviest rainfall we have had in that month for many years (nearly 4 inches), has not done much towards ripening the wood, making it more desirable that the cutting-out of the wood of last year should be thoroughly done, and so air and light more freely admitted. There are two ways of treating these long shoots, either staking them or else shortening them by about one-third, in both cases preventing their being knocked about by the wind.

Roses on walls and fences should be also carefully looked after; these will mostly be of the Tea and Noisette section, for in such flowers as Gloire de Dijon and her many daughters, more or less like the parent, and in the Rêve d'Or, William Allen Richardson, climbing Niphetos, and climbing Devoniensis, we have the very best Roses for these purposes, and especially such Roses as Rêve d'Or, where you have almost evergreen foliage, and not the long bare shoots which somewhat mar the beauty of the Dijon section. I have always found it a good plan to attend to these in the autumn, cutting out such wood as may be either unsightly or unsuitable for flower, and laying in some of the young shoots which are sure to have been produced. Teas may be pruned back, but the Noisettes had better be left alone.

I would again recommend Longworth Rambler as giving colour, all the Teas and Noisettes recommended being of various shades of white and yellow. To this may also now be added Crimson Rambler; it promises to be a most useful Rose, but I think more adapted for pillars than for walls. I have not said anything about the protection of dwarf Teas, for in this locality—Kent—I think they are quite as hardy as H.P.'s. But I have seen it recommended to cover them; but this seems to me to be useless, and I generally prune them as hard as other Roses, and the wood of this year, whether protected or not, will suffer either from the frost or the knife. Moreover, the hardiness of the stock is the main consideration in determining the hardiness of the plant, and most of our Tea Roses now are budded on the seedling Briar, and Briar cuttings from our own hedge-rows. *Wild Rose.*

TRELISSICK, NEAR TRURO.

This beautiful property belongs to Mr. Davies G. Gilbert, and is situated about half way between Truro and Falmouth, on the western side of the richly-wooded estuary into which the Fal and other rivers empty themselves. Some idea of its extent may be formed when it is stated that there are eight miles of carriage drives through its woods. The views from the grounds are of the loveliest kind imaginable, owing to the undulating character of the country, and to the windings of the estuary. It seems almost impossible to conceive scenery more beautifully diversified. Looking north-east, there is a magnificent view of Lord Falmouth's mansion of Tregothnan, about 2 miles off as the crow flies, and more than 200 feet above sea-level; whereas the highest points about the grounds of Trelissick are less than 100 feet high. A special cutting as been made through the woods of Trelissick, to obtain this view of Tregothnan, and visitors are brought by residents from many miles round to ask permission to see this charming bit of scenery, in which the broad river-like estuary twice crosses the landscape. The views from the terrace in front of the mansion are singularly varied, a change of position of only a few feet affording a new prospect. Falmouth and its harbour are the most conspicuous objects, while further on is Pendennis Point, beyond which may be seen vessels passing up and down the English Channel. The pleasure steamers between Truro and Falmouth are frequently passing by, thus introducing motion into a picture of lovely still life.

The lover of trees and shrubs will, however, be more attracted by the curious and interesting plants, and by the good taste which is evidenced in the manner in which they have been grouped. Two specimens of Abies Smithiana (A. Morinda), from the mountains of Northern India, plants of which are so often cut down by frost in the young state, are here 60 feet high, with glaucous foliage of an uncommon shade, and numerous pendent cones. Benthamia fragifera, plants of which had flowered well, were fully 30 feet high (fig. 66). Embothrium coccineum, which was showing its last two trusses of scarlet blooms on August 16, had been 25 feet high, but lost 10 feet during a blizzard, and is now not more than 20 feet, had been covered with brilliant flowers. Paulownia imperialis, which flowers here every year, 35 feet; Ceanothus azureus, 26 feet; Cotoneaster Hookeri, 6 feet high, and as much across; C. acuminata, which flowers profusely, and is 25 feet in height; Acer polymorphum, 23 feet; Acacia affinis, which had been 40 feet, but was seriously injured by an unusual frost of 17° this spring, is now shooting from the old branches up to 6 feet from the ground; Abutilon vitifolium, 20 feet, which had in spring a profusion of mauve-coloured flowers; large bushes, 20 feet high, of Pittosporum Mackayii, with its black-barked shoots; numerous specimens of Retinospora squarrosa, of a similar size to the last-mentioned; an Ozothamnus, 9 feet; large bushes of Choisya ternata, which flowered three times last year; four white-flowering species of Escallonia, viz., montevidensis, floribunda, scillonensis, and Phillipiana; Eulalia zebrina; Berberidopsis corallina, covering a wall 12 feet high, with scores of its deep crimson pendulous blossoms; Sparmannia africana, Grevillea rosmariniflora, Raphiolepis japonica, Cassinia fulvida, 6 feet high and 8 feet across; Rodgersia podophylla.

These are but a selection amongst the lovely things that are growing mostly in wild luxuriance here, and are rarely found to be hardy in any parts of Great Britain excepting in this highly favoured county of Cornwall, where the influence of the Gulf Stream generally prevents frosts of great severity, while the Atlantic breezes moderate the summer heat.

Our illustration (fig. 67) shows the Lily pond margined with Richardia æthiopica and Primula japonica, and at the further end may be seen a magnificent plant of Gunnera manicata, covering a space 32 feet in diameter, the largest leaf being 9 feet 3 inches in diameter. A previous illustration (fig. 66) shows how well Benthamia fragifera grows in this favoured garden.

The proprietor of this charming place is very fortunate in having had for many years so enthusiastic a gardener as Mr. Sangwin, who is most obliging in pointing out the many objects of interest on the property. To some of these we may refer upon another occasion.

CHRYSANTHEMUMS ABOUT LONDON.

(Continued from p. 476.)

Finsbury Park.—It is always a pleasure to view the display in this park, for it is rarely inferior to any other collection. Last season we had occasion to remark that Mr. Melville had got a new house at considerable expense for the large number of Chrysanthemums that is annually grown here, but although the house was built for this purpose, the majority of the plants are staged in the narrow span-roofed

house of considerable length that was used prior to last season, and the new house which during the summer has been furnished as a warm greenhouse with Palms and other decorative plants, is still retained for that purpose. Some of the 4000 plants, and such as could not be put in the narrow span through lack of room, have been arranged in small groups in this house, however, and so the new one is an agreeable spot, from the presence of flowering plants and foliage plants combined. It is to the other one that the greater interest attaches to the Chrysanthemum lover, as here the greater part, as well as the choicer plants of the collection are staged. The group is arranged in the shape of a ridge, with a walk all round, so that one half of the display only is visible at the same moment; and though in several respects such a display as was possible in the larger and much wider house is not obtained here, yet the arrangement is not by any means a poor one, and the ingress and egress of visitors is easy, and manageable. A number of the newer varieties have been added, but few of these had yet opened flower. Amongst older kinds, Viviand Morel was capital; Avalanche, with four good blooms on each plant, was noticed in many instances; and Sunflower, W. H. Lincoln, and W. Tricker, were large and good. The large Duchess of Devonshire was noticeable, and specimens of the old James Salter, Eynsford White, Stanstead White, Margot, and Val d'Andorre also. Louis Bœhmer had its hairy flowers almost expanded, and there were large, highly-coloured blooms of George W. Childs, the richest-coloured of all varieties. The dark flowers of William Seward were plentiful, and of good size, and among the incurved sorts those of Baron Hirsch deserve particular notice. The collection, as last year, is surrounded by a good band of Pompon varieties, but at present these flowers are only partly expanded. The Pompon section is better represented in this collection than in most of the Parks.

Victoria Park.

In this park, situate a few minutes' walk from Cambridge Heath Station on the Great Eastern Railway, a collection of about 3000 plants is arranged in the house now familiar to visitors to the Chrysanthemums in this district. The quality of the plants in general is equal to the high standard that we have observed here for several seasons past, but they are a little later than usual. Arranged on either side of a span-roofed house, with a central path, the plants have been staged in as good taste as is compatible with a path from which the whole collection is visible at once. An objection to a winding path and groups of an artistic nature is taken on the ground that with such an arrangement it would be impossible to keep the visitors moving in anything like the convenient manner that obtains at present, and upon Saturdays and Sundays, when a wonderful number of visitors are present, the result might be that hundreds would be unable to see the collection at all. Miss Anna Hartshorn showed up particularly well here, and William Tricker, a first-rate flower when in good form, had capital colour, and was of large size.

An unusual number of plants of Mrs. C. H. Payne were remarkable both for the display they furnished as well as for the excellent quality of the individual blooms. Louis Bœhmer was very large, but the flowers were not quite developed. Orientalis, a variety in the way of and superior to the old Curiosity, was good, and looked uncommon, for it figures but little in the several collections. Mr. J. Laing, W. Holmes (splendid colour), Edouard Audiguier, Robert Cannell, Bouquet de Dame, Mons. Tarin, G. C. Schwabe, Mrs. E. W. Clarke, Florence Davis, Wm. Seward, and E. Molyneux, were all noted as good. Gloire du Rocher, which had exceptionally fine colour last season in this collection, though slightly less bright, is again more than ordinary colour. A variety now seldom seen, but one of fair quality when in very fine condition, is Novelty, and a plant with three or four large blooms attracted attention. The new Duke of York was in bud, and it is the opinion here that this variety is useless if the crown bud is "taken." Louise was in bud also, as well as Lizzie Seward, Hamlet, and Mr. W. Troy, the latter an average quality Japanese variety of lemon-yellow, sent out by Mr. H. J. Jones. Many other new varieties have been added to this collection, the result being that a visit will be the more interesting. Of incurved flowers, there will be a better display in about a week. At present Mons. R. Bahuant, Baron Hirsch, and a few of the earlier varieties are only in bloom. Since last season Mr. Gibson, who was superintendent at that time, has been succeeded by Mr. Norman, who with the grower, Mr. Large, is responsible for the display.



Fig. 66.—Bentham ia fragifera at Trelissick. (see p. 500)

Waterlow Park.

The charge of this very pleasantly-situated park at the summit of Highgate Hill has changed hands since last season, Mr. Curle, who has taken charge of the park at Southwark, being succeeded by

Mr. Jno. Pallett. During the growing season, the clearer air at this elevation is favourable to the Chrysanthemum in comparison to the districts in which others of the parks are situated; but considerable inconvenience is experienced in housing the plants, the only accommodation being that provided by several lean-to vineries and an old-fashioned conservatory. To the general visitors, perhaps, the pleasure of a visit is by no means impaired by such surroundings; on the other hand, the few remaining bunches of Grapes that hang above the plants have a curious fascination for them. The only advantage these houses offer to our mind is, that the plants are stood much below the level of the ground, and the blooms instead of towering high above the head of the visitor, are rather below than above his own level. The plants this season are very commendable, and such varieties as Eynsford White, Edwin Molyneux, Alfred Lyne, Etoile de Lyon, Miss Anna Hartshorn, Bouquet de Dame, William Cobbett, Mrs. G. Rundle, Mrs. Geo. Glenny, Mdlle. Louise Leroy, Vivand Morel, Golden George Glenny, and Amos Perry, had blooms of first order, whilst numerous others are likewise of considerable merit. J. Shrimpton, amongst the newer sorts, was observed in good style; and William Seward and Florence Percy, the latter a white Japanese, with pale lemon centre. Mons. R. Bahuant was the best incurved variety. We must not omit to mention the splendid show of summer-flowering varieties in the border outside the house, all the best varieties have been extensively planted, and a wealth of bloom creating a display approaching that obtained inside has only just been marred a little by the frost.

Mr. Pallett says that as many visitors have been to see the display of these flowers as he expects will view the later and larger-flowered varieties. The park is a few minutes walk from the Archway Tavern, Highgate, and not far from the Upper Holloway Station on the Midland Railway.

Mr. H. J. Jones', Lewisham.

The lateness of the Chrysanthemum season is as evident at Mr. Jones' nursery at Hither Green, Lewisham, as anywhere. "We are a fortnight late," were the words with which we were greeted by this enthusiastic and successful grower. Nevertheless, there were many novelties already in bloom and on the point of opening, though some hundreds of plants rich in new varieties had not yet commenced to break their buds. Although this is a comparatively young business, it has grown unusually fast, and the number of trials, by which we mean the number of so-called novelties hailing from the Continent, Japan, and America, that are tested annually is remarkably large. Anyone who takes much interest in Chrysanthemums has some idea of the work this necessitates, and perhaps also of the very small percentage of real acquisitions which are to be obtained from the "new and startling" varieties that reach this country. However, it must be presumed that sufficient prizes are found amongst the bran to compensate the outlay, or it would not be continued. Regarding the collection on the whole, and in respect to the display it will furnish at the nursery, we found that the show will be made in the same house as last year, and the plants are staged in the same manner, with a winding path through the centre, an arrangement that met with frequent admiration last season. Prominent among the novelties is the excellent lemon-yellow Japanese Duchess of York. It was raised by a gardener in Scotland, and is already certain of a very large sale. The blooms on Mr. Jones' plants were not quite expanded, but some excellent flowers were exhibited at the Drill Hall on Tuesday last, and noticed in our report. Thomas Hallyer is the name of a rather loose-flowered Japanese from Italy. The florets are bright crimson, with dull silver reverse. It strikes one as likely to make a good exhibition flower another season. M. Martignac is a new yellow incurved, a small flower, but sufficiently good for a collection. Hairy Wonder was quite a novelty last year, but it will be exhibited in splendid form this season. There are numbers of plants here, and they furnish splendid flowers in size and build much superior to any other hirsute variety, and the plant appears to be a capital doer. Novelties of this section are likely to be plentiful this year, and we noticed a yellow one from Japan named King of Ostrich Plumes that may turn out good, but requires more time to tell. Souvenir de l'Ami Coyè is a hairy white flower, with pale yellow centre when opening; it is a better grower than Mrs. A. Hardy, but whether it will prove an improvement on White Louis Bœhmer is not certain. Lady of the Lake, as seen in a partly-developed flower, will differ in colour from Hairy Wonder, perhaps be heliotrope. Turning from the hairy section, Phœbus is the name of a slightly-reflexed Japanese of a very pleasing yellow. This is the first year, and it has three good blooms on a plant; the florets have great substance. Mr. W. Wright is an English seedling, a little like Belle Paul; the florets are rose-and-white, and are pretty. Mrs. W. H. Lees is known already a little, and was one of Mr. Jones' seedlings last year; it resembles Puritan, but is of extraordinary size, and has been certificated by the National Society. An incurved Japanese is the Duchess of Wellington, another English seedling; it has good, long, rather stiff florets, of a decided yellow. W. G. Newitt will make a good white Japanese; very deep flower. A little similar to Mrs. F. Jameson is a variety called Flood, but of better colour; and Lady Randolph, a Lewisham Seedling, is an incurved Japanese of specially good habit. The colour is rose, with silver reverse. A variety with curiously-twisted florets, has been appropriately named The Maze; it is rose-coloured, with silver reverse, and to our mind is too contorted in appearance. A white incurved Japanese with loose flowers, is Lady Smith, very meritorious, on account of its grand habit, generally growing less than 3 feet high. Mrs. E G. Hill is another incurved Japanese, the flower is of much excellence, and the delicate flesh colour is very attractive. It was certificated recently by the National Society. We must now mention a really fine Anemone-flowered variety named Descartes, from France. The outer florets open a very deep crimson, which fade a little after a time, and the centre has a yellow or bronze cast. This is the best deep-coloured variety of any Anemone-flowered we remember to have seen. Madame Carnot is not yet in flower, but the buds on a plant here are stronger than any in the collection, and promise immense flowers. This variety was distributed by Calvat this year, flowers were seen at the Aquarium last year and certificated. It is supposed to be the largest white one of all, is very pure, and florets are long and drooping. We may see some fairly good flowers during the autumn, but the plants were sent out very late, and this will be prejudicial. The last one we can notice on this occasion is Alice M. Lowe, a very pure white incurved Japanese. It is pretty, and the florets are broad, flower good and deep, but its chief merits are the purity of the blooms and its good habit.

SEASONABLE NOTES ON FLORISTS' FLOWERS.

October is a busy month with the florists. The Carnation and Picotee require special attention this month, as all the layers must be removed from the parent plants, and be either potted up or planted out where they are to flower. We are doing both. I have a large number to plant out, and a greater number to pot up for next season's bloom. I hear from various sources that the plants, or rather layers, have not formed roots freely this autumn. Where they were layered early this is not the case, as they have formed roots freely on our early layered stock. Many persons do not begin to layer their plants until the bloom is nearly over, and in a late season this is disastrous to the future of the plants. Any scarce and valuable varieties should be layered without considering too much whether the bloom is to be slightly injured thereby, but I do not think it is materially injured. The flowers seem to open as well upon layered plants as upon those that have not been layered. I would advise all those who have a considerable number of plants to operate upon to begin layering about the middle of July, as the layers generally form roots well from the middle to the end of that month, and very much more slowly after the middle of August. They will not do much in the way of forming roots after the middle of October unless some roots have been formed by that time, but those that are formed will continue to grow when the weather is mild. When the old stools have to be removed in October the unrooted layers may be taken off, potted in sandy soil, and the small pots plunged to the rims in a gentle bottom heat. Roots will form more rapidly in this way than if the layers were left upon the plants in a cold position. Complaints are made this season about "spot." This sadly disfigures the plants in some districts, and there does not seem to be any cure for it. If the plants pass through the winter without losing their foliage they generally recover again when growths begin in the spring. The rush, as some growers term the Helminthosporium which live upon the leaves, does not depart either in winter or summer, but it can be got rid of by constant watchfulness. The spots must either be rubbed out by the fingers, or the leaves attacked should be cut off, regardless of the appearance of the plants. Growers were much frightened when it first appeared in collections, and it is certainly very destructive if not taken in time. Plants in frames, as soon as they are well established, require plenty of ventilation; tilt the lights well in inclement weather, and pull them off altogether when the weather is mild. The Carnation, like all hardy plants of this kind, succeeds best in an open position, and protecting them at all with glass lights is a necessary evil. I find the plants put out now or early in November in the open borders grow more strongly and flower better than those planted in the spring. *J. Douglas.*

The Week's Work.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

SWEET BAYS AND MYRTLES—Specimen trees of these, and Orange and Lemon trees and bushes, ought now to be brought under cover, and if convenient, put into their winter quarters. Occasionally before winter sets in, it is good practice to prevent an untimely casting of the leaves, to syringe them heavily. American Aloes (Agaves), and tender succulents which may have been grown for effect in the garden or on terraces, should now for safety's sake be placed where frost will not injure them. Afford all of these plants as much air as possible after housing night and day whilst it is not frosty.

HUMEA ELEGANS.—Plants may be growing very strongly, and in that case they will require a shift before the winter sets in, doing this before the roots become much interlaced, or as it is called, pot-bound. Failure to do this causes the loss of their lower leaves, and spoils their symmetry and beauty. Keep the plants in a cool greenhouse near to the roof-glass, and do not let them lack water at the root. Humeas like sandy loam; a small quantity, say, one-sixteenth of the whole, of decayed manure, and firm potting; and not less than one inch space left for the holding of water.

PÆONIES.—Where the increase of the stock of any variety appears desirable, the present is a good time for dividing the roots. When they have occupied the same spot for a long time their removal is generally an advantage. At the same time division may take place. The new position for the plant should be dressed with fresh loam and manure, and be well trenched if the land admits of it.

LILIES OF THE VALLEY, SOLOMON'S SEAL, MONKSHOOD, and **FLAG-LEAVED IRISES,** may be divided and replanted, but should not be exposed to the air longer than can be avoided.

LILIES.—Beds or clumps of Lilium candidum or L. tigrinum, which may not be quite satisfactory, should be examined at once, and if an increase of the stock of either is desirable, the younger bulbs should be removed, and planted in a bed by themselves. Should signs of rot appear at the base of the old bulbs, the ground should be drained in some manner, or a fresh position found for them. A light and porous soil, and if sandy so much the better, suits these, and most species of Lily, for it is readily enriched. The position should be a sunny and sheltered one, and above all, well drained. The bulbs may be planted in lines if in beds, the distance between the lines, and also from bulb to bulb, to be determined by their size, but it should not be less than 6 inches for the smallest. When cutting out the furrows with the spade, let them be of sufficient depth to allow of a layer of rotten manure, with another layer of soil and sand over that, upon which the bulb will set. The ordinary soil may be closed round and over them, to a depth of 4 inches.

GENERAL WORK.—This will consist of refilling beds and sweeping lawns, as, owing to the mild weather, the grass is still growing. Clean gravel-walks, put the grass verges in proper order. Shrub borders should be hoed, and the weeds cleared off. Summer varieties of Chrysanthemums that are not yet in flower may be taken up from the open borders or beds, potted, and stood indoors. These will furnish cuttings for next year's planting.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

PRUNING ORCHARD TREES.—Make effort to carry out the above at an early date, especially if the trees are young. All the varieties of a loose and too-spreading habit of growth as the following varieties, amongst Apples, Brabant Bellefleur and Peasgood's Nonsuch have long branches, these should therefore be shortened sufficiently so as to give more compactness to the crown, fruits on long slender branches being very liable to be shaken off or whipped by the branches in windy weather. Remove many of the weaker branches in any crowns which may be crowded in the middle. If time can be spared for the pruning of old orchard trees, the same directions will serve, and if the work be finished whilst the weather is mild, the wounds will heal more quickly than is the case with those made in the winter. It is well to remember that all cuts made with a saw should have the surface made smooth, especially the jagged bark. The long-handled tree-pruner is an excellent instrument for shortening back the long branches out of easy reach by means of a ladder.

RASPBERRIES AND BUSH FRUITS.—Where new plantations are going to be planted during the present season, the land should be forthwith prepared, heavily manuring and trenching it where Raspberries and black Currants will come. In light soil it does much good to remove some of the staple and replace it with retentive loam. In retentive soils that are not shallow, black Currants and Raspberries will afford good crops for many years with annual manurings, but in those of the opposite nature a few years' cropping exhausts them, and another quarter must be planted. For red Currants and Gooseberries the land should also be trenched, but unless it be very infertile, manure will not be needed at first, or over-luxuriant growth rather than fruitful shoots will be the result.

THE FRUIT ROOM.—For a few weeks to come the fruit-room should be well ventilated, especially during the night; one of the objects of so doing being to lower the temperature as much as possible. This is all the more important where many soft-fleshed Apples like Warner's King, the Codlin tribe, and others similar are stored, such varieties keeping but for a short time after being stored if not kept very cool. If this temperature should prove too low for the proper ripening of dessert Apples and of the Pears, Marie Louise, Doyenné du Comice, and Brown Beurré, some of these fruits should be put in boxes and removed to a warmer place, thus affording a longer season for them. A vinery where late Grapes are hanging is a very suitable place for Pears whose ripening has to be hastened. The fruit in the fruit-room will require frequent examination for a month from the present time, so that no rotting fruits may escape notice.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

RHUBARB.—As soon as the leaves and stalks of those roots which it is intended to force part easily from the crowns, clear them away. By doing this, the crowns are better exposed to the sun, and become well matured sooner than would otherwise be the case. A number of roots may be lifted for the earliest lot, and left on the surface exposed for a period of three weeks, or thereabouts. The best early variety is Johnston's St. Martin's, because it forces readily. The action of the frost on the roots completes the ripening process, and as a consequence the stalks show freely when forced. As a place to force Rhubarb, a warm cellar or the Mushroom-house, if in use, will bring them on nicely; but if the produce is required quickly, a higher temperature and a considerable amount of humidity may be afforded.

SEA-KALE.—Like Rhubarb, this plant requires the crowns to be thoroughly ripened; but the present season favouring late growth in the plants, the leaves cannot be readily detached before a sharp frost or two have occurred. If very early produce is looked for, some of the ripest crowns in the plantation may be lifted and laid in, in an open part of the garden, leaving the crowns and about 2 inches of the root ranging above the ground, which is a better method of maturing them than leaving them wholly uncovered, too much drying of the roots being detrimental.

CELERY.—No time should be lost in finally earthing and banking-up the early crops. The late Celery may receive additional soil from time to time, as the leaves grow out of that previously added.

BRUSSELS SPROUTS should have all the lower leaves cleared away, thus admitting air to the plants, and removing those which have an offensive smell. In some gardens it may be advisable to cut the Sprouts when gathering a dish, leaving a few eyes at the base of each to furnish small greens in the spring.

CAULIFLOWERS IN COLD FRAMES.—The potting of the plants may not be longer delayed. The sizes of pots which are most suitable are large 60's or small 48's, the soil chiefly loam, and the potting to be firmly done. Do not let them stand far from the lights, and ventilate freely at all times when there is no frost. In very severe frost, some litter or double mats will afford them all needful protection.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

CUCUMBERS.—The plants which are to give winter fruits will now require a temperature of 65° to 70° by night, and 75° to 80° by day. Ventilation must be carefully regulated in accordance with the weather, admitting air by the upper openings in the daytime. The bottom-heat from whatever source should be kept steady at about 78°. Cucumber plants which were planted out or put into their fruiting pots early in the last month, should now be showing plenty of fruit, and endeavours should be made to maintain the foliage sturdy by affording air in mild weather and by avoiding too much moisture in the air by damping down, &c., when the light is on the wane, or the shoots will be drawn, and unhealthy, and the fruits deformed. Crop lightly, so as to enable the plants to perfect a succession of fruits, heavy cropping now being opposed to good crops later on. The male blossoms should mostly be removed after making use of the pollen in impregnation; lateral shoots should be stopped at the first joint, allowing the main shoots to grow without stopping. The supply of water to the soil must not be overdone, a mean being struck between drought and wetness, but sufficient should be afforded to keep the roots growing steadily; and occasional light dressings of loam and manure should be placed all over the beds, pots, or hillocks. In using means to kill aphis at this season, do not fumigate, the foliage being too susceptible to injury, but make use of Quassia-water; and as against red-spider or thrips, sponge the leaves with lemon-oil mixture; and if mildew should appear, dust it over with flowers-of-sulphur.

TOMATOS.—The fruits for winter supply should now be in a forward condition, a steady temperature of 60° to 65° should be kept by night, and a little air admitted in mild weather; and by day it should range 70° to 75°, with abundance of air in mild weather. Much root watering will not be needed, but rather keep the soil on the dry side. Those plants that may be growing in pots will require more water than those which are planted in beds of soil, still it must not be excessive in amount. When the leaves of Tomatos are of a deep green tint it is a sign that the cultural conditions are right. All side-shoots may be removed from plants that are kept to one stem; and the fertilising brush used freely every day to the plants showing flower. If the Aleyrodes-fly is very troublesome, fumigate the house, it will not injure either the plant or fruit.

ORCHARD-HOUSE.—The potted trees that were placed out-of-doors should now be pruned, repotted, and trained. Those which are not repotted should have the drainage put in order and be surfaced with fresh loam and manure, after picking out a good quantity of the old soil. Pot newly bought young trees in strong turfy loam, mixed with mortar rubbish and crushed half-inch bones. Let the pots be quite clean, and the drainage good. Having finished these operations, remove the plants to their winter quarters where the roots will be safe from frost, the heated orchard-house being the best place for them, covering the pots with stable-litter or dry bracken. Trees that are planted out in the borders of the orchard-houses may be cleaned, pruned, trained, and put in good order generally; and those that are growing very strongly replanted.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

THE POTTING OF PLANTS FOR FORCING.—The Continental supplies of these plants are now arriving, and can be purchased of our nurserymen. Azalea indica, though usually bought as potted plants, should nevertheless be repotted, as I find this operation has seldom been satisfactorily done by the foreign workmen. The potting-soil should consist of sound peat, a small quantity of fibrous loam, and plenty of sharp silver-sand, and the soil should be firmly rammed down round the ball, so that the water may not pass more freely through the new than the old soil. It is a very important point to have good drainage in the pots. The mollis and Ghent Azaleas being less fastidious than indica as regards the soil, less peat may be afforded, and more loam and sand, as well as lime rubbish; and a similar compost will be required by Lilacs, Staphylea colchica, Prunus sinensis, Japanese Maples, Genistas, Pernettyas mucronata, and Viburnum Tinus, all of which, when potted, should be plunged in coal-ashes, with the exception of Azalea indica, which should be placed in a structure from which frost can be excluded, A good deal of ventilation should be afforded these plants, and if the structure is a pit, the lights should be kept off them, unless heavy rains or frosts are experienced. The almost indispensable Lily of the Valley, if bought as clumps, should be placed partly in boxes, packing them round with some good garden mould, and partly in pots; the latter being selected from the stronger clumps. It may be as well to mention here that for very early forcing the strong crowns are much more trustworthy than clumps, affording immense bloom-spikes even when forced early. They require plenty of water. For Lily of the Valley, the pots may be 5 and 6-inch, and in these twenty-five to thirty-five crowns may be placed, according to size and quantity of roots. Cocoa-nut fibre refuse should be used about them, pressing the crowns very firmly into this somewhat soft material, which forms a good rooting medium, and is less liable than soil to become soured from frequent waterings.

RHODODENDRON HYBRIDUM.—These plants, whether taken from the reserve garden or purchased, may be either potted forthwith, or planted temporarily in some convenient place, where they may be taken up when required. It is not advisable to place these plants in pits, as if not very abundantly ventilated, the leaves assume a sickly hue, and drop, to the great disfigurement of the plants.

BEGONIA GLOIRE DE SCEAUX.—This useful plant, now coming into flower, should be afforded quarters in a warm-house. Stood amongst Ferns and small Palms, &c., it adds interest to the display. Liquid manure should be afforded the plants freely, if they are grown in small pots and are well-rooted. Another valuable variety, although less free to flower, is B. pictavensis; this plant lasts a long time in bloom, and is greatly admired on account of its pretty flowers, which are of a soft pink colour.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication.—*All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

FRIDAY,	Nov. 2	Dundee Horticultural Association.

SHOWS.

WEDNESDAY,	Oct. 31	Kent County Chrysanthemum (two days).
THURSDAY,	Nov. 1	Highgate and District Chrysanthemum (two days). Chudleigh Chrysanthemum.
FRIDAY,	Nov. 2	Crystal Palace Chrysanthemum. Havant Chrysanthemum.

SALES.

MONDAY,	Oct. 29	Dutch Bulbs, at Protheroe and Morris' Rooms. Plants, at Protheroe & Morris' Rooms. Clearance Sale of Nursery Stock, at Frettingham Nurseries, near Nottingham, by Protheroe & Morris (four days).
TUESDAY,	Oct. 30	Dutch Bulbs, at Protheroe & Morris' Rooms. Nursery Stock, at the Nurseries, Ninehams Road, Upper Caterham, by order of Mr. G. T. Sedgley, by Protheroe & Morris. Twelve Freehold Farms and Farmhouse, situate at Whitstable, Kent, at the Mart, Tokenhouse Yard, by Protheroe & Morris.
WEDNESDAY,	Oct. 31	Dutch Bulbs, at Protheroe & Morris' Rooms. Sale of 100,000 Fruit Trees at Perry Hill, Cliffe, near Rochester, by order of Mr. W. Horne, by Protheroe & Morris.
THURSDAY,	Nov. 1	Sale of Nursery Stock and Fruit Trees, at the Hickmandias Nursery, Knockholt, Kent, by order of Mr. A. Waterman, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms. Dwarf Roses and Continental Plants at Protheroe & Morris' Rooms.
FRIDAY,	Nov. 2	Orchids, at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.
SATURDAY,	Nov. 3	Dutch Bulbs, at Protheroe & Morris Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—46°.

Vegetables.

Professor Henslow's lecture at the Royal Horticultural Society on Tuesday last was an excellent example of a "popular lecture." He did not indulge in the romantic inaccuracies and misleading statements, which fluent but half-informed lecturers delight in, but he gave within the time-limits at his disposal an excellent summary, brimful of information, clearly explained, and even fuller of fruitful suggestion. After a brief survey of the nutritive value of vegetables, and after showing on what circumstances that value depends, the lecturer passed in review certain selected illustrations, such as the Turnip, the Radish, the Cabbage, the Potato, &c. The general history of these plants was sketched. Of some the origin is lost in obscurity, of others the source is well known. The methods of "ennobling" the wild plants by continuous selection and cross-breeding were illustrated, and attention called to the very curious, and at present unexplained, circumstance, that some plants are very variable, whilst others nearly allied and growing under like circumstances are relatively stable and immutable. The plants yielding our cultivated vegetables belong to the former class. Speculative reasons for the difference are very interesting, but hardly appropriate in this place. Suffice it to say, that it is very probable that the apparent stability is due for the most part, if not entirely, to want of adequate experiment on our parts rather than to constitutional inability to change. Having come into the possession of Wheat and Vines, and oil, of Cabbages, Potatos, and pulse, we continue to grow what our forefathers grew, and find them so good that we are little tempted to make experiments with new material, and work on similar lines over to those adopted by our forefathers. But this is selfish and wasteful on our parts, selfish because we show ourselves willing to avail ourselves of what our ascendants did, but are not so ready to confer similar benefits on our descendants; wasteful because we allow the riches which are prodigally bestowed upon us, or which are at least within our reach, to be left unutilised.

Of the hundreds of thousands of plants, we utilise only a few scores. Can any one doubt that a vast number more might be turned to account? Can any physiologist or experimentalist who sees and knows what has already been effected with a few plants, have the least doubt that far more might be done in the future? Depend upon it, it is not the so-called fixity and stability of plants that keeps us so closely in one groove. We do not deny that some plants are more stable than others; but we do assert that the chief obstacle to progress resides in apathy, prejudice, and ignorance. Now that there are symptoms which show that the principles as well as the practice of gardening will be taught in our technical schools, we may hope for more marked advance in the future.

Training Chrysanthemums.

Various are the methods practised of training Chrysanthemums for the production of large blooms. In referring to the different methods in vogue, our remarks will be confined to those plants which are grown for furnishing large blooms for exhibition or other uses, and not to trained specimen plants.

Some cultivators top the plants when 8 inches high, whilst they are standing in cold frames, even when they have been struck and grown on in their first stage in a cool house. Three branches are generally selected by these operators, the result of the topping, all others being promptly removed. The shoots are trained outwards to several stakes, so as to give them increased space and light. The second bud forming is selected for the production of the blooms which are generally large, but owing to the wood not being thoroughly ripened, consequent on the late topping and the growths being behind their natural stage, these are not of first-rate quality, and lack the essential points that an incurved bloom should possess, viz., depth and solidity. One cultivator, especially, who practises the system here detailed, has been an exhibitor for the last twelve years, but has never taken a leading position where the competition was keen.

So much then for such a method as that described. With a view of reducing the height of certain varieties (Prince Alfred, for instance), a Liverpool cultivator tried the following plan eighteen years since. He was a successful exhibitor, too. The point of each plant was pinched-out at 4 inches high. This induced the production of several shoots; two of the strongest were selected and tied to a stake, and allowed to extend till the first natural break, and from this break two other shoots were carried up. The plants thus produced four blooms each. The plants in question grew to a height of 8 feet. Therefore, the object aimed at was not gained. This variety has, to our knowledge, grown to the abnormal height of 12 feet in some seasons. Another plan of reducing the height of the plants is the following:—Some growers in the early stages starve them by withholding water, and also allowing them to become root-bound previous to shifting into larger pots. The effect of such treatment certainly reduces the height of the plants, but the flowers produced are rarely of the first order of merit, being generally small and lacking depth of petal, and consequently solidity and symmetry. A plant rendered constitutionally weak by starvation cannot produce flowers in perfection.

There are persons who both advocate and practice the method of growing the plants with but one stem, or at the most two, not topping them at all, but allowing them to make the customary breaks naturally, restricting the number of shoots each time to those stated. All other conditions being favourable, good flowers are produced by such plants, but the practice is a wasteful one, as one plant will produce more flowers of equally good quality. In fact, the Bahuant, for example, will give six better blooms from one plant than it will three. This is a notable variety in that respect, three blooms being the orthodox number to take from each plant where all points of quality are expected and desired.

Some nurserymen recommend late propagation of the plants. Exhibitors and cultivators generally prefer early propagation, say the month of December for taking the cuttings, to February or March as some advise. Instances do, however, occur, of an individual example or two in a collection giving a bloom equal to any of the plants struck earlier, but so rarely does this occur, that the system has little to recommend it as a finality.

As a general system for producing the best results, and taking the various kinds of weather we have to contend against during the different seasons that affect the growth of Chrysanthemums, it is best to allow varieties to assume (with but one or two exceptions), their natural habits, the growth is then solidified, and all the wants of the plants met at the proper time. The plants are not topped at all, but allowed a free uninterrupted growth until the first natural break, which occurs at various times from early April to the same time in June, according to the variety, the time the cuttings were inserted, and the manner in which the plants have been managed since. Some tall-growing varieties will reach 4 feet before they make their first break, while others pass through this stage when but 18 inches high. No absolute rule can be laid down as to the time of the first natural break; when it does occur, the bloom-bud must be rubbed out and three of the strongest shoots selected. These must be securely tied to a stake as they grow, as they are brittle, and likely to be damaged.

All side shoots which are made from time to time should be promptly removed, so as to concentrate the whole energy of the plant in the selected shoots, thus giving them all the support possible.

This phase of culture is not the work of a few weeks, as some would have us suppose, when the topping practice is adopted, in May, June, and July, for instance, as we are led to believe. The wood of Chrysanthemum plants must possess solidity, the result of timely maturation, to give us the incurved blooms which not only win prizes, but stand as examples of methods practised and advised. No cultivator ever gathered perfect examples of this section from ill-ripened, softly-grown plants. It is in the production of this type of blooms that the greatest skill is needed, and the best systems necessitated.

an alphabetical index of Latin and Greek terms, with the synonyms of each, in four modern languages (Haarlem de Erven Loosjes). The result is a reference-book likely to prove very serviceable to both readers and writers, when at a loss for the correct equivalent of some foreign word, which, should they have recourse to a more bulky general lexicon, might prove from its technical nature to be therefrom excluded, and the seeker's labour in vain. The book is dedicated to Mr. Th. S. Ware, of Tottenham, and contains a short preface by M. Fr. Crépin, Director of the Brussels Botanic Garden. Some rather curious Latin words are inserted which we do not find in our Dictionary, such as *unatus, utilus, varitwelve new varieties (cut flowers) of Dahlias, single blooms (*par acclamation*) to M. François Desbois; for Cattleya Schilleriana (*par rappel*) to M. J. Hye; also for Cypripedium Albertianum (*par rappel*), Cattleya labiata autumnalis var., Odontoglossum grande var., and Cattleya exoniensis, all from the last exhibitor; and for Cattleya guttata pernambucensis from M. le Marquis de Waverin. Honourable mention for novelty and variety was awarded for Cypripedium Pollettianum (calophyllum × œnanthum) from M. Ed. Pynaert; for C. Madame Emile Gayot (Harrisianum × Chantini) from the same exhibitor; and for two tuberous Begonia striata from M. Jean de Kneef.

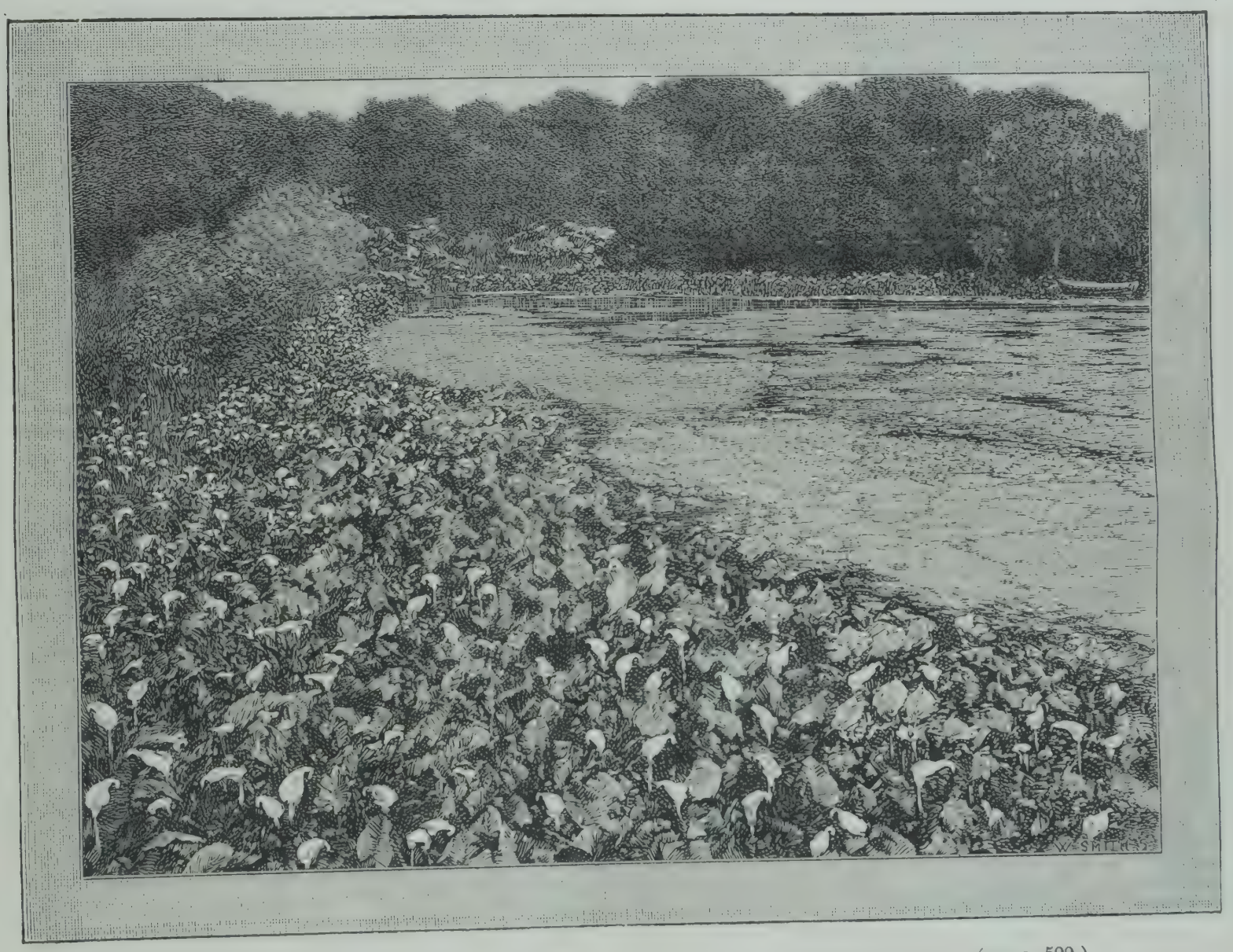


Fig. 67.—the lily pond, trelissick, bordered by white arum and japanese primroses. (see p. 500.)

Linnean Society.—The first meeting of the Session 1894—5 will be held on Thursday, Nov. 1, 1894, at 8 p.m. precisely, when the following papers will be read:—1. "Contributions to the Knowledge of Monocotyledonous Saprophytes." By Percy Groom, M.A., F.L.S. 2. "On an Error in the Descriptions of the effect of a Centrifugal Force upon Growth." By Rev. G. Henslow, M.A., F.L.S. 3. "On Mediterranean and New Zealand Retepora, and a fenestrate Bryozoan." By A. W. Waters F.L.S. Fellows having objects for exhibition on that evening are requested to communicate previously with the assistant-secretary, that their names may be placed on the agenda paper and in any preliminary announcements which may be sent out before the meeting.

A Useful Book.—Under the title *Dictionnaire Latin (Grec), Français, Anglais, Allemand, Hollandais, des principal Termes employé en Botanique et en Horticulture*, Mr. Jongkindt Coninck has published *catus, versiflorus, arciticus;* while England is not the equivalent of Britania. Some of these are misprints, and do not materially detract from the utility of the book; but as a second edition is likely to be called for, it may be useful to suggest that the proofs be carefully read by more than one person, and of different nationalities. In the meantime no commercial man doing business in either of the countries named can dispense with this publication.

Ghent Royal Horticultural Society.—At the recent (October) monthly meeting of the Chambre Syndicale des Horticulteurs Belges, and of the Royal Agricultural and Horticultural Society of Ghent, the following awards were made: Certificates of Merit for Lavatera arborea fol. var. to M. Louis Demeyer; for Cattleya Proserpine (Lælia Dayana × Cattleya velutina) to M. J. Hye; for a double-flowered tuberous Begonia, Madame Armand de Meulenaere (*à l'unanimité*) to M. J. de Kneef; for twelve new varieties (cut flowers) of Dahlias, single blooms (*par acclamation*) to M. François Desbois; for Cattleya Schilleriana (*par rappel*) to M. J. Hye; also for Cypripedium Albertianum (*par rappel*), Cattleya labiata autumnalis var., Odontoglossum grande var., and Cattleya exoniensis, all from the last exhibitor; and for Cattleya guttata pernambucensis from M. le Marquis de Waverin. Honourable mention for novelty and variety was awarded for Cypripedium Pollettianum (calophyllum × œnanthum) from M. Ed. Pynaert; for C. Madame Emile Gayot (Harrisianum × Chantini) from the same exhibitor; and for two tuberous Begonia striata from M. Jean de Kneef.

The Botanical Society of America.—Under this title, a new Society (says the *Botanical Gazette*) has been established, consisting of American botanists engaged in research, or who have published work of recognised merit. The election into this Society is thus somewhat strict. Professor Trelease has been elected President; Dr. N. L. Britton, Vice-President; C. R. Barnes, Secretary; J. Donnell Smith, Treasurer. Professor Sargent and Professor G. L. Greene are elected additional members of the Council. The first annual meeting will probably be held at Chicago.

French Horticultural Congress.—The Société Nationale d'Horticulture of France is organising, in connection with the Paris Horticultural Exhibition of 1895, a Horticultural Congress to be held in May next at the same time as the great show. The following are the subjects proposed for discussion:—1, The part played by chlorophyll in

plants, and the remedies for chlorosis. 2, The cultivation of forced Vines under glass, in France and other countries. 3, The outward appearance of fruits and tubers as indicating their quality. 4, The heat of the sun or that of the air; which has most influence on vegetation? 5, Grafting Potatos. 6, Apparatus for warming glass-houses and consuming different fuels (wood, charcoal, petroleum, gas, &c.). 7, The advantage of a fixed standard for regulating the different systems of hot-water heating. 8, The various modes of growth in plants obtained from seed, Palms more particularly.

Radishes.—There is a very suggestive article in the number of the *Revue Horticole* for October 1, relating to the depth at which Radishes should be sown. In the figures given by M. Alluard the great advantage of sowing the seed at a depth of 4 cent., say 1½ inches, instead of 2 cent., say half an inch, is clearly shown. The Radishes at the greater depth are longer, more shapely, and better in all ways than those less deeply covered by soil. This applies to the long varieties. The Turnip Radishes are sown at a depth of 2 cent., and require the soil to be beaten down.

The Missouri Botanical Garden.—This Institution, designed eventually to fulfil for St. Louis and the State of Missouri the same sort of work that is accomplished here by Kew, owes its origin to Mr. Shaw, an Englishman, long settled in St. Louis, and who left considerable property for the purpose. The legator also arranged that an annual banquet should be held for both botanists and gardeners, and that a flower-sermon should be preached once a year, so that the souls and bodies of the gardening community shall alike be benefited. The fifth annual report is before us, containing an eloquent and appropriate sermon by Bishop Dudley, a report of the work done in the garden during the year, as also a note of the banquet aforesaid. The scientific papers by Dr. Trelease, the Director, and others, include "Monographic Sketches of the American Willows, Maples, and other Plants."

North of Scotland Horticultural and Arboricultural Association.—The members of this association held their first meeting of the session in the Christian Institute, Aberdeen, recently, Mr. J. Munro, the president, in the chair. A discussion took place as to the means that should be adopted to interest a wider circle in the proceedings of the association, and it was ultimately resolved to organise classes for young gardeners for the study of botany and other subjects during the winter.

Pereskia aculeata.—We learn from our valued correspondent, "F. W. B.," that this plant is now flowering profusely in one of the warm plant-houses in the College Botanical Gardens at Dublin, where it forms a rambling shrub 15 to 20 feet high. The lower part of the slender stem is ferociously armed with clusters of sharp spines, the upper portions being leafy and less prickly, whilst the slender terminal shoots bear lax panicles of soft creamy-yellow flowers not unlike Banksian Roses, but larger; and the ten perianth segments are more slender, inside which is a cluster of orange-yellow stamens, and a large five-parted white stigma. The waxy blossoms are deliciously scented like Philadelphus. This species is much used as a stock on which to graft Epiphyllums, but it does not appear to find favour as a flowering-plant on its own account, perhaps because it requires considerable space overhead with full sunshine, and must be of some considerable age ere it produces flowers. It is a native of the West Indies, where its fruits are known under the popular name of "Barbados Gooseberries."

The Surveyors' Institution.—The first ordinary general meeting of the session 1894 95 will be held on Monday, November 12, 1894, when the President, Mr. Thos. Chatfeild Clarke, will deliver an opening address. The chair will be taken at 8 o'Clock. The first of four meeting of examinees and students authorised (subject to certain conditions) by the council to be held during the present session, will take place in the lecture-hall of the institution, on Monday, November 19. The chair will be taken at 7 o'clock. All inquiries, with reference to the junior meetings, should be addressed to A. Norman Garrard, Esq., 8, Frederick's Place Old Jewry, E.C.

Illegitimate Exhibiting.—We cut the following from the report of a local flower-show, and whilst we regret the necessity, we can but be grateful to the committee for their firmness in dealing with the matter: "Since the annual meeting a prominent exhibitor has been proved guilty of showing contrary to regulations, and the declaration on entry-form, and has been expelled from this society. The member who aided in the infringement has also been debarred from any further connection with this society."

The Goose Flower.—The *American Florist* narrates that all the time this plant was known by its scientific name of Aristolochia gigas Sturtevanti, the Chicago people took no heed, but when a reporter for a daily paper called it the "Goose Flower," crowds came to see it in such numbers that special precautions had to be taken to secure order. Certainly the technical name, as a popular designation, is almost as objectionable in its way as is the odour of the flower; but why call so magnificent a blossom "Goose Flower?" Popular names are sometimes necessary, but they should be appropriate. We do not think Goose Flower is so.

"Fertilisers and Feeding-stuffs."—Such is the title of a useful little handbook addressed to the practical farmer by Dr. Bernard Dyer, and published by Messrs. Crosby Lockwood & Son. The earlier chapter deals with the terrible waste of fertilising materials, consequent on the way in which the farmer neglects the proper treatment of farmyard-manure. Artificial fertilisers are then treated of, such as nitrate of soda, sulphate of ammonia, guano, bone-dust, and other manurial substances, the proper application of which for different crops is duly explained. The text of the *Fertilisers and Feeding-stuffs Act*, 1893, is given.

Catalpa bignonioides.—Mr. G. Busby, gardener to Col. Willan, Thorn Hill Park, Bitterne, sends us a photograph of a noble Catalpa. It is 40 feet in height, with a girth at 3 feet from the ground of 10 feet. The circumference of the head is no less than 170 feet. It must be a glorious sight when in full bloom.

Cheap Orchids.—We read in the *Daily News* that Orchids are becoming cheaper in France. Our Paris correspondent says: What was worth twenty francs last year can be now had for five francs. Cut Orchids for table decorations, that cost five francs a flower last year, are being sold for one or two francs at the most. Orchids are greatly used to intermix with fruit on fruit dishes, and in specially-made baskets intended to figure at dessert. Orchids will also be employed in serpentine decorations, laid simply on the tablecloth. The Rose will hold its own in the drawing-room, cut with long stalks, and in porcelain vases. The Orchid is supplanting the Gardenia as a button-hole flower.

Flowering of Theophrasta Jussieui.—We learn from the *Illustrirte Garten Zeitung* for the present month, that a plant of the above has flowered in the garden of Prince Schwartzenburg, the flower-spike being shown by Mr. Bayer, the head gardener, at the meeting of the Vienna Horticultural Society, on September 10. It is a native of San Domingo, belonging to the natural order Myrsineæ, seldom seen in cultivation, and still more seldom does it flower. The flower-spike and a leaf were illustrated in the *Gardeners' Chronicle*, October 8, 1887, p. 429.

Weed-killer.—Dealers in horticultural sundries, not being qualified pharmacists, must take care that they do not infringe the law by selling poisons without a specific license. On the 10th instant a nurseryman at Putney was fined £5 for selling a gallon of "Weed-killer." This mixture, when analysed, was found to contain, as was stated at the trial, 2¾ lb. of arsenic, enough to poison 8,000 people. The necessity of enforcing an Act intended for the protection of Her Majesty's lieges is thus more than amply shown. A full report of the trial is given in the *Pharmaceutical Journal*, Oct. 13.

Fruit Exhibits at the Royal Horticultural Society.—At the ordinary meeting of the Society's Committees on Tuesday last, a resolution, proposed by Mr. T. F. Rivers, was carried unanimously by the Fruit Committee, that the Council be asked to consider the advisability of limiting exhibits of fruit to fifty dishes of any kind, and that no duplicates be allowed, in order to place growers on better equality than at present; also that the best varieties only may be placed before the public for educational purposes. Mr. Rivers maintained that such a resolution is in perfect accord with the established principles of the Society.

Chrysanthemums in Holland.—A large Chrysanthemum exhibition will be held at the Hague from November 1 to 5, and at Amsterdam from November 8 to 12.

Royal Seedsmen.—We understand that Messrs. Laing & Mather, nurserymen and seedsmen, of Kelso, have been appointed seed merchants and nurserymen to H.R.H. the Prince of Wales.

Thuia orientalis var. pendula.—The plant called in gardens T. pendula is so widely different in appearance from the ordinary Eastern Arbor vitæ, T. orientalis, that it is no wonder if some scepticism is felt at the determination of botanists. A specimen before us from Lord Powerscourt's estate is, however, conclusive, as with the habit and foliage of T. pendula it bears the cones of T. orientalis (Biota).

Japanese Birches.—Mr. Mitsutaro Shirai in the number of the *Japanese Botanical Magazine* for August 20, reviews the species and varieties of Betula occurring in Japan. Twelve species are enumerated, and descriptions of them are given in English, together with a sheet of illustrative sketches. Mr. Shirai describes one new species which he calls Betula globispica, by reason of its globular strobiles.

Tansy.—A correspondent in Southern Scotland, just north of the Tweed, tells us this plant is called in his district "Herb Waller."

Hybrid between Abies Pinsapo and A. Nordmanniana.—The August number of the *Journal de la Société Nationale d'Horticulture* makes mention of a cone of a hybrid Abies called A. insignis ×. The tree is interesting not only on account of its origin, but especially for its vigour and beauty.

Raspberries.—A recently-published *Bulletin* of the State Agricultural College of Michigan is devoted to a descriptive enumeration of the Raspberries of the United States. These are derived from the European Rubus Idæus, from the American Black-cap, Rubus occidentalis, and from R. strigosus, or as crosses between these species. About sixty pages 8vo are occupied with the list. Fortunately we could not make up quite such a long list.

Tree Ipomœas.—We are so accustomed to think of Ipomœas and Convolvulus as twining plants, that some surprise may be felt at the existence of Tree Ipomœas. The number of *Garden and Forest* for September 12, however, gives an account accompanied by illustrations of certain species found in Mexico. Mr. Rose of the Department of Agriculture, Washington, gives in the journal just mentioned a monograph of these trees. They are described as among the most beautiful flowering trees in Mexico, and being at present of no commercial value, are happily let alone.

Congenital Fasciation.—M. Hugo de Vries contributes an interesting article on this subject to the *Overgedrukt uit Botanisch Jaarbook*, in which he shows how, in certain plants, this monstrosity becomes constant for many generations.

HYPERICUM DENSIFLORUM.*

To Mr. W. E. Gumbleton we are indebted for a specimen of this very pretty little North-American plant. It forms dense tufts of erect, slender, wiry, angular stems, 2 or 3 inches in height; leaves numerous, spreading, about a quarter of an inch long, linear obtuse, recurved at the margins as though to prevent excessive evaporation. The flowers are borne on the ends of short leafy pedicels—each is about a quarter of an inch in diameter—with linear spreading dotted sepals, and yellow petals surrounding numerous delicate thread-like stamens. The massing of the numerous little flowers produces a very gay effect. The plant is quite hardy.



Fig. 68.—Bush of pear Beurré Baltet père: as grown in the nursery of Messrs. Jas. Veitch and Son's, at Slough. (see p. 367, sept. 29.)

* *Hypericum densiflorum*, Pursh.—Exceedingly branched above, 1 to 6 inches high, the branches slender, and crowded with smaller leaves; flowers smaller, ⅓ to ½ inch in diameter, and more numerous in crowded compound cymes; pod 2 to 3 lines long (three-celled with three styles). Pine barrens of New Jersey to glades of Kentucky, Arkansas, and southward. Gray, *Manual*, ed. 6 (Watson & Coulter), 1890, p. 93.

BELGIUM.

THE EXHIBITION OF DESSERT FRUITS AND DAHLIAS

This exhibition was held at the Exposition Universelle (Antwerp), on October 7, 8, and 9, and was very successful. The show of Apples and Grapes was excellent, as were the exhibits in general; partly owing to the fact that but few exhibits were included under each entry, and consequently only the best fruit was staged. The tables were tastefully decorated with Ferns and other foliage plants.

As to the plants shown, one of the best exhibits was a large group of choice species and varieties of plants for room and table decoration, arranged very artistically. There was also a fine collection of Bouvardias.

Chrysanthemum Show.

There will be opened on November 4, at the Exposition Universelle, an International Chrysanthemum Congress, coincident with the closing of the exhibition on the following day. Many entries are expected. Intending exhibitors, English and Belgian, should address their applications to the President of the Horticultural Section, 2, Rue Montigny, Antwerp.

Meeting of the Orchidéenne.

The last meeting of the Orchidéenne was noticeable from the numbers of Cattleya labiata Warocqueana and aurea that were staged. Dr. Capart showed twenty well-flowered specimens of C. Warocqueana, among which were many fine varieties.

L'Horticulture Internationale (M. L. Linden) staged a lot of C. aurea, very good, and including C. aurea Statteriana, the divisions of which were transparent nankeen yellow, the lip very large, with a broad band of pure yellow; other varieties were remarkable for the size and deep colouring of the lip; C. labiata Warocqueana was seen in full beauty; C. Hardyana Lindeni was noted for the translucency of the divisions, the extra deep colouring of the lip and its large spots of clear yellow; Lælio-Cattleya Lebrunana was seen with dark-coloured divisions, the lip much developed, and a peculiar dark purple; C. maxima marginata has a lip well marked, and bordered with white. Noticeable also were Lælio-Cattleya Cauwenbergiana with very clear colouring, and L. C. elongata dark in tint. Cypripedium Charlesworthi excellens is a variety with a much-developed lip of deep colouring. Worthy of being noted were the three fine specimens of Catasetum Bungerothi with large wax-white flowers (one cluster numbered thirteen blossoms); Odontoglossum crispum nanum shaded and lightly dotted with lilac; Cattleya maxima from M. Van Wambeke, the lip peculiarly marbled; C. labiata Warocqueana marmorata from M. Madoux, the divisions of it all well marked; two Odontoglossums from the same exhibitor were white, one large the other having sepals and lip spotted with brick red. Cattleya Aclandiæ from M. Van Wambeke had large flowers, the divisions deeply coloured. The same grower staged a good Cypripedium vexillarium, and a Cattleya gigas with a double lip; M. Madoux showed a C. gigas with mottled divisions; M. Miteau an unusually dark Cattleya labiata Warocqueana, and M. Van Wambeke a Cypripedium Argus, with petals bearing large black spots.

Orchids in M. Peeters' Houses.

We noted lately in M. Peeters' houses a fine Cattleya Hardyana with the lip well marked; and C. Schilleriana, with a well developed lip, very brightly coloured and edged with white. In one of the houses from three to four hundred specimens of Oncidium Forbesi were coming into flower; in a gallery with a sloping roof are hung fifteen hundred plants of Cattleya labiata, in excellent condition, all about to bloom. *Ch. D. B.*

ORCHID NOTES AND GLEANINGS.

AGANISIA IONOPTERA.

The above very distinct and pretty species is at present in flower in Lord Rothschild's collection at Tring Park. One plant has a spike of more than 1 foot in height, which bears twelve white flowers of wax-like texture, prettily marked with light purple. Each of the flowers is rather more than 1 inch across, and their arrangement is very effective.

Habenaria militaris and H. carnea.

These plants are also splendidly flowered at Tring Park, the stout spikes of the former bearing unusually large, brilliant vermilion flowers, while H. carnea has ten flowers of fine size and substance to a spike. The singular-looking H. Susannæ recently figured in the *Gardeners' Chronicle* has just passed out of bloom. *J. O'B.*

BERLIN.

A CACTUS SHOW.

On Sunday, October 14, we had here the first show of succulent plants, arranged by the Gesellschaft der Kakteenfreunde, which was founded two years ago by Professor Schumann, of the Royal Botanic Museum at Berlin. The number of exhibitors was not very large, but the exhibits staged by nurserymen as well as by amateurs showed that succulents, especially Cactaceæ, are very much liked here, and that the cultivation of these plants, although by no means easy, has reached a high degree of excellence. The illustrated *Monatschrift für Kakteenkunde*, of Professor Schumann, which gives abundant practical as well as scientific information in each monthly number, has done very much to forward this end. The amateur collection which won the 1st prize, was

that from Mr. Liebner, of Berlin. We saw among his plants very strong seedlings of Cephalocereus (Pilocereus) senilis, fine specimens of Mammillaria plumosa, Echinocactus MacDowellii (a novelty), Anhalonium prismaticum, Echinocactus cylindraceus, with fine long rose-coloured spines, and the closely-allied Echinocactus Lecontei, with white spines; both the latter very sturdy specimens, which showed that these two are, indeed, distinct species. Then there were the valuable Echinocactus ingens, E. polycephalus, E. Wiscliczenii, E. californicus, E. pilosus var. Steineri, E. hexædrophorus var. major, a form with prominent long prickles; Echinocactus robustus, and Echinocereus Engelmanni. Large specimens of grafted species were also exhibited by the same grower. The plants are grafted upon Cereus Spachianus, Cereus macrogonus, and some upon Cereus peruvianus. We remarked amongst these grafted plants a very fine specimen of Pilocereus Brunonis. Another amateur, Mr. Maul, of Lichterfelde, near Berlin, who won the 2nd prize, showed well-grown specimens of Pelecyphora aselliformis and P. pectinata, also of Mammillaria micromeris, and an imported specimen of Echinocactus Sandillon. Besides these and numerous other plants, he showed some capital and strong seedlings of Cereus pruinosus, Echinocereus ingens, Cephalocereus (Pilocereus) senilis, and other varieties. The best specimen Cereus was staged by a third amateur (Mr. Hirschl, of Zehlendorf, near Berlin). He also showed the best specimens of Echinocactus Simpsoni, cornifera var. scolymoides (=Mammillaria dæmonoceras). All these plants were cultivated in the dwelling-houses of the growers, together with a great number of other species of Cactaceæ. Certainly they must be judged from quite another point of view than the plants of nurserymen. Notwithstanding the condition, that the plants exhibited must have been under cultivation for at least one year, they were as well or even better grown than those of the nurserymen. But professional growers also exhibited some very fine and good collections. The largest lot which won the prize of honour was that from Mr. Benecke, formerly Hildmann at Birkenwerder, near Berlin. Another very fine collection of rarely-seen and well cultivated plants was from Mr. Mundt at Pankow near Berlin, who won the 3rd prize. He had wonderful specimens of Echinocactus Williamsi, formerly known under the name of Anhalonium Williamsii. Very fine specimens of Echinocactus denudatus were also exhibited by this nurseryman. A large collection of strong imported specimens, not for competition, was exhibited by Mr. Reichenbach, Cactus importer of Dresden, amongst them Anhalonium fissuratum, the Grusonia cereiformis, which is, as Professor Schumann says, a Cereus; then Echinocereus Merkerii, chloranthus, dasyacanthus, and the straw-coloured E. stramineus, Echinocactus texensis, E. Smithii, E. intertextus, E. uncinatus, E. Wrightii, with very long prickles, E. capricornis var. minor (novelty), and E. Schumannii, one of the most important and interesting modern importations from Paraguay. Mr. Friedr. Ad. Haage, junior. at Erfurt, the well-known Cactus grower, who has three times this year in Germany exhibited 500 species, had at this exhibition only some very strong seedlings of about the size of a hazel-nut of Cephalocereus (Pilocereus) senilis, which were from seeds sown last July. Besides these he had some fine specimens of Echeveria pulverulenta, and also of Mesembryanthemum tigrinum, the latter covered with large yellow flowers.

Succulent plants, such as Agave, Aloe, Haworthia, &c., were exhibited only in small quantities; the best collection was from an amateur, Mr. Urban at Berlin, who won a Certificate for them. I can here only mention the largest and finest collections, among these only the most remarkable specimens; but, notwithstanding this, it will be seen that this first exhibition was a very fine one. It may be hoped that it has gained a number of new supporters. *Our Berlin Correspondent.*

NOTES ON CHRYSANTHEMUMS.

Broadheath, Worcester.—The season of 1894 cannot be considered favourable to perfection in the incurved Japanese and Anemone-flowered varieties of the Chrysanthemum. Malformed buds are to be found in numbers in most collections, even those that have received the greatest attention. At the Heath Nursery, near Worcester, Mr. Maylett combines with the management of the local Post-office the pleasurable—if not always profitable—business of growing plants and flowers for market, ably assisted by his sons. The glass structures are of modest dimensions, and probably home-made, but some very good results are obtained in them. This year Mr. Maylett has about 6,000 Chrysanthemum plants, mostly grown for furnishing cut blooms; still a good many decorative plants, and a number for specimen blooms are also grown. Amongst the last-named, a dwarf, clean, robust lot, I failed to note any malformed or coarse buds; and the plants range in height from 3 to 6 feet, the greater proportion of them being about 4 feet above the soil. Grown in this way the plants are admirable for grouping, and some of the flowers will be probably good enough cut for exhibition, although that has not been the intention of the growers.

Mr. Maylett attributes the regular shape of the flower-buds—and, I think, rightly—to the avoidance of a too free use of manurial stimulants during growth. *J. U.*

Chrysanthemums at Lea Castle, Kidderminster.

Mr. Farrant, the gardener at the above place, makes a specialty of the Chrysanthemum, and his plants this year would gladden the eyes of the fancier. He grows them in three sections, viz., for large flowers, half specimen plants, and plants for supplying cut blooms. These gardens are so well managed that they deserve a much longer notice than is here possible; but I may say that Grapes and Peaches are of the first quality and quantity. The various kinds of plants cultivated are clean and healthy, vegetables good and abundant, and the extensive pleasure-grounds in excellent order. *J. Udale.*

Chrysanthemums in the Isle of Wight.

The Chrysanthemum is cultivated very generally by cottagers and amateurs, and next month there will be not fewer than six exhibitions; but, unfortunately, as I am informed, three of the largest and best clash with their dates, viz., Isle of Wight Chrysanthemum Society held at Newport, and Ryde, and Shanklin, which thus materially affects the number of the entries and the receipts at all of them. This unfortunate circumstance ought to be avoided in so small a place, where the population is only about 80,000. To give the greatest stimulus to cultivators the societies should amalgamate, and then offer prizes sufficient in amount to induce the exhibitors to come from a distance. The following varieties have in most parts of the island failed in the crown bud, viz., Mrs. C. Harman Payne, George Atkinson, and Golden Wedding. It would be of interest if Chrysanthemum experts would give through the medium of these pages their opinions as to the cause of crown buds failing in certain varieties. *S. Heaton.*

Chrysanthemums round Edinburgh.

The prospect of the Chrysanthemum season is now generally considered good here, the last seven weeks having been bright and dry, doing much to perfect the blooms and ripen growth. The absence of the gales usually experienced during the autumn has allowed the safe housing of these plants without the usual accompaniment of broken shoots, and the majority of the plants which have come under my observation promise to afford very satisfactory results. A visit to Trinity Cottage, Edinburgh, is always of interest to admirers of the Chrysanthemum, and although not an establishment where flowers are grown for competition, Mr. McMillan, the gardener, has always good plants and flowers. A visit made in May last afforded one an example of his successful efforts with these plants, when at that season many fine flowers were remarked, and the display has been kept up, and as might be expected, it is now finer than at that season. A small house is now full of flowering-plants, while others were in many different stages of development, the majority being grown for decorative purposes. The cut-back system in adopted very successfully, all the plants having a sturdy appearance. Amongst those were noted in full flower W. H. Lincoln, a variety of dwarf habit, whose large flowers are of a bright yellow colour; W. Tricker, with large, delicate, rose-coloured flowers; Viviand Morel, the drooping flowers of which are exceedingly attractive; Florence Davis, just opening its greenish-yellow flowers; Mrs. G. Herring, crimson-coloured; Lady Fitzwigram, a very dwarf-growing variety; Beauty of Eynsford, with perfectly-shaped flowers; E. Molyneux, a broad-petalled variety; Puritan, Etoile de Lyon, a conspicuous variety, with bold-looking flowers. The well-grown plants of Mrs. Irvine Clark were also good. Amongst the early-flowering varieties, Madame Desgranges, Mrs. Hawkins, and Mrs. Burrell, are the chief; Arthur Crepy is a plant that should find a place where accommodation is small, sixteen good-sized flowers being counted upon, a number of the plants growing in 5-inch pots. A large number of Pompon and single-flowered varieties are grown, and these were crowded with buds, promising a pretty show during the dull months. Plants of Miss Mary Anderson and Miss Rose, two of the best of this section, are grown in quantity, and the beauty of these single varieties seems to warrant them a large share of popularity. Decorative varieties are more appreciated in Edinburgh than very large blooms, and such varieties as Margot Elise, Roi de Précoce, largely grown, are not disbudded.

At Ravelston House, Blackhall,

a fine old garden, large numbers of Chrysanthemums are grown, and Mr. D. Jardine, the gardener, is a successful exhibitor of cut blooms and plants. The plants consist of the leading new varieties, all of which are very healthy-looking and vigorous, and although the expanded flowers were few in number, the great number of the buds were on the point of expanding, promising in a short time a remarkable show. The foliage of the plants is stout and leathery, and the wood hard, and well-ripened. The following are amongst those noted:—Charles Blick, a new Japanese variety of a golden yellow colour; Mr. H. F. Tiarks, a flower of great depth, having erect reddish florets; Silver Cloud, a vigorous grower, the flowers white shaded with salmon colour; and Silver King, a Japanese variety of very large size. The half-expanded flowers of Mrs. Nisbet, were of a lovely colour, the depth of purple amaranth being scarcely equalled by any other variety. Golden Wedding, a variety which gives some growers much trouble, was finishing its growth in 7-inch pots, the buds being strong and plump. The flowers of Lord Brooke will be very large. The hairy petaled varieties are well done, and at the time were commencing to unfold their florets. Louis Bœhmer, one of the first introduced of this section, is looking remarkably promising, as are also W. A. Manda and White Plume. The varieties, W. Seward, a dark crimson variety, is also good; W. K. Woodcock, J. Shrimpton, J. S. Dibdin, Yellow Avalanche, Florence Davis, Dr. Ward, Beauty of Exmouth, and Marie Hoste were amongst those noted. Many other varieties were in fine health. The trained specimens were well set with buds, which when in full flower should present a good exhibition appearance.

A good batch of seedling plants raised by Mr. Jardine during the spring, which possess good habit and distinct-looking foliage were showing flower. The development of these is being watched with much interest by this enthusiastic grower. *H.*

HOME CORRESPONDENCE.

PRODIGIOUS!—Slips of the pen are, of course, excusable in fiction, because, with sturdy adherence to truth, it would no longer be fiction. Still, when novelists, let them be ever so famous or talented,

profess to import facts into their stories, it is essential that the facts should be such, and not imaginary. That distinguished novelist, Mr. R. D. Blackmore, is so enthusiastic a pomologist that his fruit fancies constantly crop up in his books, and now and then readers find combined with a love story or scene some diversion into the realms of Pomona, rather than into the kingdom of Venus. In that interesting New Forest story of *Cradock Nowell* we are introduced to a follower of Galen, Dr. Rufus Hutton. He might almost be taken for a well-known resident of Teddington. The Doctor is a great gardener. But the writer grows in surprises when the Doctor invites a visitor to see his fruit garden. "Nowhere else in this part of the world can you see a piece of ground cropped in the manner of that, in 1873, so that *Cradock Nowell* was produced when the novelist's pomological enthusiasm was not tempered by that greater experience he has to-day. Certainly, so far as relates to Dr. Rufus Hutton's fruit garden, not revision but excision is needed. Glowing as is the description of the orchard-house which succeeds (we are not so enthusiastic about orchard-houses now), there is something painful in the reflections caused by certain economic references, "What a lot you must pay for wages," remarks a visitor to the Doctor. "Thirteen shillings a week in summer and seven shillings a week in winter!" That is how a prosperous novelist appraises a fruit-gardener's wages. "Mr.," says the visitor to the Doctor, "you must be either a conjuror or the devil!" *Reader.*



Fig. 69.—Branch of the Seckle Pear: grown in Messrs. Jas. Veitch and Son's Nursery, at Slough. (See p. 367, Sept. 29)

I believe!"—a declaration probably few will be disposed to question. "A plot of land four square, exactly half an acre, containing 2400 trees! There was no tree more than 5 feet high; the average height was 4 feet 6. They were planted just 4 ft. apart, and 2 feet back from the pathway. There was every kind of fruit tree there that can be made by British gardeners to ripen fruit in Britain without artificial heat. Pears especially, and Plums, Cherries, Apples, Walnuts, Figs, and Medlars, Quinces, Filberts, even Peaches, Nectarines, and Apricots, though only one row of these trees (I should think so, good heavens! what a medley); there was scarcely one of these miniature trees that had not done its duty that year, or now was bent on doing it." After reading this, especially about the 2400 trees at 4 feet apart, on half an acre of ground, and about the Figs, Walnuts, Peaches, Filberts, &c., as miniature trees, in this quarter, I turned to the front of the book, and found a preface by the author to a revised edition written

MICHAELMAS DAISIES.—I am sending you some varieties of Asters for your inspection, some being of recent introduction. They are greatly prized by my employer, being excellent for cutting purposes, lasting quite a fortnight in good condition if the water be changed occasionally. Asters flowering at a season when other flowers are getting scarce out of doors, and a few degrees of frost not hurting them, should find a place in every garden of any size. They are of easy culture, requiring plenty of water and diluted liquid manure when growing, and a soil porous rather than adhesive, which is the case in these gardens. Another point which always should have attention, is, not to tie up the plants like faggots as one often sees it done, but merely secure the main stems loosely to the stakes so as to admit light to the middle of the clumps. There are several in our collection which have still to flower, and many good varieties are past their best. *S. Kerry, The Priory Gardens, Witham.* [Our correspondent sends us a large selection, comprising several of the best, but too numerous to comment on. It will be remembered that for two or three years the Royal Horticultural Society got together at Chiswick a very fine and complete collection, which were duly studied by a committee appointed for the purpose, their names determined, and their merits adjudged. A report was published in the society's *Journal*, 1892, and a selection of the best kept for reference at the Chiswick trial ground. Ed.]

EALING GARDENERS' ASSOCIATION.—At this useful weekly gathering of gardeners and amateurs, it is the custom to reserve a night for discussion of questions which have been accumulating. At a recent meeting the chairman, S. A. Sewell, Esq., gave notice of what is certainly an original, and may be a good idea, this practically resolving itself into "hiring-out" greenhouses or similar structures by horticultural builders to those unable to effect the purchase of them at once. It seems a commendable notion, one that may possibly have in it great potentialities for good. Many a small amateur—and those of a similar type in poor circumstances, but ardent in their love and zeal for the gentle art—might be induced to hire a house on easy terms (as we read in the case of pianos!), and it is quite possible that they would get a better class of house for the trifling extra outlay than are the majority of so-called cheap (but in the end truly dear) houses, of which we see so many about now. Some of our horticultural builders who are feeling the pressure of bad times might do worse than encourage the "hiring-out" of greenhouses, &c., if ever it should come to pass. They would certainly be good advertisements, as the acquisition of such invaluable aids to more extended cultural flights would certainly soon become known amongst the enthusiastic hirers' circle of garden-loving acquaintances. *J. B.*

VEITCH'S CLIMBING FRENCH BEAN IN SCOTLAND.—I had some seeds of Veitch's climbing French Bean sent me this season for trial. They were sown by the side of some lines of the ordinary Scarlet Runners; but owing probably to the climate of this side the border being quite different to that of Surrey, or the coolness of the summer, the new Bean was not a success; indeed, it was quite a failure as regarded returns, although it grew as tall as the runners, and flowered pretty freely. Two small dishes of pods only were gathered, although Osborne's Forcing, Newington Wonder, and the Scarlet Runner have produced Beans in abundance. *John Page, Monteviot.*

MULBERRIES FAILING TO RIPEN.—In reading your correspondent's (Thos. Christy) remarks in your last issue regarding the failure of the Mulberry tree to ripen its fruits this year I was surprised, as there is on the lawn here one that has ripened a very heavy crop of large, well-formed fruit, the first ripe fruit being gathered on August 28, and the last to-day (October 16), a sample of which I enclose, with other fruit to be named. I may state that the soil is of a very cold nature; the tree named is also enclosed round by trees of the Siberian Crab and others. *J. R. Wilson, Haselbeck Hall, Northampton.* [The fruits sent by our correspondent were large but unripe, as they would be at this date. Ed.]

—— In the park at Gosfield Hall in Essex, there exists a large clump of Mulberry trees, which have ripened their fruit to perfection this year, and the fruit was fine and large. They are planted on a mound through which the rabbits have made many runs, which, no doubt, makes the soil very dry; the situation is exposed on all sides, and the soil a clayey loam. *J. F. M.*

MILDEW ON CHRYSANTHEMUMS.—Calling some little time since at a place where a collection of 500 to 600 specimen plants is well cultivated, I found the men busy in giving the plants a thorough dressing of some preventative against mildew [? aphis], which consisted of a solution of cyanide of potassium, in the proportion of a lump of the size of a Walnut to about 3 gallons of water was being used, the plants being laid on their sides and well syringed with the solution, and I was assured it was an excellent and cheap remedy. *Hortus.* [And also a very dangerous one—the cyanide being extremely poisonous. Ed.]

OLD VARIETIES OF THE SWEET BRIAR.—Now that Sweet Briars are coming to the front, it would be interesting to know if any of the old sorts are now in cultivation, and if so, I should be glad to hear from any of your numerous correspondents

who may have any of them. In a list given by T. Rivers, jun., of Sawbridgeworth, of some hundreds of Roses, and published in the *Florists' Register* in 1835, six sorts are mentioned, viz., Yellow Sweet Briar, small, double, straw-coloured; Superb, bright rose-coloured; Monstrous, pale blush, double; Celestial, very pale blush, double; Cluster, blue blush, double; Scarlet, bright red, double; all described as compact and double. *J. Pope, The Ericas, Middleton Hall Road, Northfield.*

AZARA MICROPHYLLA.—In the last issue of the *Journal of the Royal Horticultural Society* (August, 1894), Mr. Nicholson enquires how the above shrub has fared at Belvoir since 1890 (p. 58). In reply, I am pleased to say it is thriving well, the largest specimen being about 20 feet high and 16 feet in diameter. This one, as well as several more, have no protection during the winter except what is afforded by their position. They stand in a curve on the side of a hill which is open only to the south, and is well sheltered, but I would not advise the risking of this species in a cold situation unless protected in the winter, as it proved tender at Ketton Hall, although planted in a warm border and sheltered by other shrubs. Very probably it may not be tender anywhere within 100 miles N. of London if planted against a south wall, the main shoots only being secured to the wall, thus affording scope for its graceful pendent shoots. The agreeable aroma of its small yellow flowers is an additional charm, and when the plant is in a vigorous condition its shoots are useful for mixing with cut flowers in vases during the winter, when other light graceful foliage is not too plentiful. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

FASCIATED HOLLY BRANCH.—Amongst the most remarkable of the examples of plant fasciation which have come under my notice, considering the special nature of tree, was a specimen exhibited at the recent meeting of the Birmingham Gardeners' Mutual Improvement Association by Mr. J. B. Grove, nurseryman at Erdington, in the shape of an exceedingly vigorous current year's shoot of a comparatively young tree of the common Holly. It was about 30 inches long, and entirely clothed with rather small foliage, more or less spined. The fasciation was chiefly evident towards the end of the shoot, and about 2 inches in width at the widest part. Mr. Grove also exhibited one or two other similar abnormal growths, notably of annual flowers. *W. G.*

AGARICUS ARVENSIS.—In your correspondent's (Mr. E. J. Lowe, Chepstow) interesting remarks anent the production of the "Fairy-ring" Agaric in his park, he alludes to its having been unknown to the natives, a matter of some wonder, considering the number of years that these rings must have existed, producing Mushrooms in greater or lesser quantity, according to the nature of the summer. Regarding its flavour, this is decidedly stronger than that of the cultivated Mushroom, Agaricus campestris, and the flesh coarser, requiring, therefore, careful cooking. The bulk of those exposed for sale in the markets are used in the making of ketchup. *Fairy-ring.*

GRAPES AT THE CRYSTAL PALACE FRUIT SHOW.—Not only was the collection of twelve bunches of Grapes which secured for Mr. Alexander Kirk the 1st prize at the late fruit show superior to any other in the size of the berries and in some other respects, but it served as a capital object-lesson in Grape-thinning. When we consider the large size of the berries in this collection, it was evident that more than ordinary consideration had been bestowed upon the kind of thinning that each variety required, just sufficient to prevent crowding, and no more. There was thus no undue looseness in some, and crowding, with the usual accompaniment of mis-shapen berries, in others. Mr. Kirk himself thins his Grapes, as he said to the writer of this note at the show. *E. M.*

HABENARIA SUSANNÆ.—In the last issue to hand of the *Gardeners' Chronicle* (September 8) you figure, on p. 279, a white Habenaria, illustrated as Susannæ. It will perhaps be of interest to readers to know that I have collected here in Mussoorie, on the southern slopes of the Himalayas, large numbers of a grand white Habenaria, which I feel certain is the same species for which Messrs. Sander & Co. have obtained a Certificate. The variety here, at an altitude of something between 6000 and 7000 feet, grows perfectly wild in the jungle. The beautiful Hedychium coccineum is also a native of these hills; on the khuds (hill-sides) I have collected hundreds of grand tubers this year. *W. W. Johnstone, Himalaya Seed Stores, Mussoorie, N.W.P.* [Habenaria Susannæ is stated to occur in the tropical Himalayas from Garwhal eastwards. Ed.]

HARDINESS OF NICOTIANA AFFINIS AND OTHER PLANTS.—Not only does this plant come up every year, presumably from self-sown seed, on a bit of ground close to a greenhouse door, but it frequently appears in the herbaceous border. In the same manner this season, Ageratum mexicanum, Heliotrope, and Dahlia, have germinated from seeds of last year—a rather rare occurrence in this country. Self-sown Stocks and Asters I have frequently met with in other years. Some Melon seed was thrown on to a piece of ground in the winter, that was being dug, and in the spring it all came up, after having been buried for some months. *W. A. Cook, Compton Bassett.*

PEACHES OUT-OF-DOORS.—In spite of a cool summer we had the best out-of-doors crops of Peaches and Nectarines that I ever remember. The season began on June 17 with Waterloo, and fruits were gathered all through the season from Dymond, Grosse Mignonne, Sea Eagle, Goshawk, &c., so that the season has extended over four months. Sea Eagle was the latest, and the season being cold, temporary lights to assist the ripening of the fruit and as a safeguard against frost. The Peach and Nectarine trees receive the same kind of attention as those under glass, and they are in consequence clean and healthy, and to this I attribute in great measure my success. *W. A. Cook, Compton Bassett.*

FRUIT PACKING.—This subject is at present occupying the thoughts of various writers in the horticultural press, and I think it a suitable time to call attention to the circumstance that we in Scotland are supplied with Apples from America and the Continent of inferior quality to the best English Apples, yet we cannot get the latter, and I have repeatedly asked one of our largest fruit importers why he does not sell English Apples. The reply is always the same. "Teach your English friends to grade and pack their Apples as the foreigners do, and we will sell tens of thousands of barrels of them weekly, but at present they never come on our market in a condition that we can handle them." For my own part, I would as soon see Apples packed in boxes as barrels, for the barrels are often rolled down planks from the ships, and unless the fruit is very firmly packed it suffers, but in this respect the barrel system, as practised by the Americans, leaves little to be desired. Only certain leading Apples should be grown, and they should be carefully graded, and be as good throughout as on the surface, so as to gain the confidence of buyers, as the American Baldwins and their other Apples do, certain brands being taken without opening all the barrels. In this way my friend sometimes passes 10,000 barrels through his hands in a day at the ship's side, in Glasgow or Leith. I am certain a great trade in the best English Apples could be done in Scotland if it were done on method. *Wm. Thomson.*

STRAWBERRY SIR JOSEPH PAXTON.—I was surprised to find Mr. Bunyard omitting this fine old Strawberry from the list read by him at the Crystal Palace Conference. It must, I think, have been an oversight. Mr. Bunyard said during the discussion, that the flavour of the fruit was not good enough for the variety to be retained; yet I note he includes Laxton's Noble in the list of auxiliary varieties. Surely the latter cannot be compared with Sir J. Paxton in point of flavour; and it is the first time I have heard Laxton's Noble spoken of as being of good flavour. If those persons who condemn (or omit) Sir Joseph Paxton from even a list of select varieties could but see the hundreds of acres of this variety which enable hard-working families to exist in my neighbourhood (South Hants), I think they would come to the conclusion that a serious mistake was made in omitting the variety. I wonder what other Strawberry can compare with it in firmness of texture, which renders it a good traveller, and thus a distinct gain over most other varieties. Dr. Hogg, in *The Fruit Manual*, says of this Strawberry:—"A first-rate early fruit. The plant is hardy, very fertile, and forces well. This is one of the largest, and is probably the handsomest Strawberry in cultivation, and highly flavoured." Not a bad recommendation. *E. M.*

PLANTING-OUT FORCED STRAWBERRIES.—Mr. McLeod's note (p. 444) on Mr. Hudson's practice of cultivating forced Strawberries is not new, nor is it so generally adopted as it should be. Ten years ago I grew forced plants of Vicomtesse Héricart du Thury in pots for supplying fruit during the autumn. These were grown in the open air, with no other attention than watering the plants and removing the flower-scapes until the season had advanced to the period when they must be allowed to remain. Though requiring rather more attention in pots, there is the advantage that, if the weather should prove unfavourable, the fruit can be finished by placing the plants in a cool house or light pit. As also showing what may be done, I planted out forced plants of Vicomtesse H. du Thury at the end of last July, and a few days ago I gathered fruits from them, and shall do so again, while I have removed a great number of flower-trusses. I am of opinion that Sir J. Paxton would be amenable to such treatment, judging from some plants of this variety growing alongside of the Vicomtesse. *J. H. Slade.*

Continental Novelties.

STREPTOCARPUS LIECHTENSTEINENSIS.

A flower of this new cross—Wendlandi × Watsoni was shown by Mr. Lauche from the Eisgrub Gardens, Moravia, at the September meeting of the Vienna Horticultural Society. The plant had two leaves, one ovate elliptical, toothed at the margin, broadly-channeled, and somewhat bent downwards, thirty cm. long, and eighteen cm. broad; above of a green-coloured, slightly shining, rough-velvety surface, with a network of furrowed veins, beneath more or less suffused with purplish-red, and strongly furnished with projecting whitish, hairy nerves. The other leaf is erect and much smaller. Flower-stalks three to four in the axil of the larger leaf, and one to two in that of the smaller; purplish-green, hairy, about forty cm. high, carrying in the upper third of the stalk sixteen or more flowers. The pedicels are shorter than the flowers, which measure 55 millimètres; colour, lilac blue, the lateral segment as it approaches the throat furnished with three more intensely-coloured broadish stripes of purple, middle segment blue with three white stripes that widen and coalesce towards the throat. The plant flowers the first year from seed. *Garten Zeitung for October*, 1894.

Societies.

ROYAL HORTICULTURAL.

October 23.—The usual fortnightly meeting of this Society was held in the Drill Hall, James Street, Westminster, on Tuesday last. Fruit was again largely exhibited by the trade, and several competitive classes had been arranged for amateurs. Vegetables were also good. There were more Chrysanthemums than at the previous meeting, and Orchids were shown in something like the usual quantity.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. O. Thomas, H. Herbst, J. Laing, R. Dean, H. B. May, C. T. Druery, Geo. Stevens, P. Barr, C. F. Bause, C. Jeffries, W. Bain, Geo. Nicholson, Geo. Gordon, T. Godfrey, C. E. Shea, H. J. Jones, E. Beckett, C. E. Pearson, J. D. Pawle, Geo. Paul, and J. Fraser.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, obtained an Award of Merit for Begonia margaritacea, an ornamental-leaved variety of much merit. A nice collection of flowers of Javanico-Jasminiflorum hybrid of Rhododendron came from the same firm.

Some ornamental Gourds were shown by the Director of the Royal Gardens, Kew. There were two fruits of the Chinese wax Gourds (Benincasa cerifera), a native of tropical Africa, India, and China. The fruits are two feet long, cylindrical, and covered thickly with silvery crust. Three fruits of Momordica mixta, a native of the East Indies, attracted much attention from their rich coral-colour. They are about the size and shape of Ostrich eggs, and are covered with prickly excrescences as thickly as a hedgehog.

Sir Trevor Lawrence obtained a First-class Certificate for the pretty little Saintpaulia ioantha,

several plants of which were exhibited in flower. Some capital sprays of Salvia Pitcheri and L. splendens grandiflora were also shown; and some plants in flower of Begonia Couronne Lorraine, one of the rose-coloured winter-flowering Begonias.

Messrs. B. S. Williams & Son, Upper Holloway, had a group of Cannas, including Francisque Morel, a dark crimson; and L. E. Bailey, a beautifully-spotted flower on a yellow ground—a variety now very well known, and others.

Messrs. T. Cripps & Son, Tunbridge Wells, showed plants of Hypericum Moserianum tricolor in a basket, a tricoloured variety; and some sprays of Coprosma lucida in berry was sent by Mr. Moore from the Royal Botanic Garden, Glasnevin.

A grand group of Dræcanas was exhibited by Hy. Tate, Esq., Park Hill, Streatham Common, S.W. (gr., Mr. Wm. Howe). The plants were exceedingly well-grown, and included D. Baptisti, Robinsoniana, Goldieana, Lindeni, and many other coloured varieties (Silver Flora Medal).

Chrysanthemums:—We are now in the thick of the Chrysanthemum season, and that new varieties should put in appearance somewhat freely is not to be wondered at. Some very fine new Japanese were staged on this occasion. Foremost was a stand from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, who had, perhaps, the greatest novelty of the year, a singularly distinct variety named Hairy Wonder. The colour is buff, with an apricot centre, the florets bristling with hairy appendages in a very singular manner. It was unanimously voted an Award of Merit—it is of good size and full substance. Mr. Jones had also the following promising varieties: Madame C. Capelard, blush, with pale pink centre incurved; Alice M. Lowe, a large broad-petalled pale flower; M. G. Montigny, pale ground striped with rosy-pink, broad florets; Miss Ethel Addison, rosy-magenta or amaranth, with silvery reverse; M. Auguste Lacvivier, buff, ground suffused with red, and having a golden reverse; a finely-incurved variety; Madame Ernest Frère, bright pink in the young flowers, becoming paler with age; and W. G. Newitt, white, very broad-petalled, incurved in its early stages, but becoming reflexed with age. Soon after the Floral Committee had completed its work, Mr. Jones received from Mr. Jas. Carruthers, Corstorphine, Midlothian, unfortunately too late to place before the committee, three blooms of his fine new Japanese Duchess of York, pale yellow in colour, with long, drooping florets, which would undoubtedly have gained an Award of Merit, all the foregoing being Japanese varieties.

Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Notts, had Sarah Hill, an incurved Japanese, of a deep yellow-colour, large, full, and broad in the petal, which the committee thought to be too much like Coronet, but which Mr. C. E. Pearson said was quite distinct; and also M. G. Montigny, deeper coloured than the flowers in Mr. Jones' stand.

Messrs. H. Cannell & Sons, nurserymen, Swanley, had six fine blooms of M. Auguste de Lacvivier, described above (Award of Merit); L'Isère, white, with pale lemon centre, style of Boule d'Or; S. de Tambon, crimson, with golden buff reverse, in the way of E. Molyneux; Madame E. Rey, delicate rose, deepening to magenta, creamy reverse, broad petalled; Feu Follet, deep gold, suffused with reddish-salmon; and International, cream, with golden centre, and drooping florets.

From Mr. W. Wells, Earlswood Nurseries, Red Hill, came Golden Beauty, deep apricot-yellow, with fine drooping florets, flowers from the terminal buds being deeper in colour; also Duke of York, Favourite, Albani, bright pinkish lilac, the petals much notched at the tips, sweet-scented; President Armand, of the E. Molyneux type, and Louise, a very fine incurved Japanese, bluish, with very broad solid florets; Vice-President Calvat, crimson, with golden buff reverse; M. B. Spaulding, in the way of Princess May, having large drooping petals, pale yellow, with greenish centre; and Ethel Amsden, with whitish-green flowers, distinct, and very free-flowering.

Messrs. J. Veitch & Sons, Exotic Nurseries, Chelsea, set up a very fine group of plants of Japanese varieties, including Louise, very fine (Award of Merit), Col. W. B. Smith, Viviand Morel, John Shrimpton, Charles Davis, G. C. Schwabe, Mdlle. Marie Hoste, W. Tricker, Bouquet de Dame, L'Automne, Mdlle. Lacroix, and others (Silver Flora Medal).

Mr. W. J. Godfrey, nurseryman, Exmouth, brought a collection of very fine and promising new varieties, such as Florence Boyd, delicate peach; Mrs. E. G. Hill, blush, very fine; Miss Ethel Addison, rosy purple, with silvery reverse, large, broad petals; Van Den Heede, reddish-chocolate, with creamy reverse; Comtesse de Galbert, delicate creamy blush, a fine incurved Japanese; President Borel, bright pinkish rose, with creamy silver reverse; Madame Ernest Frère, deep pink, very pleasing; Mrs. Forbes, white; Souvenir de Madame Bouillier, deep crimson, with silvery reverse; Mrs. W. J. Godfrey, white, large, and broad petalled; Countess of Drogheda, gold, with reddish apricot centre; Wilfrid H. Godfrey, a large deep yellow variety; and Mons. Ch. Molin, buff, deepening to apricot, a very fine, distinct, and striking variety, unanimously voted an Award of Merit (Bronze Banksian Medal).

From Mr. G. Stevens, St. John's Nursery, Putney, came President Borel, a very fine Japanese, bright chestnut with silvery reverse, a fine full flower (Award of Merit).

Mr. W. J. Godfrey had blooms of his two fine winter-flowering Carnations, viz., Reginald Godfrey, salmon; and Miss May Godfrey, white, both of fine shape, and fragrant.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. James O'Brien (Sec.), Dr. M. T. Masters, H. M. Pollett, H. J. Chapman, E. Hill, C. Pilcher, T. B. Heywood, T. Statter, W. Cobb, and H. Williams.

Notwithstanding the cooler weather prevailing, some extensive and showy groups of Orchids, which included a number of rare and valuable species and varieties, were shown. The largest and brightest of these was the one staged by J. Gurney Fowler, Esq., Glebelands, Woodford, which contained a magnificent display of good varieties of Cattleya labiata, fine, well-grown, and profusely-flowered plants, and a number of the large form of Calanthe vestita, a fine variety of Cattleya Schilleriana, C. bicolor, varieties of C. Bowringiana, &c.; and the group was rightly awarded a Silver Flora Medal.

Next in extent amongst amateur exhibits was a fine group from R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), in which the splendidly-flowered large plant of the rare white Oncidium ornithorhynchum album was in itself a fine object, which was awarded a First-class Certificate, together with a Cultural Commendation to the grower. The plant possessed seventeen flower-sprays. The other remarkable plants in Mr. Measures's collection were Cypripedium × Arthurianum, with nine flowers; C. × Mrs. Canham, with eleven; varieties of C. × Bellona, very pretty and quite dissimilar in colour and other points; C. purpuratum, C. insigne, the Cambridge Lodge var.; varieties of Cattleya labiata, C. bicolor, a fine Lælia tenebrosa, Pleurothallis plumosa, with many spikes; P. lepanthiformis (Botanical Certificate); Masdevallia attenuata (Botanical Certificate); M. Laucheana, white, with yellow tails (Botanical Certificate); and Odontoglossum Insleayii splendens. An award of a Silver Banksian Medal for the whole exhibit.

Messrs. W. L. Lewis & Co., Chase Side, Southgate, staged an effective group of good fresh-looking Orchids, including Vanda Sanderiana, many good forms of Cattleya labiata, C. Bowringiana, Miltonia spectabilis Moreliana, Masdevallia tovarensis, Dendrobiums, Cypripediums, &c.; and in the front part of the group a number of plants of the pretty Sophronitis cernua (Botanical Certificate). A Silver Banksian Medal.

Messrs. F. Sander & Co., nurserymen, St. Albans, had a fine display of the beautiful and graceful Dendrobium Phalænopsis Schroderianum, of various shades of white, rose, and purple; with these were the fine Odontoglossum Wattianum superbum (Award of Merit), a fine O. mulus, Lælio-Cattleya × exoniensis, Pescatorea Dayana, Cattleya O'Brieniana, C. labiata lilacina, varieties of Odontoglossum crispum, Cypripedium × Morganiæ Burfordiana, &c. (Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, also made a good display, two very singular species appearing in their group among the showy Cattleya labiata, and fine display of Miltonia Roezlii. These species were Paphinia rugosa, a singular cream-coloured flower spotted with red, and having a curious spiny lip, and Dendrobium Cœlogyne, a creeping species of the class formerly called Bulbophyllum, and of which the largest and best-known is D. amplum (Bulbophyllum amplum). D. Cœlogyne has rather large, greenish flowers, profusely blotched with purple (Botanical Certificate). Messrs. Low were awarded a Silver Banksian Medal for the group.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed a pretty new hybrid in Lælio-Cattleya × Clonia (L.-C. × Turnerii ♂, C. Warscewiczii ♀). The small plant exhibited had a comparatively large flower, in form somewhat like C. Eldorado, but with a broad, circular, crimped front lobe to the lip, coloured rich purplish-crimson, like C. Warscewiczii. The median area of the lip at the mouth of the tube was chrome-yellow, its base reddish-purple, with fine veining of white. The tube on the outside was white at the base, and purple at the edges of the side-lobes (Award of Merit). Messrs. Veitch also showed the beautiful Cattleya × Wendlandii (Warscewiczii ♂, Bowringiana ♀), shown at the last meeting, and Lælio-Cattleya × Pallas (C. Dowiana ♂, L. crispa ♀).

A grand exhibit, made up of a few superb things, came from M. Jules Hye-Leysen, Coupure, Gand, the most remarkable of which was Miltonia × Bleuana rosea (M. Roezlii × M. vexillaria), which had flowers equal in size to those of the very largest form of M. vexillaria, and of a delicate blush-white tint, the inner halves of the petals having rose-purple colouring bearing evidence of M. Roezlii. The lip had fine red lines from the base, and the whole flower had remarkable beauty (First-class Certificate).

M. Jules Hye-Leysen also showed the richly-coloured Miltonia vexillaria Leopoldi, for which Baron Schroder received a First-class Certificate in 1889, and his stately Cypripedium × Albertianum which is the handsomest of the Leeana section.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. Thos. Stafford), showed Cypripedium insigne Hardyanum, a beautiful clear yellow form with pure white upper half to the dorsal sepal, and resembling C. i. Sanderæ.

W. Cobb, Esq., Dalcote, Tunbridge Wells (gr., Mr. J. Howe), showed Odontoglossum aspersum fulvidum, a very handsome form with a distinct buff-coloured hue over the whole flower, which in size and marking resembled O. Humeanum. C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), showed Cattleya Alexandræ and Odontoglossum Wallisii.

R. Young, Esq., Fringilla, Sefton Park, Liverpool (gr., Mr. Poyntz), again showed his Cattleya labiata, Young's variety, which proves to be constant in the unusual breadth of the segments, and the purple feathering on each; also Cypripedium × Hermione (Spicerianum × barbatum Warnerii), a very neat and pretty hybrid.

T. Statter, Esq., Stand Hall, Whitefield, Manchester, (gr., Mr. R. Johnson), again showed the richly-coloured Cypripedium × memoria Moensii; also C. × amabile (Javanico-superbiens × Hookeræ); C. × Johnsoni (Lawrenceanum ×) Cattleya Warscewiczii, a light form said to flower in autumn; Cypripedium Charlesworthii conchiflorum, in which the concave form of the sepals appeared to be abnormal; and Cattleya aurea splendens.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., showed two plants of their fine Cypripedium Pitcherianum, Williams' var., one of which exhibited a curious reversal of the upper and lower sepals, a peculiarity which is said to be constant with this plant. Messrs. Williams also showed Dendrobium album, D. superbiens, D. Goldiei, and Lælia Perrinii nivea.

J. F. Alcock, Esq., Northchurch, Berkhamsted, sent Lycaste cruenta, Cypripedium Schlimii, Cattleya bicolor, Pleione Reichenbachiana, Brassia Lanceana, and Odontoglossum grande, with abnormal flowers.

R. S. Lutwyche, Esq., Beckenham, sent Miltonia Regnelli purpurea, a small supposed hybrid Miltonia, and a hybrid Cypripedium like an almost colourless C. × Ashburtonia.

A most remarkable exhibit was submitted to the committee by Mr. R. Hinds, gr. to M. Wells, Esq., Broomfield House, Sale; it consisted of a series of Orchid flowers dried by a new process worked out by Mr. Hinds, and which consisted in mounting them in picture form, the expanded flower being pressed flat and retaining the exact form and colour as when it was on the plant. The preparations were not only beautiful, but of great utility, and the committee voted Mr. Hinds a Silver Flora Medal.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. T. F. Rivers, W. Wilks, G. Bunyard, S. T. Wright, T. J. Saltmarsh, J. Cheal, Alex. Dean, J. Wright, G. T. Miles, C. Ross, J. A. Laing, C. Herrin, G. Wythes, J. Hudson, W. Iggulden, W. Balderson, F. Q. Lane, Geo. Norman, J. H. Veitch, and Dr. R. Hogg.

Messrs. Jno. Laing & Son, Forest Hill Nurseries,

London, S.E., were responsible for a very excellent display of fruit, in about 250 dishes, including 200 dishes of Apples. Peasgood's Nonsuch, The Queen, Baumann's Red Reinette, Mère de Ménage, Sandringham, Cellini Pippin, highly coloured; Hollandbury's Scarlet Pearmain, Blenheim Orange, Gascoigne's Scarlet, New Hawthornden, Hoary Morning, were those noticed among a very large number of varieties. Pears were good, and included very pretty dishes of Beurré Diel, B. Superfin, B. Clairgeau, Seckle, and Doyenné du Comice. A Gold Medal was awarded this group. The fruit was backed by young trees of Bismarck, lifted from the ground, and shown in pots, to illustrate an exceptional crop of fruit.

Another large exhibit of fruit was made by Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, including 150 dishes, chiefly Apples. Amongst these we noticed Peasgood's Nonsuch, Cox's Pomona, Tyler's Kernel, Mother Apple, Warner's King, Sandringham, Alexander, King of the Pippins, Worcester Pearmain, Washington, Calville Boisbunel, Mère de Ménage, and many others deserving of notice. Among Pears the Seckle was shown in very good quality, Flemish Beauty, Magnate, Beurré Superfin, the high-coloured Forelle, Marie Louise d'Uccle, Pitmaston Duchess, and the new Beurré Fonqueray were noticed (Silver-Gilt Knightian Medal).

From Mr. John Watkins, Pomona Farm, Hereford, came a collection of Pears in about forty dishes; Marie Louise d'Uccle, Doyenné Boussoch, Louise Bonne of Jersey, Beurré Baltet Père, and Beurré Diel, were noticed as of fine quality (Silver Banksian Medal).

Messrs. J. Cheal & Sons, Lowfield Nurseries, near Crawley, exhibited a collection of fruit, and were awarded a Silver-gilt Knightian Medal. The most noticeable of this fine exhibit were Cox's Pomona, Loddington, Frogmore Prolific, Bismarck, Peasgood's Nonsuch, and Duchess of Oldenburg Apples, King of the Pippins Apple; and a good number of Pears, including The Mikado, a Japanese Pear of more interest than use (Silver-gilt Knightian Medal).

C. Lee Campbell, Esq., Glewston Court, Ross, Herefordshire (gr., Mr. S. T. Wright), exhibited six bunches of Gros Colmar Grapes, alike excellent in berry and in colour (Silver Banksian Medal).

A collection of Potatos, in about eighty varieties, was shown by the Earl of Carnarvon, Highclere, near Newbury (gr., Mr. Pope). The quality of these tubers was good, and fair specimens of blue, white, and red kinds were staged (Silver Banksian Medal).

From the Rev. — Terrace, Woburn Park, Weybridge (gr, Mr. Basil), came a collection of vegetables, in which were very good Parsnips, Carrots, Drumhead Cabbage, and Red Cabbage, &c. (Bronze Banksian Medal).

A very fine lot of Celery obtained a Silver Knightian Medal for H. H. Gibbs, Esq., Aldenham Park, Elstree (gr., Mr. E. Beckett). The varieties were Veitch's Early Rose, Sutton's Solid White, Col. Clarke's, Sutton's A 1, Cutbush's Dwarf Crystal White, Laing's Mammoth Red, Standard Bearer, Carter's Solid Ivory White, Sutton's White Gem, and three others.

Messrs. Jas. Veitch & Sons, Chelsea, showed specimens of Veitch's Selected, Rosette Colewort, a compact neat looking variety. Colonel Archer Houblon, Welford Park, Newbury (gr., Mr. Chas. Ross), exhibited a seedling Apple named Lady Alice Eyre, a rather small little coloured fruit, and a seedling Pear named Popham.

An Award of Merit was granted to a seedling Melon named the Earl's Favourite, shown by Mr. H. W. Ward, gr. at Longford Castle, near Salisbury. This good-flavoured Melon for so advanced a season is the result of a cross between Hero of Lockinge and The Bouverie.

A small red Plum named Burdon's Eclipse was shown by Mr. Thos. Godfrey, Edmonds' Nursery, Hillingdon. It is described as the latest of the Orleans section, and ripening about the middle of November. An Award of Merit was given to a small red Plum named the Late Rivers, shown from the gardens of the Royal Horticultural Society at Chiswick.

From Mr. J. Watkins, Pomona Farm, near Hereford, came some high-coloured Apples labelled Pickering Seedling; and from the Marquis of Huntly, Orton Hall, Peterborough (gr., Mr. A. Harding), a dish of Pears, Orange Bergamot, and a dish of large high-coloured Apples, named Orton Favourite.

Mr. Robert Fenn, Sulhampstead, near Reading, exhibited a tuber each of thirty-three seedling Potatos raised by himself, and grown free from disease during the present year by the use of an anti-blight powder.

In a competitive class for six bunches of Grapes, there were two competitors, and the 1st prize was taken by Mr. Wm. Howe, Park Hill Gardens, Streatham Common, S.W. He had two bunches each of Gros Maroc, Muscat of Alexandria, and Black Alicante. Mr. T. Osman, Ottershaw Park Gardens, Chertsey, was 2nd.

A competitive class, arranged for seven dishes of Apples, including three of dessert and four of culinary varieties, grown in the open, was won by C. Lee Campbell, Esq., Glewston Court, Ross, Herefordshire (gr., Mr. S. T. Wright). His fruit was very fine, and consisted of Peasgood's Nonsuch, Ecklinville Seedling, Warner's King, Beurré Hardy, King of the Pippins, Ribston Pippin, and American Mother. The 2nd prize was taken by the Duke of Northumberland, Syon House, Brentford (gr., Mr. G. Wythes), who had also fruits of good quality.

The 1st prize for five dishes of dessert Pears was taken by Mr. Thos. Osman, Ottershaw Park Gardens, with splendid dishes of Pitmaston Duchess, Beurré Clairgeau, Marie Louise, Beurré Superfin, and another; Mr. Geo. Wythes was 2nd.

Mr. T. Spencer, Goodrich Court Gardens, Ross, was 1st in an open class for eight dishes of dessert Pears, grown in the open; he had excellent Durondeau, and Beurré Bachelier, Marie Louise d'Uccle, Beurré d'Amanlis, B. Superfin, B. Baltet, Duchesse d'Angoulême, and Benedictine. Mr. T. Osman, Ottershaw Park Gardens, was 2nd; he had good Beurré Bosc, Marie Louise, Duchesse d'Angoulême, and Durondeau. Mr. Geo. Wythes was 3rd.

Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, showed a very fine collection of eighty kinds and varieties of vegetables, roots, bulbs, &c. It was an unusually large quantity for a private garden, and much very good produce was to be found in the collection. We may specify some well-blanched Cardoons, a number of varieties of Runner and French Beans, luckily preserved from the frost; Princess French Bean was one of these, with prominent seeds, but brittle and tender, the old Syon House variety, White Mammoth Runners; Celeriac, which showed by their smallness the lack of sun this season; two varieties of Kohl Rabi, a nice vegetable, but not appreciated as it deserves to be in this country; numbers of Cabbages in variety, including the now rarely-grown Winnigstadt, an excellent hardy variety; Onions, Veitch's selected Globe, of nice oval shape; and Veitch's Main Crop; a curiosity in Red Globe Turnips; Veitch's Self-protecting Broccoli, nice, small, and compact, and pure white; Autumn Giant Cauliflowers were also good produce. Potato The Brinksworth is a solid, weighty tuber, fit for general consumption. The Lyons Prolific Kidney is an appetising-looking tuber. Matchless Carrots and Exhibition Shallots left nothing to be desired; Brussels Sprouts in this, as in most collections nowadays, were too large and too absorbent of water when cooked, which cannot be got rid of without mashing the sprouts by over-much squeezing. We do not know why the Drumhead Cabbage should find a place in any gentleman's garden however fine and large it may be. There were many more meritorious things, which cannot now be mentioned. A Gold Medal was awarded.

Six excellent examples of Gros Colmar Grapes, compact of bunch, large in berry, and perfect in colour, came from Mr. Wright, gr. to C. Lee Campbell, Esq., Glewston Court, Ross, Herefordshire (Silver Banksian Medal).

Sir Trevor Lawrence, Burford, Dorking (gr., Mr. Bain), sent some new white Jerusalem Artichokes, Veitch's Red Globe Turnips, several French varieties of Chou Navet, and other French vegetables.

Lecture by Professor Henslow.

In the afternoon a lecture was given by the Rev. Professor Henslow, on "The Origin of Common Vegetables, and their value as Food." For some remarks upon which see p. 504.

KENT COUNTY SHOW OF HARDY FRUITS.

October 23, 24.—This annual exhibition was held in the Corn Exchange, Maidstone, and if there were fewer exhibits than on previous occasions, the show was on the whole a good one, exceeding the expectations of fruit-growers in the district. From F. S. W. Cornwallis, M.P., Linton Park (gr., Mr. Mackenzie), came a handsome group of plants. H. L. C. Brassey, Esq., Preston Hall (gr., Mr. Jarman), sent over fifty dishes of fruit of good quality and finish, together with a large group of Palms. About sixty dishes of Pears and Apples were sent from R. Leigh, Esq., Barham Court (gr., Mr. Woodward). A very meritorious collection of plants came from Messrs. Frost, Ling Nurseries, Maidstone; and there were also a capital lot of Pears from Lady Howard de Walden, The Mote (gr, Mr. Fielder). Mr. A. J. Thomas, Rodmersham, was 1st for one sieve of Cox's Orange Pippin Apple; and Mr. Huller, Hunton, with fine King of the Pippins, was 1st in a class for any other dessert kind.

There were some very fine fruits shown in the class for one sieve of Kitchen Apples. Mr. Lockyer, Bearstead, was 1st, with Warner's King; and Mrs. Fremlin, Teston, was 2nd, showing the same variety.

Mr. Smith, Loddington, was 1st for four quarter-sieves of dessert Apples, showing handsome Ribstones, Ross Nonpareil, Mannington Pearmain, and King of the Pippins. Mr. Lockyer was 1st for two quarters.

Class 6.—Mr. A. T. Killick was 1st for four quarters of kitchen Apples; and Mr. Fremlin, Langley, 1st for two quarters.

Mr. Bleat, Wateringbury, was 1st for two quarters of Pears.

For a collection of farm-grown Apples in nine dishes, and Pears in three dishes, Mr. Thomas was well to the fore, his collection being heavy throughout; Mr. Smith was 2nd.

Four dishes of Apples and two of Pears, 1st, Mr. Killick. Mr. Woodward was an easy 1st for twenty-four dishes, showing in his usual style; Mr. Thomas was 2nd. For eighteen dishes of Apples and six dishes of Pears, Mr. Woodward was again 1st.

Trade Notice.

Mr T. W. Edmunds wishes us to make known to our readers that from November 17, 1894, he will take the Darenth Nursery and Seed Shop lately in the occupation of Mr. Arthur Jeffkins. Mr. Jeffkins' nursery stock and seeds having been absolutely cleared off by auction, the grounds will be entirely replanted by Mr. Edmunds.

Obituary.

Mr. Robert Petfield, for many years gardener at Diddington, Huntingdon, the residence of A. J. Thornhill, Esq., died, on the 22nd inst., at the age of sixty-nine years. Mr. Petfield had been in delicate health for some time past, and at intervals entirely confined to the house, his youngest son, who is with him at Diddington, taking charge of the gardens during his enforced absence. Born at Anlaby, Yorkshire, on February 19, 1826, he came to Diddington in September, 1854, when he was twenty-eight years of age, and had charge of the gardens till the time of his death. He was a keen florist, cultivating the Dahlia for exhibition purposes with great success, carrying off first prizes at the shows of the National Dahlia Society at the Crystal Palace, and also at such provincial exhibitions as Cambridge, Sandy, St. Neot's, Bedford, and Huntingdon, when the latter town used to hold three shows a year, though no exhibition is held there now. During the last eight years he took great interest in the cultivation of the Chrysanthemum, and was very successful as an exhibitor. In addition to being a member of the National Chrysanthemum Society, he was also connected with that at St. Neot's, and was largely instrumental in winning for that society the national trophy of the National Chrysanthemum Society in 1890, and again in 1892. In 1893, Mr. Petfield won outright the St. Neot's challenge cup, value ten guineas, and became its owner, and with flowers grown solely by himself, winning once more the trophy of the National Chrysanthemum Society for St. Neot's, his flowers being remarkably fine throughout, thus closing a successful career as an exhibitor with all the honours of war. But amid all this devotion to his favourite flowers, Diddington gardens and grounds were always maintained in a manner to call for high praise. He was buried in

Diddington churchyard on Wednesday, amid the regrets of many who knew him. He leaves a widow, three sons, and two daughters to mourn his loss.

MARY PARKER THOMSON.—We regret to record the death of Mrs. Mary Parker Thomson, wife of the well known horticulturist, Mr. David Thomson, which occurred at The Gardens, Drumlanrig, Thornhill, Dumfriesshire, on Thursday, October 25.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

WATTLED HURDLES FOR WIND GUARDS.—Mr. Wm. Brockbank, Brockhurst, Didsbury, would be glad to be informed by some of our correspondents where he can obtain the above, so useful in winter as wind-breaks. It would pay, he says, for a maker to advertise them in our columns at the proper season.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 20.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1894.	Accumulated. Below 42°, difference from Mean since January 1, 1894.	More (+) or less (−) than the Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1894.	Rainfall. Total Fall since Jan. 1, 1894.	Rainfall. Percentage of possible Duration for the Week.	Rainfall. Percentage of possible Duration since Jan. 1, 1894.	Bright Sun.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.			
0	4 —	14	22	+ 305	— 48	9 —	178	39·1	30	32	
1	4 —	17	26	— 81	+ 14	1 +	164	28·0	21	34	
2	3 —	24	5	+ 16	— 61	9 +	168	20·8	20	32	
3	3 —	32	8	+ 31	— 109	0 aver	163	20·3	28	35	
4	3 —	29	8	+ 26	— 97	4 —	153	19 0	24	32	
5	4 —	35	7	+ 73	— 125	4 —	152	22·3	34	35	
6	5 —	30	19	+ 26	— 62	9 —	164	35·3	34	32	
7	3 —	29	3	+ 166	— 124	1 —	162	26·3	26	33	
8	4 —	33	5	+ 89	— 80	3 —	164	29·6	40	38	
9	4 —	31	13	+ 31	— 27	4 —	182	28·5	39	30	
10	5 —	32	11	+ 52	— 64	2 —	164	30·4	35	32	
*	2 —	62	0	+ 241	— 18	5 —	170	27·0	44	43	

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending October 20, is furnished from the Meteorological Office:—

"The *weather* was cold and somewhat unsettled generally, with rather frequent rain in the north and north-west. Some intervals of fine, clear weather were experienced, however, in nearly all districts. At the end of the period sharp thunderstorms occurred at some of the south-western stations.

"The *temperature* was below the mean, the deficit ranging from 2° in the 'Channel Islands,' to 5° in 'Scotland, W. and Ireland, S.' The highest of the maxima were recorded, as a rule, on the 14th, and ranged from 62° in 'England, S.W.,' 61° in the 'Channel Islands,' and 60° in 'Ireland, S.,' to 53° in 'Scotland, W.,' and to 52° in 'England, N.E.' The lowest of the minima, which were registered at about the middle or the latter part of the week, ranged from 19° in 'Scotland, E.,' 21° in 'Ireland, N.,' and 22° in 'Scotland, W.,' to 34° in 'England, E. and N.E.,' and to 39° in the 'Channel Islands.'

"The *rainfall* was greatly in excess of the mean in 'England, N.E.,' and slightly so in 'Scotland, E.' In all other districts, with the exception of 'England, E.,' where the fall just equalled the normal, there was a deficit. In 'Scotland, W.,' 'England, S.,' and the 'Midland Counties,' the fall was very slight.

"The *bright sunshine* was more prevalent than during the preceding week, and exceeded the mean in all the 'Grazing Districts,' as well as in 'Scotland, N. and E.' The percentage of the possible duration ranged from 44 in the 'Channel Islands,' and 40 in 'England, S.W.,' to 24 in the 'Midland Counties,' 21 in 'Scotland, E.,' and 20 in 'England, N.E.'"

MARKETS.

COVENT GARDEN, October 25.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 0- 7 6
Aspidistra, per doz.	12 0-30 0	Foliage plants, doz.	9 0-24 0
— specimen, each	5 0-15 0	Lilium Harrisii, per dozen	12 0-21 0
Asters, per dozen ...	3 0 6 0	Marguerites, p. doz.	6 0-12 0
Chrysanthemums, per dozen ...	6 0-15 0	Mignonette, p. doz.	0 0- 6 0
Cyperus, per dozen	4 0-10 0	Palms, various, ea.	2 0-10 0
Dracæna, each ...	1 0- 5 0	— specimens, ea.	10 6-84 0
Evergreen Shrubs, in var., per dozen	6 0-24 0	Pelargoniums, scarlets, per doz. ...	3 0- 6 0
Ferns, various, doz.	4 0-12 0	Primulas, per dozen	4 0- 6 0
— small, per 100	4 0- 6 0	Solanums, per dozen	10 0-12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, per doz. bl.	4 0- 6 0	Orchids:—	
Asters, per doz. bun.	4 0- 8 0	Cattleya, 12 blms.	6 0-12 0
Bouvardias, p. bun.	0 6- 1 0	Odontoglossum crispum, 12 blm.	3 0- 6 0
Carnations, 12 blms.	0 9- 2 0	Geraniums, scarlet, per 12 bunches ...	4 0- 6 0
— per dozen bun.	9 0-12 0	— 12 sprays ...	0 6- 0 9
Chrysanthemums, per 12 blooms ...	1 6- 6 0	Pyrethrums, 12 bun.	2 0- 4 0
— per 12 bunches	4 0- 8 0	Roses, Tea, per doz.	1 0- 2 0
Eucharis, per dozen	3 0- 6 0	— coloured, p. dz.	2 0- 4 0
Gaillardias, dz. bun.	1 6- 2 0	— yellow (Maréchals), per dozen	6 0- 9 0
Gardenias, per doz.	3 0- 4 0	— red, per dozen	1 0- 1 6
Gladiolus, doz. bun.	18 0-24 0	— outdoor, per dozen bunches ...	6 0 12 0
Iapageria, 12 blms.	1 0- 2 0	Stephanotis, dozen sprays	4 0- 6 0
Lilium Harrisii, doz.	4 0- 8 0	Tuberoses, 12 blms.	0 4- 0 6
— — per 12 blms.	0 9- 1 6		
Maidenhair Fern, per 12 bunches ...	4 0- 6 0		
Marguerites, 12 bun.	1 0- 3 0		
Mignonette, 12 bun.	1 0- 3 0		

ORCHID-BLOOM in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, American, per barrel ...	10 0-12 0	Grapes, Muscat, per lb.	1 6- 2 0
— Cooking, per sieve	4 0- 6 0	— Muscat, 2nd quality, per lb.	0 9- 1 0
— Dessert, half-sieve	2 6- 3 6	— Guernsey, per lb.	0 5- 0 9
Cobs, per 100 lb. ...	25 0-27 6	Melons, each ...	1 0- 2 0
Grapes, 1st quality, black, English, per lb.	1 0- 2 0	Pears, Dessert, half-sieve	2 0- 4 0
— English, 2nd quality, per lb.	0 6- 1 0	Pine-apples, St. Michael, each ...	2 0- 6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Beans, Runners, siv.	1 6- 2 6	Mushrooms, per lb.	1 0 ...
Cauliflowers, p. doz.	1 0 ...	Onions, per bush. ...	2 0- 2 6
Cucumbers, per doz.	2 0- 3 0	Tomatos, per lb. ...	0 6- 0 7

POTATOS.

The market is being kept rather short of supplies by farmers who are now busy with other work on the land while favourable weather continues. Prices in consequence have made slight advances in most cases. Best kinds, good samples, 85*s.* to 100*s.*; ordinary samples and blacklands, 55*s.* to 70*s*, *J. B. Thomas.*

SEEDS.

LONDON: *October* 24.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market quiet. Winter Tares and Rye are in diminished request. New Mustard and Rape seed are cheaper than ever before known. Rye-grasses very dull. A few sales are reported of Alsyke; white is still very dear. Red Clover seed and Trefoil neglected. Bird seeds show no important change. Scarlet Runners have advanced. Peas and Haricots steady. Linseed easier.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *October* 23.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* 6*d.* per tally; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* to 2*s.*; Parsley, 9*d.* to 1*s.* per dozen bunches; Horseradish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, foreign, 2*s.* to 2*s.* 6*d.* per bag; do., English, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Apples, 2*s.* to 6*s.* per bushel; Pears, 9*d.* to 3*s.* 6*d.* per half sieve.

STRATFORD: *October* 24.—This market has been well supplied with all kinds of produce during the past week, and, with a large attendance of buyers, a brisk trade was done at the undermentioned prices:—Cabbages, collards, 2*s.* to 2*s.* 6*d.* per tally; Savoys, 2*s.* to 4*s.* do.; Greens, 3*s.* to 4*s.* do.; Cauliflowers, 3*s.* to 4*s.* do.; Turnips, 1*s.* 9*d.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 30*s.* to 40*s.* per ton; do., cattle-feeding, 25*s.* to 32*s.* do.; Parsnips, 7*d.* to 9*d.* per score; Mangels, 10*s.* to 15*s.* per ton; Swedes, 14*s.* to 18*s.* do.; Onions, English, 3*s.* 6*d.* to 4*s.* per bag; do., Dutch, 2*s.* to 3*s.* per bag; Apples, English, 2*s.* 6*d.* to 4*s.* per bushel; do., American, 12*s.* to 14*s.* per barrel; Pears, 3*s.* to 3*s.* 6*d.* per sieve; Cucumbers, 1*s.* to 1*s.* 6*d.* per dozen; Tomatos, English, 4*s.* to 5*s.* per dozen lb.

FARRINGDON: *October* 25.—Quotations: Turnips, 1*s.* 3*d.* to 1*s.* 6*d.* per dozen; bunch Greens, 1*s.* to 1*s.* 3*d.* do.; Savoys, 2*s.* 6*d.* to 3*s.* per tally; Cabbages, 1*s.* 6*d.* to 2*s.* per doz.; Celery, 8*s.* to 9*s.* per doz. rolls; Carrots, 1*s.* 9*d.* to 2*s.* per bag; Lettuces, 5*d.* to 6*d.* per score; Apples, cooking, 3*s.* to 4*s.* per bushel; do., dessert, King Pippins, 2*s.* 6*d.* to 3*s.* per half-sieve; Sprouts, 1*s.* do.; Beetroots, 1*s.* 3*d.* per bushel; Parsnips, 3*s.* per cwt.; Horseradish, best, 1*s.* 3*d.* per bundle; Cucumbers, 1*s.* 6*d.* to 1*s.* 9*d.* per doz.; Walnuts, 24*s.* per sack; Grapes, 11*s.* per barrel; Plums, 2*s.* 6*d.* per half-sieve; Pears, 3*s.* 6*d.* per half-sieve; Tomatos, good English, 5*d.* per lb.

POTATOS.

BOROUGH AND SPITALFIELDS: *October* 23.—Quotations ranged from 45*s.* to 80*s.* per ton.

STRATFORD: *October* 23.—Quotations:—Magnums, Darkland, 50*s.* to 55*s.*; Light-land, do., 60*s.* to 75*s.* per ton.

FARRINGDON: *October* 25.—Quotations:—Sutton's Abundance, 80*s.* to 100*s.*; Bruces, 60*s.* to 70*s.*; Magnums, 60*s.* to 80*s.*; Imperators, 60*s.* to 70*s.*; Hebrons, 70*s.* to 90*s.*; Main Crop Kidneys, 70*s.* to 80*s.* per ton.

LONDON AVERAGES: *October* 24.—Snowdrops, 80*s.* to 95*s.*; Magnums, 50*s.* to 70*s.*; Hebrons, 60*s.* to 80*s.*; Main Crop, 80*s.* to 90*s.*; Black-lands, 50*s.* to 55*s.*; Kidneys, 60*s.* to 70*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 20, and for the corresponding period last year:—1894: Wheat, 17*s.* 6*d.*; Barley, 23*s.* 11*d.*; Oats, 13*s.* 6*d.* 1893: Wheat, 27*s.* 6*d.*; Barley, 29*s.* 6*d.*; Oats, 18*s.* 1*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 132*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 60*s.* to 120*s.*; do., specially picked, 130*s.*; do, inferior 36*s.* to 60*s.*; Mixture, 90*s.* to 120*s.*; and Straw, 22*s.* to 38*s* per load.

SPRAYING CROPS.—Our American cousins are much more enthusiastic about the merits of spraying than we are. Our apathy is, however, gradually breaking down, and it may be expected that the Technical Education lectures and demonstrations will hasten that process. One thing to be specially inculcated is, that spraying is done not with a view to cure but as a preventative. It is no use putting a lock on the stable door when the horse has been stolen, unless it be to prevent a similar lot overtaking another horse. In a little book entitled *Spraying Crops*, to be had from Kegan Paul, Trench, Trübner, & Co., Paternoster House, Charing Cross Road, full details are given as to why, when, and how, spraying should be done. We commend it to all growers on a large scale. Of course, spraying needs to be done with great judgment, the operator always bearing in mind that he is dealing with poison. At the same time, if spraying is properly done at the right time, and in the right way, it is a very profitable operation, at least, so say our American friends, who look very sharply after the dollars. Provided the conditions already mentioned are duly observed, there can be no danger whatever of poisoning the consumer.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six varieties should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Apple, Cox's Pomona: *G. B.* A very fine example of free setting.

Corrections. — Messrs. Colby, Hinkley & Co., of 10, Tudor Grove, Wells Street, Hackney, desire to say that they are the only makers in this country of the nests of boxes for soft fruit transportation, and not Messrs. C. H. Clover & Co., as stated in our report of the Crystal Palace Fruit Show, October 6, p. 412.—At p. 472, col. *b*, line 4, for *needlessly* read *endlessly*.

Fruit Culture in Devon and Cornwall: *W. D. W.* The valleys running south in Cornwall, and all parts of Devon except the Exmoor and Dartmoor districts. Avoid selecting land quite close to the coast, unless well sheltered from the south-west wind.

Land and Houses at Worthing: *E. J. S.*—In your houses grow Begonias Gloire de Sceaux, John Heal and Adonis; Cœlogyne cristata, Cypripedium insigne, best varieties; Odontoglossum crispum, Cymbidium eburneum, The "Pearl" Tuberose, Lily of the Valley, very early or very late Lilium longiflorum, and L. l. var. Harrisi, and L. Krätzeri. If a house should happen to be empty in the summer, grow early Sweet Peas, Eckford's fine strains, selecting a few pink, white, and dark varieties, not too many, growing them well in large pots, or planted out. The flowers fetch good prices if got into the market early. These Sweet Peas would make a good crop, as would Lilies, such as japonicum, lancifolium, and candidum, for your 2 acres of land; paying much better than Potatos.

Names of Fruits: *S. A. Newman.* 1, Rosemary Russet; 2, King of the Pippins; 3, Dumelow's Seedling; 4, Duck's-bill; 5, Hollandbury; 7, Louise Bonne of Jersey.—*R. P.* 1, Beurré Bosc; 2, Marie Louise.—*S. & D.* 2, Seckle. The others so poor and miserable that they cannot be identified. —*A Constant Reader.* 1, Duchesse d'Angoulême; 2, Brown Beurré; 3, Beurré Diel; 4, Duchesse d'Angoulême; 5, Glou Morçeau; 6, Chaumontelle. —*C. Mainwaring.* 1 and 2, local seedlings; 3, Forge; 4, Duchesse d'Angoulême; 5, Beurré Diel.—*Heaton.* 1, Beurré Diel; 2, probably Marie Louise; 3, Bergamotte d'Esperen; 4, Beurré Bosc; 6, Duchesse d'Angoulême.—*B. G.* 1, Maréchal de la Cour; 2, not recognised; Apple decayed; 3, Josephine de Malines; 4, Marie Louise.—*A. Chapman.* 1, Triomphe de Jodoigne; 2, Old Crassane; 4, Fondante d'Automne?—*E. J.* 1, Josephine de Malines; 2 and 4, Glou Morçeau; 3, Gansel's Bergamot; 5, Glou Morçeau.—*Tong.* 1, Catshead; 2, Grange's Pearmain; 3, Tibbett's Pearmain; 4, Stone's; 5, not recognised.—*J. Howe.* 1, Thomsons; 2, Beurré Diel.—*H. Redder.* 1, Beurré Bosc; 3, Beurré Diel; 4, Van Mons Léon Leclerc.—*E. Chester.* 1, Glou Morçeau; 2, Beurré d'Aremberg; 3, Maréchal de la Cour.—*J. D. C.* King of the Pippins.—*W. W. T. H. C.* 10, Beurré Diel; 11, Josephine de Malines; 9, Glou Morçeau; 8, French Crab; 2, Brabant Bellefleur; 12, Greenup's Pippin.—*J. R. W.* 2, Gansel's Bergamot; 4, Beurré Diel; 5, Old Crassane; 6, Van Mons Léon Leclerc; seedling Apple of no value. — *G. Kent.* 1, Autumn Bergamot; 2, Williams' Bon Chrétien; 3, Easter Beurré; 4, Golden Noble; 5, Beauty of Kent.—*J. P.* Apple Grenadier.

Names of Plants: *J. C. Stagden.* 1, Ag. (Arm.) melleus; 2, Ag. (Clitocybe) inversus; 3, Ag. (Clito.) laccatus; 4, Clavaria cristata; 5, Clavaria fragilis; 6, Ag. (Psilo.) Fœnisecii; 7, Xylaria hypoxylon.—*D. & Co.* Helianthus diffusus? imperfect specimen. — *G. C.* 1, Viburnum Lantana; 2, V. opulus; 3, Spiræa opulifolia.— *C. W. L.* 1, Pyrus communis (wild form, or near to it); 2, Pyrus salicifolia; 3, Fraxinus excelsior var. nana, "dwarf bushy plant," a very curious variety of the common Ash, by no means common. — *T. F.* Pelargonium echinatum.—*J. C.* Shrivelled and packed in cotton wool, the worst of packing material. 1, Astrantia major; 2, Matricaria inodora, double var.; 3, Geranium sanguineum. — *Brier.* 1, Saponaria officinalis, double fl.; 2, Santolina incana; 3, Eupatorium cannabinum.—*B. B.* Both are Yews, one is probably the Irish Yew, but we cannot tell from a mere scrap. —*W. L. L.* Your plant is typical Lælia pumila. It is not usual for it to bear a three-flowered inflorescence.—*T. N. Poole.* Adhatoda cydoniæfolia, allied to Justicia.—*W. Thomson.* Malope trifida.—*Post-mark, Finchley.* A correspondent, who sends neither name nor address, encloses four leaves, which we believe to be—1, Sparmannia africana; 2, Abutilon; 3, Cyclamen; 4, Gloxinia. —*W. J. P.* 1, Azara microphylla; 2, A. Ceanothus (not in bloom); 3, Hippophae rhamnoides, Sea Buckthorn; 4, perhaps Spiræa Douglasi (not in bloom); 5, yes, we agree it is a very poor scrap, probably of Alstrœmeria Pelegrina; 6, not recognised.

Peach Trees and Crag from the Cliffs, &c.: *G. C. B.* We would not recommend the use of much of this material, there being much iron in it. Lime rubble, sand, a small quantity of finely-screened coal-ashes, or burnt soil (ballast) would be better. If you cannot obtain any of these, lift the trees and replant them, keeping the roots near the surface. This may have to be done every third year, till the soil has got somewhat exhausted of its richness. The vine-roots are probably at too great a depth in the 5-feet deep border, therefore out of the reach of sunheat; and unless the border was exceptionally well made, the soil at, or near the bottom, will have been rendered close and adhesive, and apt, therefore, to hold too much water. Replant them near the surface, and examine the state of the drainage, putting it in good order if found to be faulty, and making a new and much shallower border if the present one does not seem satisfactory. Now is the time to do this. The Vines having half-ripe Grapes on them are not likely to perfect the fruit, or should it get ripe before the leaf falls it will not keep.

Pears Worked on the Mountain Ash: *W. T.* As these are members of the same natural order, they would form durable unions one on the other, more so than Pear on Apple, which usually last for a few years only. We do not remember to have remarked a Pear growing on the Mountain Ash. In Bailey's *The Nursery Book* (Rural Publishing Co., New York), it is stated that the latter is used for a stock in very sandy land, but its use appears to be of little consequence. The growth of a scion would doubtless be more rapid on this than on stocks of Thorn or Medlar.

Rosa sps., sent as R. laxa: *J. W. W.* The plant sent is certainly not Rosa laxa, but a form of R. canina. *G. N.*

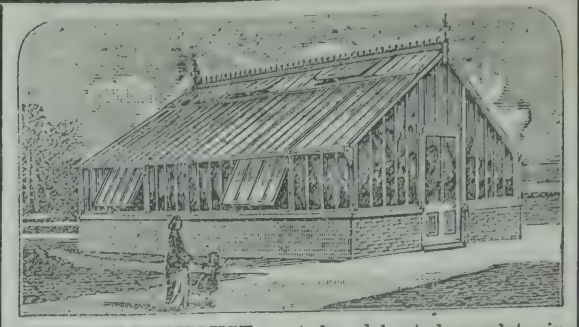
The Papers Read at the Late Great Fruit Show at the Crystal Palace: *C. B.* Those mentioned in your note will be found in our issue for October 6, in a but little abridged form, and they will be published in full in the *Journal* of the Society.

Trees and Shrubs for the Grand Canaries: *R. M.* We may say generally the native lowland plants of New Zealand, Japan, the Cape, South Australia, Southern China, Peru, Chili, and including much that we understand by cool and warm greenhouse plants. Tea-scented and other Roses would likewise grow and bloom well.

Communications Received.—W. E. Boyes.—Cassell & Co.—W. B. Becket.—G. N.—N. E. B.—F. G. Garwood.—J. Fears.—Ed. Webb & Sons.—T. C.—W. H. W.—Weston Birt.—Chepstow.—W. J. P.—J. Cambridge, Botanical Supply Company.—D. T. F.—C. W. D.—J. Maeers.—R. D.—C. H. S.—W. H. H.—H. M.—W. H. W.—A. E.—J. B.—W. G.—J. H.—F. J. B., Warwick.—A. C. F.—H. T. Wharton.—J. O'B.—H. C. F.—W. D.—J. G. B.—Wild Rose.—W. B.—A. D.—D. McD.—J. J. W.—C. C.—S. H.—Mark L.—J. P. & Sons.—J. Hudson.—E. C.—W. H. W.—J. W.—D. L. McI.—Tar.—W. G. S.—T. W. R.—A. E. M.—D. Crombie.—A. P.—W. K.

Photographs Received, with Thanks.—J. E. Nostell.—Gunn & Stewart.

Specimens Received.—W. P.—W. W.—Rev. G. H. E.—R. J.—J. J.—F. G. G.—A. C. F.



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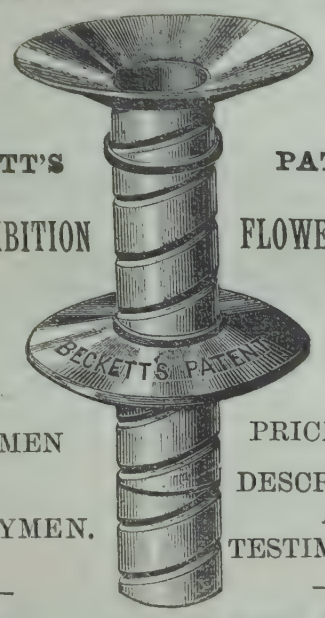
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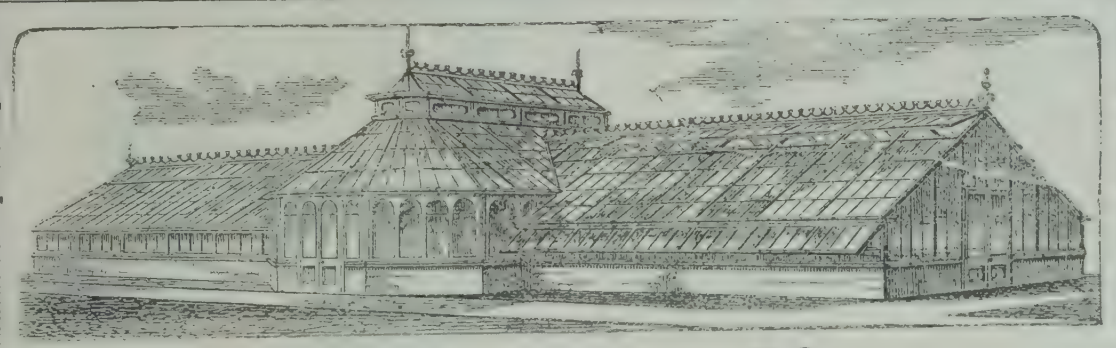
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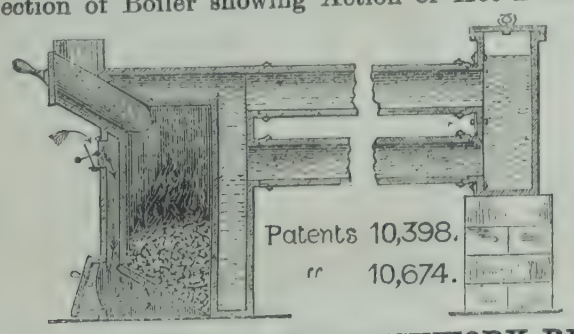
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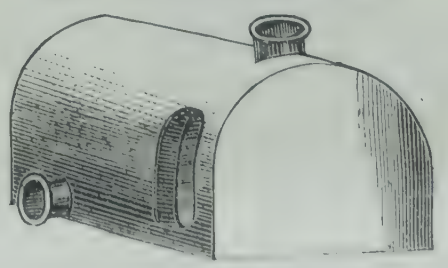
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THE ROCHFORD HORIZONTAL TUBULAR BOILER, WITH CAULKED or INDIA-RUBBER JOINTS.

KINNELL'S PATENT VENTILATING GEAR.

MOVABLE GLAND THROTTLE VALVES.

DIAPHRAGM VALVES WITH RUBBER FACE.

LARGEST STOCK OF HOT-WATER PIPES AND FITTINGS IN LONDON.

☞ *COMPARE QUALITY OF GOODS and PRICES.*

ADDRESSES: 65 & 65A, SOUTHWARK STREET; 31, BANKSIDE; 4, 5, & 6, THE GROVE, SOUTHWARK, S.E.; and TRUCHOT STORES, GUERNSEY.

NEW ILLUSTRATED LIST, Post-free.

1000 HOUSES IN STOCK to Select from.

W. COOPER, LIMITED,

HORTICULTURAL PROVIDERS—*the Original Inventors of Cheap Greenhouses,*

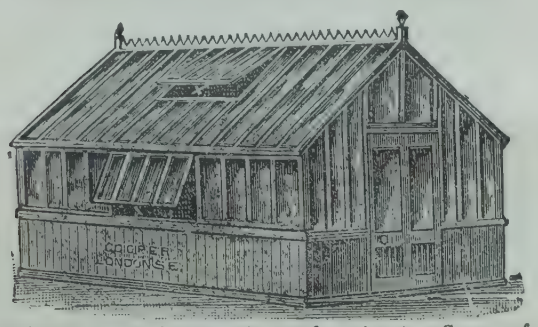
755, OLD KENT ROAD, LONDON, S.E.

NURSERIES—HANWORTH AND FELTHAM.

The Largest Steam HORTICULTURAL WORKS In the World.

Inspection Invited

AMATEUR GREENHOUSES.



This Illustration is an exact copy of my Amateur Span-roofed Greenhouses, which are made of well-seasoned red deal. Complete with Ventilators, Irons for Opening, Staging, Glass, &c. Made in Sections, so that they can be erected by any gardener or handy man in a few hours. Simply screwed together.

Delivered and erected complete within 20 miles.

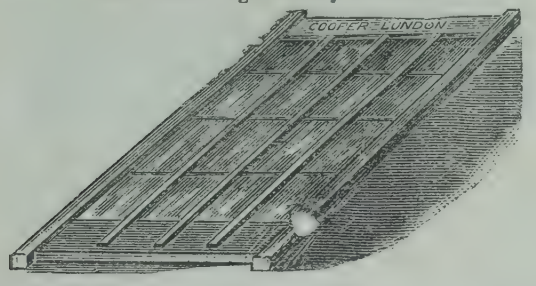
Length.	Width.	Height.		On Rail.			
7 ft. ...	5 ft. ...	7 ft.,	4 ft. to eaves	£2	16	£4	0
8 ft. ...	5 ft. ...	7 ft.,	4 ft. ,,	3	10	5	0
9 ft. ...	6 ft. ...	7 ft. 3 in.,	4 ft. ,,	4	0	5	10
10 ft. ...	7 ft. ...	7 ft. 6 in.,	4 ft. 6 in. ,,	5	0	6	15
12 ft. ...	8 ft. ...	8 ft.,	5 ft. ,,	6	0	8	0
15 ft. ...	10 ft. ...	8 ft. 6 in.,	5 ft. ,,	8	10	12	0
20 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	12	0	16	0
25 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	16	0	21	0
50 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	30	0	40	0
100 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	50	0	70	0

Deduct 10 per cent. if required for brickwork.

Any size made. For Price of Lean-to, see List.

GARDEN LIGHTS.

3000 Glazed Lights always in Stock.



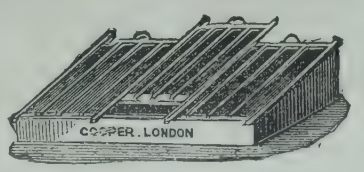
These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2-in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	...	...	...	5 0
4 ft. by 3 ft., ,, ,,	...	...	...	6 6
6 ft. by 4 ft., ,, ,,	with 21-oz. glass	...		9 0
6 ft. by 4 ft., unglazed lights ...	...	...	...	3 6

Special quotations for large quantities.

See page 278 in List.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick, glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz., 100 ft.,	21-oz., 100 ft.
4ths	... 8*s.* 3*d.*	... 11*s.* 3*d.*
3rds	... 9*s.* 0*d.*	... 12*s.* 3*d.*

10,000 Boxes to select from.

The following is a list of sizes always in stock: 8 by 6, by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2½*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s.*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

IMPORTANT.

We beg to inform all readers of this Paper that the Third Edition (100,000 copies) of our Revised PRICE LIST, consisting of 400 Pages and about 1200 Illustrations, bound in cloth, is Now Ready. We shall have much pleasure in forwarding to all applicants one post-free. This List is the most complete in the Trade, and has cost several thousand pounds to produce.

Address: W. COOPER, Ltd. (as above).

NOTICE TO THE TRADE.

Special Quotations given for large quantities of Timber, Iron, and Glass.

Address all Communications, "Trade Dept."

MANURES, PEAT, SAND, FERTILIZERS, &c.

1-lb. tins Fertiliser...	per dozen	£0 4	9
1-lb. tins Sunshade...	,,	0 6	3
Cocoa-nut Fibre Refuse	per sack	0 1	0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0 2	0
Best Orchid Peat	,,	0 3	0
,, Rhododendron Peat	,,	0 1	0
,, Brown Fibrous Peat	,,	0 2	0
,, General Peat	,,	0 1	9
,, Loose Peat	,,	0 1	9
,, Surrey Loam	,,	0 1	9
General Potting Compost	,,	0 1	6
Fern Compost	,,	0 1	6
Bulb Compost	,,	0 1	6
Leaf Soil, well decayed	,,	0 2	0
Pure Wood Charcoal	,,	0 2	6
Worm Destroyer	per ½-pt.	0 0	6
Insecticide	... each	0 0	3
Tobacco Paper, 6*d.* per lb.	per cwt.	1 16	0
Wonderful New Mushroom Spawn ...	... bushel	0 2	6

All Sacks and Bags free. Send for List, post-free.

HORTICULTURAL TIMBER.

WELL-SEASONED RED and YELLOW DEAL.

SASHBARS. 1½ in., 3*s.*; 2 in., 3*s.* 9*d.*; 2½ in., 5*s.*; 3 in., 6*s.* 6*d.* per 100 ft. run.

MATCH BOARDS, ⅝, 6*s.* per square; 1-in., 10*s.* 6*d.* per square.

FLOOR BOARDS, 1-in., 9*s.* per square.

FEATHER EDGE BOARDS, ¾ by 6, 6*s.* 6*d.* per square.

DEALS, 3 by 11, Yellow, 4*d.*; 3 by 9, 3½*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d.*; 2 by 6, 1*d.*

CUTTING FLATING, 9*d.* per 100 ft.; Deeping, 2*s.* 3*d.* dozen 12 ft.

SLATING BATTENS, ¾ by 2, 1*s.* 3*d.* per 100 ft.; ¾ by 1, 7*d.* per 100 ft.

HALF GLASS DOORS, 4 ft. 6 in. by 2 ft. 6 in., 6*s.* each, 6 ft. by 2 ft. 6 in., 7*s.*; Marginal Light, 6 ft. 6 in. by 2 ft. 6 in., 10*s.*

VENTILATORS. TOP or SIDE, 2 ft. 6 in by 2 ft., 2*s.* each.

FINIALS, MACHINE-TURNED, 12 in. high, 6*d.* each; 4*s.* 6*d.* per dozen.

TRELLIS, Planed, Extended—

Open.	*s.*	*d.*	Open.	*s.*	*d.*
12 ft. by 1½ ft.	2	0	12 ft. by 3½ ft.	4	6
12 ft. by 2 ft.	3	0	12 ft. by 4 ft.	5	6
12 ft. by 2½ ft.	3	6	12 ft. by 5 ft.	6	6
12 ft. by 3 ft.	4	0	12 ft. by 6 ft	8	0

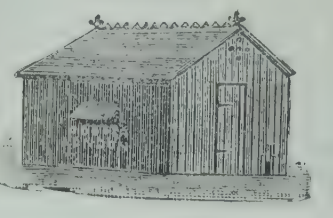
MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9, best Red Deal, all planed, rabbeted, &c., ready for use. Send for Specification.

The above prices are for good, sound, Yellow and Red Deal. For large quantities special low prices will be quoted.

All Timber consigned at the Cheap Timber Rate to all parts of the country. Send for TIMBER LIST.

POULTRY HOUSES.

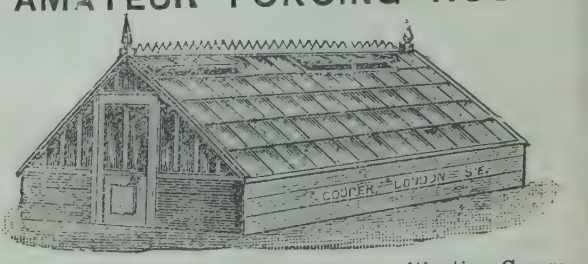
Well and substantially constructed, are warranted waterproof, complete with door, ventilator, and slide, from 20*s.*



5ft. by 4 ft.	25*s.*
6 ft. by 4 ft.	30*s.*
7 ft. by 5 ft.	36*s.*
9 ft. by 6 ft.	42*s.*

Send for List.

AMATEUR FORCING HOUSE.

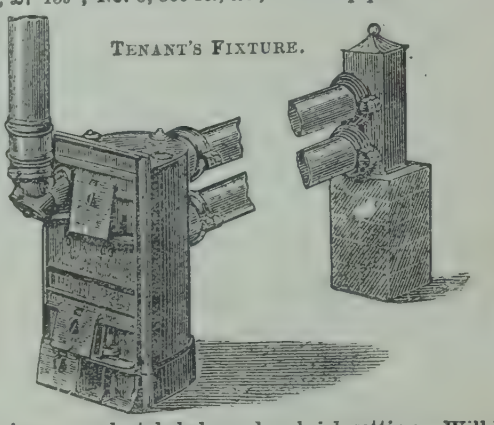


The utility of this house for forcing or cultivating Cucumbers, Tomatos, Melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See LIST, p. 22. Send for LIST, post-free.

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft., £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s*; No. 6, 500 ft., £9; of 4-in. pipes.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

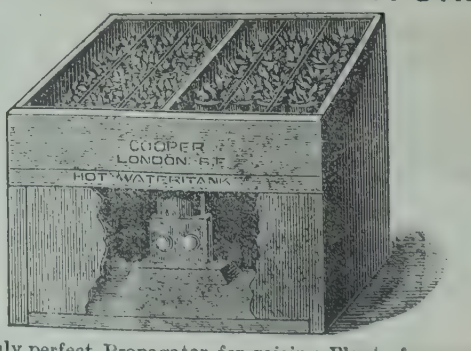
Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 45 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

THE RAPID PROPAGATOR.

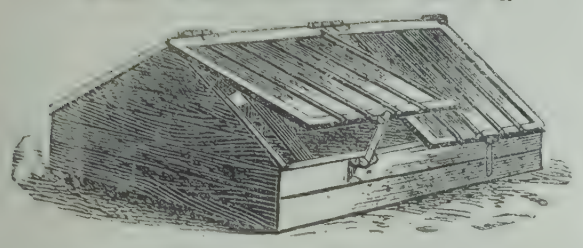


The only perfect Propagator for raising Plants from seeds, slips, or cuttings:—

1 ft. 8 in. by 1 ft. 6 in.	£1	0	0
2 ft. 6 in. by 1 ft. 10 in.	1	4	0
4 ft. by 2 ft.	1	8	

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „	CASH	2	5	0
12 feet „ 4 feet „	PRICES,	4	0	0
6 feet „ 5 feet „	CARRIAGE	2	15	0
12 feet „ 5 feet „	CARRIAGE	4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,

ROYAL HORTICULTURAL WORKS,

MIDDLETON, MANCHESTER.

London Agent, Mr. H. Skelton, Seedsman, &c., 2, Holloway Rd., N.

WARE and SONS'

ARE THE **FLOWER POTS** BEST.

THE SUSSEX POTTERY WORKS, UCKFIELD.

Quotations given for quantities. Carriage paid to any **The Best** Railway Station. **are Cheapest.**

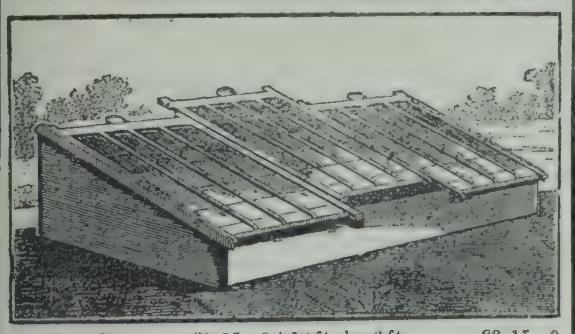
SAMPLES and LISTS FREE. Crates packed.

BOULTON & PAUL,

HORTICULTURAL BUILDERS, NORWICH.

CONSERVATORIES, GREENHOUSES, GARDEN FRAMES in great VARIETY.

No. 75. MELON & CUCUMBER FRAME.



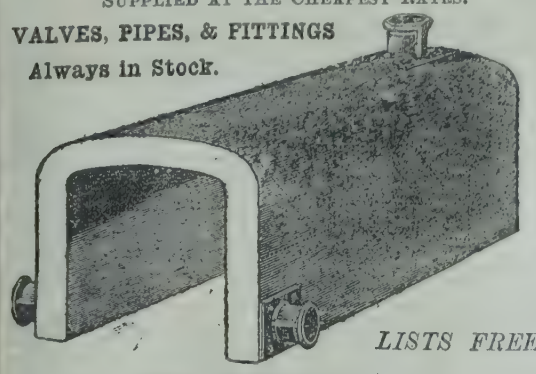
4 ft. by 6 ft.	... £1 15 0	12 ft. by 6 ft.	... £3 15 0
8 ft. by 6 ft.	... 2 15 0	16 ft. by 6 ft.	... 4 15 0

No. 77.—VIOLET FRAME, 6 feet by 4 feet Similar to No. 75, with two lights. } **30s.**

BOILERS OF ALL MAKES AND SIZES

Supplied at the Cheapest Rates.

VALVES, PIPES, & FITTINGS Always in Stock.



LISTS FREE.

OUR CELEBRATED No. 4

CHECK END BOILER,

To heat from 300 ft. to 3000 ft. of 4 in. piping.

CARRIAGE PAID on Orders of **40s.** value to Stations in England and Wales; also to Dublin, Cork, Edinburgh, and Glasgow.

BONES! BONES!! BONES!!!—Any size from dust to 1 inch, at 10*s.* per cwt. Carriage Paid on 1 cwt. Special quotations to large buyers.
Terms, Cash with Order.
E. S. WILES and LEWIS, Bone Crushers, St. Albans.

BEESON'S MANURE,
Crushed Bones and all High-class Fertilisers.
Genuine only from—
W. H. BEESON, Carbrook Bone Mills, Sheffield.

FISH MANURE for VINES and PLANTS.—GEO. HARRIS, Esq. (Head Gardener to His Grace the Duke of Northumberland), Alnwick Castle Gardens, writes:—"I have applied your Manure to Vines and many kinds of plants with excellent effect." In 1 cwt. bags, £3 10*s.* per ton, 4*s.* 6*d.* per cwt. Carriage paid.—THE GREAT GRIMSBY POULTRY GRIT AND MEAL COMPANY, Grimsby.

CROSS'S GARDEN FERTILISER. — For Vines, Pot Plants, Fruit Trees, Vegetables.
MURRAY'S "ELECTRIC" MILDEW and INSECT DESTROYER, a purely Vegetable preparation, harmless to plant life, a perfect cure of Mildew and all Insect Pests.
ALEXANDER CROSS and SONS, 79, Mark Lane, London.

C. BEESON'S MANURE.—Composed of Blood and Bone. The best Fertiliser for all purposes. Sold in tins, 1*s.*, 2*s.* 6*d.*, and 5*s.* 6*d.*; also in air-tight bags, ½ cwt., 6*s.*; 1 cwt, 10*s.* Full directions for use sent with each tin and bag. 1 cwt. and above sent carriage paid, cash with order. C. BEESON, Bone Mills, St. Neot's, Hunts.
"12, Knowle Road, Brixton, London.
"I have tried this fertiliser on various garden crops, and I am able to say that it is an excellent Manure for Vegetables, Flowers, Vines, and Fruit Trees.
"A. B. GRIFFITHS, Ph.D., F.R.S.E., F.C.S."

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at Home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.
Sole Makers:—WM. THOMSON and SONS, Ltd., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ½-cwt. and upwards.
SOLD BY ALL SEEDSMEN.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.*, from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

XL ALL LAWN SAND.

NOW IS THE TIME TO USE IT.

An exterminator of Daisies, Plantains, Docks, and other unsightly Weeds from Lawns, and a Fertiliser for the Grass combined in one. Guaranteed the finest and most effectual preparation ever offered for the purpose. Please note the following, from a well-known Gardener:—"The Lawn Sand which I had from you last autumn far exceeded my expectations in results. Used on a very weedy and impoverished part of the lawn, the same has this season been most conspicuous by the luxurious growth and absence from weeds. I have no hesitation in stating that whoever may give it a trial will also be satisfied with the result. — T. Turton, The Gardens, Maiden Erlegh, Reading."

A fine dry powder, supplied in air-tight tins:—2 lb., 1*s.*, 7 lb., 3*s.*; 14 lb., 5*s.*; 28 lb., 8*s.* 6*d.*; 56 lb., 16*s.*; 112 lb., 30*s.*
Carriage paid on 1 cwt. and upwards.
Full directions for use on all tins.
G. H. RICHARDS, Manufacturer, Old Shot Tower Wharf, Commercial Road, Lambeth, London, S.E.
Trade supplied on best terms.

I CAN STILL SUPPLY

THE BECKETT CUP AND TUBE.

All sizes, with improved fasteners, 9*s.* per dozen.

I also supply all other makes, including THE SPRINGTHORPE, 9*s.* per dozen; THE SHOESMITH, 9*s.* per dozen; THE ACME, 12*s.* per dozen; and THE CHAMPION, 8*s.* 6*d.* per dozen. Delivered free for cash with order.

THE RYECROFT SET of DRESSING INSTRUMENTS.—Three pairs of Forceps, Brush and Case complete, 10*s.* 6*d.*; Large Forceps, for pulling centres, 3*s.* 9*d.*; Smaller, do., for Dressing, 2*s.* 9*d.* Free for cash.

An Article on "Dressing Incurved Blooms," by H. Shoesmith, will be sent with each Order, or can be had free for three stamps.

H. J. JONES,

RYECROFT NURSERY, HITHER GREEN, LEWISHAM

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TIDY'S IMPROVED

TELESCOPE CHRYSANTHEMUM CUP & TUBE

(Patent No. 8788).

☞ IS PERFECT IN EVERY RESPECT. ☜

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W. E. TIDY, Brockhampton Nurseries, HAVANT, HANTS

RUSSIA MATS.

		Per Bundle of 10.
BEST NEW ARCHANGEL MATS ...	(9 ft. by 4 ft. 6)	10s.
„ TAGANROG MATS	(7 ft. by 4 ft.)	8s.
„ HEAVY PETERSBURG MATS	(7 ft. by 3 ft. 10)	7s.
NEW LIGHT PETERSBURG MATS	(7 ft. by 3 ft. 6)	5s.

SECOND-HAND PACKING MATS, 20/-, 25/- & 35/- p. 100.
BEST PLAITED RAFFIA and COCOA FIBRE REFUSE.
„ CUBA BAST ... ... 1s. per lb.

Horticultural Sundries of Every Kind.

CATALOGUE Post Free on application.

JAMES T. ANDERSON,

135 & 137, COMMERCIAL ST., LONDON, E.

RICHARDS' NOTED PEAT.

(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10*s.* per sack; 5 for 47*s.* 6*d.*
SELECTED, in blocks, very fibrous, 8*s.* per sack; 5 for 37*s.* 6*d.* SECOND QUALITY, 5*s.* per sack; 5 for 22*s.* 6*d.*
BROWN FIBROUS PEAT, for Azaleas, Rhododendrons, and Ferns, 4*s.* per sack, 5 for 18*s.*; and 3*s.* per sack, 5 for 12*s.* 6*d.*
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2*s.* 6*d.* per sack; 5 for 10*s.* PREPARED POTTING COMPOST, 4*s.* per sack; 5 for 18*s.* All sacks included.
Send Postal Order for Sample Sack. Special terms to the Trade.
For Price List apply to **D. CAMERON,**
Forester's Lodge, Mount Mascal, Bexley, Kent.

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RAILWAY ACCIDENTS,

EMPLOYERS' LIABILITY

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RAILWAY PASSENGERS' ASSURANCE CO.,

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Established 1851.

BIRKBECK BANK,

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TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.

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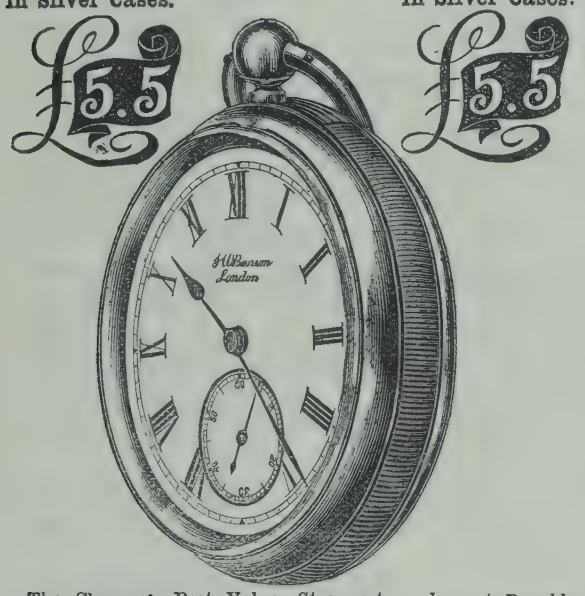


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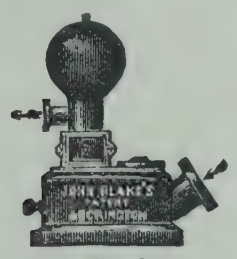


Fig. A.
This Ram raises a portion of the same water that works it.



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 295 feet and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.

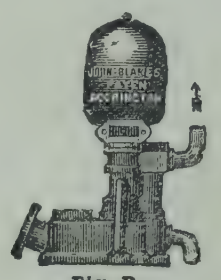


Fig. B.
This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to The Right Hon. LORD HINDLIP.

Bradley, Ashbourse, Derby, March 17, 1894.

DEAR SIR,—Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than **63 times that of the working fall.** The Rams are worked by water from the River Dove with the small working **fall of 8 feet 3 inches,** and issuing from the rocky bank close by is a copious stream of pure spring-water, **8000** gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of **532½** feet above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.

Yours faithfully, T. FERNYHOUGH.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon., April 24, 1891.

USK WATERWORKS.

DEAR SIR,—In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 feet, with a working fall of driving water of 27 feet, and on your guaranteeing that performance I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests with the following results: Working fall of driving water, 30 feet; vertical height raised, 127 feet; length of rising main, 850 feet, from Ram to outflow; length of supply pipe, 200 feet; gallons per hour raised, 1612; driving water used per hour, 8186 gallons, showing the remarkable and gratifying result of **83 per cent. of efficiency.** The tests were carefully made and repeated, the water measured, and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject, facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe in order to reduce friction, with excellent effect. Yours faithfully, T. DYNE STEEL.

From the Hon. The Earl of HARROWBY, 44, Grosvenor Square, London, February 21, 1893.

SIR,—I have pleasure in stating that the two Hydraulic Rams, which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 feet from a previously existing mill-pool, the Rams supply reservoirs 168 feet above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.

I am, Sir, your very obedient servant, HARROWBY.

From CHARLES HART, Esq., A.M.I.C.E., 3, Avenue Road, Leamington, March 13, 1893.

BRIXWORTH UNION RURAL SANITARY AUTHORITY, EAST HADDON WATER SUPPLY.

DEAR SIR,—Since the opening of these works in May, 1891, the two double-acting "B" Rams supplied and fixed by you have done their work with a minimum of attention, uninterruptedly and satisfactorily. Pure spring water obtained from a gathering-ground on the side of a hill is carried along iron pipes a distance of 548 yards, down to a cistern fixed in the Ram-house. From this cistern it flows to the Rams, which are driven by impure water—drawn from an adjacent brook, with an available fall of 12 feet—and thence by them forced along an ascending delivery pipe, a distance of 1520 yards, to an iron reservoir, at an elevation of 204 feet. From this reservoir mains are laid which supply the hall with its stabling, the rectory, six farm-houses, two dairies, and twenty-four wall-fountains for the villagers' use.

The average daily consumption exceeds 4000 gallons, which one Ram easily delivers, thus exceeding your guaranteed quantity by more than 1000 gallons per Ram per 24 hours. Generally the two Rams are regulated to divide the work between them, but occasionally it devolves upon one only.

If more widely known, this means of supplying villages and small towns with a limited quantity of spring water, forced to a suitable elevation by means of your Rams driven by impure water, would most certainly be more generally adopted.

Yours faithfully, CHARLES HART.

From C. PAGE WOOD, Esq., Wakes Hall, Wakes Colne, Essex, January 11, 1889.

SIR,—In reply to your inquiry, the Hydraulic Ram you put down for me in 1884 has cost me only 6*d.* in repairs (for a new stud my blacksmith made); the second Ram you put down to supply an off-hand farm has been running three years, and has cost not a penny for repairs; the third and largest Ram you put down two months ago, which is for the supply of water to my neighbours, is running satisfactorily. All three Rams throw up more water than you guaranteed. From inquiries I have made from friends who have Rams of other makers, I am convinced of the superiority of yours, and my third order is a proof of my good opinion. My abundant water-supply is the greatest possible comfort to me. Yours faithfully, C. PAGE WOOD.

From Sir S. M. MARYON WILSON, Bart., London, Nov. 17, 1891.

SIR,—I have much pleasure in stating that the two "A" Rams you supplied and fixed for me at Searles, on my Sussex estate, have proved a great success, especially when the small supply of driving water is considered, as with a supply of 7 gallons per minute only, they have daily thrown 3000 gallons to a height of 96 feet, and through a service of pipes over a mile in length; and testing them recently (with plenty of driving power) found they lifted 7000 gallons per day.

The economy effected by their use is considerable, as they have entirely superseded a steam pump.

S. M. MARYON WILSON

From MATTHIAS SMITH, Esq., Hill Top Hall, Pannal, near Leeds, January 14, 1889.

DEAR SIR,—I have great pleasure in bearing testimony to the marvellous efficiency of the Ram you fixed here in January, 1888. It is worked by spring water of irregular volume, the dry weather flow being six pints per minute, with which quantity you promised to work the Ram, forcing through 330 yards of delivery pipe to an elevation of fully 144 feet, but out of 5¾ pints per minute, 166 gallons per day are sent up, and out of 2 gallons per minute now flowing through the Ram, 540 gallons per day are delivered at the same height. Considering the extremely small quantity of driving water, I certainly did not expect so grand a result. With every wish that you may get the reward you deserve,

I am, dear Sir, yours faithfully, MATTHIAS SMITH.

JOHN BLAKE, RAM WORKS, ACCRINGTON, LANCASHIRE.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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2000 TEA and other ROSES in pots, extra strong;
Also STANDARD and DWARF ROSES of the leading sorts.
25,000 CLEMATIS and other CLIMBERS.
2000 AMPELOPSIS VEITCHII.
5000 IVIES OF SORTS.
25,000 CARNATIONS and PICOTEES, named varieties,
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10,000 HER MAJESTY PINKS, and others.
10,000 HOLLYHOCKS.
PYRETHRUMS, PHLOX, and PÆONIES.
50,000 LILIES and NARCISSUS, extra fine, and home-grown;
350,000 Berlin Crowns LILY OF THE VALLEY.
100,000 SPIRÆA COMPACTA MULTIFLORA, SPIRÆA JAPONICA, and DIELYTRA SPECTABILIS.
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Also a large assortment of ORNAMENTAL TREES and SHRUBS.

May now be viewed. Catalogues may be had on the Premises, and of the Auctioneers, Land and Estate Agents and Valuers, 67 & 68, Cheapside, London, E.C.

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MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, the Shortlands Nursery, Beckenham Lane, Bromley, Kent, on WEDNESDAY NEXT, Nov. 7, at 12 o'Clock, 1000 BORDER SHRUBS, in great variety; 400 SHRUBS in pots, 1000 CUPRESSUS and THUIAS, 2 to 7 feet; HOLLIES, YEWS, 1000 LAURELS, 2 to 4 feet; PRIVET, 600 Standard and Dwarf ROSES of the choicest named sorts, 2000 Flowering and Deciduous SHRUBS, 2000 LIMES, CHESTNUTS, POPLARS, and other Standard Trees; 1000 APPLES, PEARS, and other Fruit Trees; 200 named CARNATIONS in pots, &c.

May be viewed. Catalogues may be had on the Premises; at Mr. BRYANT'S, Home Nursery, opposite Shortlands Station; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

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Hundreds of Small SHRUBS for Boxes, including 1000 Golden Euonymus, 6 to 9 inches; Cupressus erecta viridis, Retinospora plumosa aurea, &c., &c.
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Thousands of SHRUBS in variety, including Border Plants; 3000 LAURELS, of sorts. Common YEWS, Green HOLLIES, Cupressus Lawsoniana, Thuya Lobbii, &c., from 2 to 10 feet high.
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The Stock may be viewed any day prior to the Sale, Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Monday Next.
200 English-grown LILIES, IRIS in variety, ARUMS, VALLOTTAS, HARDY BULBS for the open air in great variety, CLEMATIS and CLIMBERS, fine strong plants; ROSES in pots, HOLLYHOCKS, SPIRÆAS, CARNATIONS to name, STEPHANOTIS, 200 Red Clove CARNATIONS, ASPIDISTRAS, LILIUM BROWNII, and Ornamental STOVE and GREENHOUSE PLANTS, 200 Dwarf ROSES, &c.; also Evergreen SHRUBS in variety, FERNS, 40 lots of PALMS in variety; AZALEA MOLLIS and INDICA from Belgium.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, November 5, at 12 o'Clock.
On view Morning of Sale, and Catalogues had.

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May be viewed any day prior to sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

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130	cases of Lilium auratum containing ...	...	7800	Bulbs.
120	,, ,, ,, ...	...	9600	,,
11	,, ,, ,, ...	...	495	,,
261			17,895	
55	cases of Lilium longiflorum containing	...	8800	Bulbs.
24	,, ,, ,,	...	4100	,,
79			12,900	,,
10	cases of Lilium speciosum rubrum containing		1000	Bulbs.
15	,, ,, ,, ,,		1125	,,
7	,, ,, ,, ,,		560	,,
11	,, ,, ,, ,,		1320	,,
43	,, ,, ,, ,,		4005	
15	cases of Lilium Melpomene containing	...	1125	Bulbs.
3	,, ,, ,,	...	300	,,
18			1425	
9	cases of Lilium Krameri ,,	...	3600	,,

Also 50 lots of English grown Lilies, 50 Neapolitan Violets, Spiræas, Anthericums, Calochorti, Ostroskia magnifica, 200 Dwarf Roses, 400 Lilium Harrisii, Amaryllis, &c.

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On view morning of Sale, and Catalogues had.

Thursday Next.
100 Azalea indica, 100 A. mollis, 50 Corypha australis, 50 Latania borbonica, 200 Dwarf Roses, English-grown Lilies, Hardy Border Bulbs and Plants in great variety, Stove and Greenhouse Plants, Ferns, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 8, at 12 o'Clock.
On view morning of Sale, and Catalogues had.

Tuesday, November 13.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY, November 13, at half-past 12 o'Clock, the following:—

A Splendid IMPORTATION of MEXICAN ORCHIDS,
Including Cattleya citrina, Epidendrum nemorale, Lælia majalis, Odontoglossum nebulosum, O. splendens, &c.
CRINUM NOBILE ALBUM,
a magnificent white-flowered species; flowers twice the size of Eucharis amazonica (see Drawing).
HÆMANTHUS KALBREYERII.
Flower-heads immense, flowers vermilion-crimson, filaments scarlet, anthers orange-yellow (see Drawing).
HABENARIA SUSANNÆ,
the most magnificent species of the genus (see Drawing).
ARISÆMA FIMBRIATA,
the cobra-headed Aroid (see Drawing).
BLETIA CATENULATA.
Very handsome, glowing violet-purple flowers.
DENDROBES, from Northern Australia.
AËRIDES, VANDAS, SACCOLABIUMS, ARUNDINADS, &c, from India.
CATTLEYA LABIATA, in flower, and many other choice ORCHIDS.
On view morning of Sale, and Catalogues had.

Friday Next.—Notice of Non-Sale.

MESSRS. PROTHEROE AND MORRIS beg to announce that in consequence of the LORD MAYOR'S SHOW, there will be NO SALE of ORCHIDS or BULBS at their Rooms on FRIDAY NEXT, November 9.

The Windlesham Nurseries, near Bagshot, Surrey.
GREAT SALE of magnificently grown young NURSERY STOCK, by order of the Executors of the late Mr. Richard Mason, in consequence of the
FREEHOLD and LEASEHOLD NURSERIES HAVING BEEN SOLD.

MESSRS. PROTHEROE AND MORRIS (having disposed of the Freehold and Leasehold Nurseries), will SELL by AUCTION, on the Premises, as above, a few minutes' walk from Bagshot Station, on MONDAY, November 19, and FIVE FOLLOWING DAYS, at 12 o'Clock precisely each day, the extensive assortment of beautifully grown NURSERY STOCK, growing on about 30 acres of Land, and now in excellent condition for transplanting, comprising:—

30,000 Rhododendrons, named hybrids	100,000 Pinus, Abies, and Cedrus
10,000 ,, seedlings	100,000 Hollies, green and variegated
100,000 ,, ponticum	30,000 Laurels of sorts
50,000 Hardy Azaleas and Kalmias	20,000 Privet
20,000 Berberis Andromeda	2,000 Aucubas
5,000 Beech, purple and green	15,000 Yews
2,000 Thorns, standards	2,000 Roses, standard and dwarfs
10,000 Forest Trees, standards and others	10,000 Manetti Stocks, budded
15,000 Fruit Trees	3,000 Standard Briars, budded
250,000 Conifers of sorts	5,000 Flowering Shrubs
Thousands of Border Shrubs.	1,000 Creepers

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; of Messrs. REEP, LANE AND CO., Solicitors, 4, Great St. Thomas Apostle, E.C., and Bagshot; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

The Industrial Exhibition Earl's Court.
NOTICE OF POSTPONEMENT.

MESSRS. PROTHEROE AND MORRIS beg to announce that this Sale, advertised to take place on Monday Next, November 5, has been POSTPONED for the present.

Every Day.
DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.
On view mornings of Sale, and Catalogues had.

West Drayton, Middlesex.
TENTH ANNUAL SALE of NURSERY FRUIT STOCK.

MESSRS. NORMAN AND SON are instructed by Messrs. SMITH AND SON, to hold the Tenth Annual Sale of Nursery Fruit Stock, on the Ground, on TUESDAY, November 6, 1894, at 11 o'Clock punctually, in consequence of the number of lots, comprising about 7500 2, 3, and 4 years old Standard and Half-Standard APPLE TREES, including several new kinds which have not been brought before public notice except at these Sales; about 8000 Standard and Half-Standard PLUM TREES; 3000 Cluster DAMSONS; 850 Standard CHERRY TREES; 800 PEARS; 53,500 CURRANTS and GOOSEBERRIES; a large quantity of RASPBERRY CANES, of excellent sorts, including Semper Fidelis, Victoria, and Carter's; PEACH TREES, &c.; and about 6 Acres of RHUBARB STOOLS, full grown, and suitable for forcing and other purposes, including Linnæus, Champagne, Albert, &c., of which particulars will be given in the Catalogues.

On View the Day prior to the Sale, and Catalogues had of Messrs. J. SMITH AND SON, Growers, Sipson, and 448 and 449, Covent Garden Market, London, W.C.; and of the Auctioneers, Uxbridge, Middlesex, and Beaconsfield, Bucks.

Wednesday Next.
IMPORTANT SALE OF BULBS AND PLANTS.
A Special Collection of Extra Fine HYACINTHS for Glasses.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 7.
On view morning of Sale, and Catalogues had.

Wednesday Next.
GRAND IMPORTATIONS FROM HOLLAND.
A Splendid Collection of small, beautifully-grown ORNAMENTAL SHRUBS, including a great variety of Rhododendrons, Azaleas, Retinospora, Hydrangeas, Hollies, Fruit Trees, Thuias, Abies, Yews, Privet, &c.; 2000 Spiræa japonica, and Dielytra spectabile.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 7.
On view morning of Sale, and Catalogues had.

Wednesday Next.
FROM ENGLISH and DUTCH NURSERIES.
1000 choice named DWARF and CLIMBING ROSES, including many of the best.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 7.
On view morning of Sale, and Catalogues had.

Wednesday Next.
75,000 best Berlin LILY OF THE VALLEY Crowns, 2000 Clumps of Ditto, 50,000 S. African TUBEROSES, 2000 LILIUM HARRISI and Sacred LILIES from Bermuda, 2000 HYACINTHS, CANDICANS, GLADIOLI of sorts, BORDER PLANTS, PALMS, in variety, a large Collection of LILIUMS, choice NARCISSUS, IRIS, ANEMONES, 10,000 FREESIAS, DAHLIAS, LILIUM AURATUM, Forcing Bulbs from France.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, November 7.
On view morning of Sale, and Catalogues had.

Dutch Bulbs. Dutch Bulbs. Dutch Bulbs.
SALES NEARLY EVERY DAY,
In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock, First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

WANTED to BUY.—A small good MARKET NURSERY, or two to four acres of LAND, near Railway Station. Full particulars to—H. CHURCHILL, Parkhill, Moseley, Birmingham.

WANTED, a FLORIST'S BUSINESS, with Small Nursery; about an acre, in main thoroughfare and growing neighbourhood; within 12 miles of Covent Garden.—FLORIST, 36, Farley Road, South Norwood.

WANTED to RENT.—Small PRIVATE PLACE, with House, Garden, and Glass, or small NURSERY (no Stock).
ALPHA, Moulsey Villa, Palace Road, East Molesey.

FOR SALE, a Valuable, Long LEASEHOLD NURSERY, 6 miles from Covent Garden. Seven large Greenhouses, well stocked with Vines, Cucumbers, and Plants. Five-roomed Cottage; low ground rent. Lease 87 years to run; 85 feet of Glass, facing Main Road.
All particulars of A. B., 11, Dafforne Road, Tooting, Surrey.

FOR SALE.—Compact little NURSERY, with Dwelling-house, and attractive Florist's Shop, in Main Street, doing good Local Trade. The Houses are Modern, well Heated, and in good condition, and filled with thriving young stock. Long Lease, low rent.—Full particulars of—
FLORIST, 41, Wellington Street, Strand, W.C.

NURSERY for SALE, or TO BE LET on Lease. Present owner retiring after thirty years occupancy, comprising six-roomed Dwelling-house, fourteen Glass erections, heated; also Potting-shed, Coach-house, and Stable, tanks, and every convenience for market business. Stock at valuation; price only £1400, freehold; rent on lease £80.—ROBSON AND PERRIN, Auctioneers, Finsbury Park Station, N. (fo. 4848.)

Nursery and Seed Business for Sale.

FOR SALE, by Private Tender, the VALUABLE BUSINESS carried on by Mr. John S. Ireland, at Craigleith and Lynedoch Place Nurseries, and at No. 81, Princes Street, Edinburgh. Tenders will be received for the Business as a whole, including Book Debts, or alternatively for the Nursery Stocks and Book Debts, and for the Seed Stock, Shop Fittings, &c.
For full particulars, apply to Messrs. CHIENE AND TAIT, C.A., 67, George Street, Edinburgh; or to Messrs. R. R. SIMPSON AND LAWSON, W.S., 22, Hill Street, Edinburgh.

Cheshunt, Herts.

TO BE LET on Lease, with immediate possession, a NURSERY, having 6½ acres of land, and 2000 feet run of Glass thereon, together with six-roomed house and stabling; 2½ miles from station. Moderate price. Full particulars of—
Messrs. CRAWTER, Land Agents, Cheshunt, Herts.

To Market Gardeners and Nurserymen.

A LEAN-TO GREENHOUSE for SALE, about 47 by 10 ft. 6 in., one division and one end, front 2 ft. 6 in. high, glazed 21 oz. glass, saddle boiler and 3 in. hot water-pipes. To be seen at Cricklewood House, Cricklewood. Tenders to include pulling down and clearing away.

WANTED, to SELL, CHEAP, Span-roof Greenhouse, Lean-to house, Saddle BOILER, 160 feet of Pipes and Connections, together or separate, £15 the lot.
J. H., 39, Balham Hill, S.W.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at
67 and 68, Cheapside, London, E.C.

To Chrysanthemum Exhibitors.

SPRINGTHORPE'S PATENT CUP, TUBE, and FLANGE complete, 9*s.* per dozen.
Highly Commended National Chrysanthemum Society.
G. SPRINGTHORPE, The Gardens, Coombe Court, Kingston-on-Thames.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

NOTICE!—LILIES OF THE VALLEY.

Owing to the severe Drought of last Summer, 3-year-old Flowering Crowns will be very scarce this year, and prices are sure to advance.
To insure a supply, and first quality, send your Orders without delay. 2½ Millions of Crowns offered for Forcing and Planting Out, of unsurpassed quality. Prices on application to

T. JANNOCH,
Lily of the Valley Grower by Special Appointment to H.R.H. The Prince of Wales,
DERSINGHAM, KING'S LYNN, NORFOLK.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

EXPIRATION OF LEASE.—To be Sold, Cheap, 5000 good transplanted SCOTCH FIRS, 5 to 10 ft., well furnished.
E. TANNER, Nurseryman, Groombridge, Sussex.

1000 Half-standard GREENGAGE TREES for Sale; on own roots; strong-wooded trees. Come into bearing at once.
GEO. PALMER, Meldreth, near Royston, Cambs.

NARCISSUS POETICUS.—Good Flowering Bulbs, 10*s.* 6*d.* per 1000; also quantity of Box Edging. Cash with order.—W. B. HUNT, Chapel-Allerton, Leeds.

CHINESE SACRED LILIES.—Splendid Bulbs.—Cases containing 150 for 25*s.*, 50 for 9*s.*; sample dozen, 3*s.* Cash with Order.
SMAIL AND CO., Seedsmen, 23, Lime Street, London, E.C.

HARDY HERBACEOUS PLANTS, &c.—New Descriptive CATALOGUE (28 pages), free on application. Strong flowering plants only. Many Certificates, Prize Medals, First Prizes, &c., during 1894.
B. LADHAMS, F.R.H.S., The Shirley Nurseries, near Southampton.

50,000 FERNS.—I offer Gymnogramma, Pteris tremula and P. t. major, fine Stuff, in 48's, at 32*s.* per 100; Pteris cristata, 60's, ready for 48's, 12*s.* per 100; Solanums, well berried, £2 10*s.* per 100; Ficus elastica, £5 per 100, all good Stuff. Packing free for cash on rail.
ARTHUR WILSON, Home Farm, Enfield Highway.

To Market Growers and Others.

FOR Sale, 20,000 STRAWBERRY PLANTS, well-rooted, 6*s.* per 1000, Sir J. Paxton; 5,000 THUIA LOBBI, 1 to 2 feet, twice transplanted, suitable for potting or planting, 10*s.* per 100, 80*s.* per 1000.
W. DALE, Addlestone Moor, near Weybridge, Surrey.

Prize Cob Filberts and other Fruit Trees.

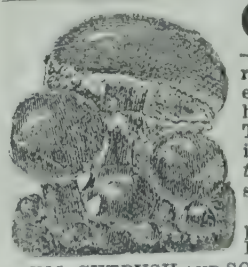
MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

KRELAGE'S AMARYLLIS, and all kinds of DUTCH BULBS and Rare or New Bulbous Plants, true to name, and of the best quality only, at cheap prices. Descriptive Catalogue, illustrated, may be had free, on application to E. H. KRELAGE AND SON, Bloemhof Nurseries, Haarlem, Holland. Established 1811.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

BARR'S MIXTURES of DAFFODILS, for beautifying Orchards, Woodland Walks, Grass Slopes, &c., and for Cutting. MIXED, ALL SORTS, per 1000, 21*s.* and 30*s.* MIXED PEERLESS OR CHALICE-CUPPED STAR NARCISSI, graceful and beautiful, per 1000, 42*s.*; MIXED POET'S DAFFODILS, very beautiful, per 1000, 42*s.* All sent, CARRIAGE PAID, on receipt of remittance.
BARR AND SON, King Street, Covent Garden, W.C.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s.* per doz.; six sorts of PALMS, in 48's, 9*s.* and 12*s.* per doz.; large KENTIAS, in 60's, 5*s.* and 6*s.* per doz.; eight sorts of PALMS, in 60's, 4*s.* and 5*s.* per doz.; do. in large thumbs, 3*s.* per doz., 20*s.* per 100; ARALIAS, in 48's, 5*s.* and 6*s.* per doz.; FICUS, in 48's, 12*s.* per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5*s.* per doz.; twelve best sorts of FERNS, 12*s.* per 100; ASPARAGUS PLUMOSUS NANUS, 6*s.* per doz.; variety of FERNS in 48's, 5*s.* and 6*s.* doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6*s.* per bushel, 1*s.* extra for package; or, 1*s.* per cake, free per Parcel Post.
WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

Special Offer of Rhododendrons and Hollies.

RHODODENDRONS, Hybrid, 1 to 1½ feet, £7 per 1000; ditto, 1½ to 2 feet, £9 per 1000; ditto ponticum, 12 to 15 in., £5 per 1000; ditto, 1½ to 2 feet, £7 10*s.* per 1000. HOLLY, Common, 9 to 12 in., £4 per 1000; ditto, 12 to 15 in., £7 per 1000. CATALOGUE free.
HENRY DERBYSHIRE, Nurseryman, Darley Hill Side, near Matlock, Derbyshire.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S.,
FERN NURSERIES, SALE, near MANCHESTER.

SHRUBS and CONIFERÆ.—Ampelopsis Veitchii, in. pots, 2 ft., 30*s.* per 100; Arbor-vitæ, common, 2 to 3 ft., 18*s.*; Azalea ponticum, 2 ft., 4*s.* per doz.; Azara microphylla, 2 ft., 4*s.*; Berberis Jamiesonii, 2 ft., 20*s.* per 100; B. Darwinii, 1½ ft., 10*s.*; Cotoneaster microphylla, 2 ft., 10*s.*; C. Simonsii, 3½ ft., 10*s.*; Escallonia macrantha, pots, 2 to 2½ ft., 32*s.*; Griselinia littoralis, bushy, 6*s.* per doz.; Pampas Grass, 2 ft., 4*s.*; Hypericum calycinum, 12*s.* per 100; Hollies, Green, 2 to 3 ft., fine, 6*s.* per doz.; Jasmine, white and nudiflorum, 4*s.* per doz.; Laurel, common, 2 ft., 10*s.* 100; Colchic, 2 to 2½ ft., 14*s.*; Portugal, 1 to 1½ ft., 20*s.*; 2 to 2½ ft., 28*s.* Lilac, white and purple, 4*s.* per doz.; Laurustinus, 2 to 2½ ft., 6*s.*; Olearia Haastii, 2½ ft., 4*s.*; Rhododendron ponticum, 10 in., bushy, 2*s.* per 100; 1 to 1½ ft., 18*s.*; 1½ to 2 ft., 25*s.*; 2 to 2½ ft., 32*s.* Weigela rosea, 4*s.* doz.; Yucca gloriosa, 10 to 12 in., 25*s.* 100; Yew, English, 1½ to 2 ft., 24*s.*
GARLIES MITCHELL, Nurseryman, Stranraer.

First Arrival.

LILIUM AURATUM.—1000 immense exhibition bulbs, just arrived overland *vid* Brindisi, direct from Japan, in finest condition. Immense size. 12*s.*, 15*s.*, and 20*s.* per dozen; sample, 3 for 4*s.*
FIRST ARRIVAL.—LILIUM LONGIFLORUM, pure white, large Japanese bulbs. 6*s.* per dozen, 6 for 3*s.*; smaller, 3*s* 6*d.* doz.
CHINESE SACRED LILIES, for growing in bowls or pots, to flower at Christmas, 6*s.* per dozen, 6 for 3*s.* 6*d.*; LILIUM LANCIFOLIUM ROSEUM, grand bulbs, 4*s.* 6*d.* per dozen, 6 for 2*s.* 6*d.*; ALBUM, pure white, 8*s.* per dozen; LENT LILIES, 2*s.* per 100; SCILLA SIBIRICA, sky blue, 2*s.* per 100; Spanish IRIS, 1*s.* 6*d.* per 100; Double White TULIPS, 4*s.* per 100; Single Scarlet Duc, 3*s.* per 100; Pheasant's Eye NARCISSUS, 2*s.* 6*d.* per 100.
NOTE.—Everything Carriage Paid. NOTE.—Everything First Quality. Half quantities, half prices. BULB CATALOGUE free.
W. H. HUDSON, F.R.H.S., Bulb and Seed Merchant, Kilburn, London, N.W.

DUTCH BULBS.

WE ARE NOW BOOKING ORDERS FOR—

HYACINTHS, TULIPS,	**CROCUS, LILIUMS, &c.**

Before Buying elsewhere send for our CATALOGUE, free on application, and save 25 per cent.

ROMAN HYACINTHS and LILIUM AURATUM a Specialty.

MICHAEL RAINS & CO.,
BULB GROWERS AND SEED MERCHANTS,
34, MANSELL STREET, ALDGATE, LONDON, E.,
And THE NURSERIES, HAARLEM, HOLLAND.

CHARLES SHARPE & CO.
(LIMITED).

Seed Growers—Seed Merchants
Cultivateurs—Marchands Grainiers
Samenculture—Samenhandlung.

TRADE CATALOGUES
IN
ENGLISH, FRENCH, GERMAN.

SLEAFORD, ENGLAND

SUPERLATIVE

RASPBERRY.

THE TRUE RAISER'S STOCK.

GEORGE BUNYARD & CO., MAIDSTONE

Hold a large lot this year of this, by far the finest Raspberry, and as many former applicants could not be supplied, early orders are requested.

First size ... ... 30*s.* per 100; 5*s.* per dozen.
Second size ... ... 20*s.* per 100; 4*s.* per dozen.
A few extra large, 9*s.* per dozen.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3*d.*

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.

The Royal Gardeners' Orphan Fund.

THE SEVENTH ELECTION of CHILDREN to the benefit of this Fund, consisting of an allowance of 5*s.* per week (subject to the conditions stated in Rule XIII.) will take place in FEBRUARY NEXT, at the Cannon Street Hotel, London, E.C. All applications must be made on a printed form, copies of which may be had gratis of the Hon. Secretary, or of any of the Local Secretaries. Such form must be correctly filled up, duly signed, and returned to this office not later than FRIDAY, December 7. A. F. BARRON, Hon. Sec.

Royal Horticultural Society's Gardens, Chiswick.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

CARNATIONS, ROSES, PANSIES, VIOLAS, &c.—Her Majesty the Queen in accepting a water-colour drawing depicting a group of Empress Pansies grown by me for Her Majesty's Gardens at Frogmore, graciously expressed her interest in the details of the industry now being carried on at my Flower and Fruit Farms. This industry, which has recently been reported upon by the Government, has grown to such an extent that it is now the largest of its kind either in England or the Continent. Catalogues now ready.

R. BATH, Wisbech.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* per 100; large ditto, in 48's, 10 best selling sorts, 6*s.* per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly (bushy), 16*s.* and 20*s.* per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6*s.* per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1*s.* each. Seedling Ferns, 6*s.* per 100. Packed free. Cash with Order. List free.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

AZALEA INDICA, fine plants, well budded and clean, established in pots, per dozen, in best varieties, 18*s.* and 24*s.*

DEUTSCHE PERLE, best White, per dozen, 24*s.* and 30*s.*, packed and free on rail for cash.

CALADIUM ARGYRITES, fine bulbs, per dozen, 6*s.*, 9*s.*, and 12*s.*, post-free.

DOUBLE WHITE PRIMULAS, extra fine plants, per dozen, 6*s.* to 9*s.*

NEAPOLITAN VIOLETS, fine clumps, per dozen, 5*s.*

J. LION, Park Nursery, Stanmore, Middlesex.

FOREST TREES, &c.—Larch, 2-yr. trans., 1½ to 2 ft., 20*s.*; 2 to 2½ ft., extra, 24*s.*; 3 to 4 ft., 26*s.*; Scotch, 2-yr., 1-yr. trans., 12*s.*; 2-yr., 2-yr. trans. 15*s.*; 24-in., fine, 18*s.*; 2 to 2½ ft., 24*s.* per 1000. Spruce Fir, 12 to 15-in., 14*s.*; 15 to 24 in., 18*s.* Elm, 2 to 2½ ft., 16*s.*; Elm, English, 4 ft., 25*s.* Ash, 2 to 3 ft., 17*s.*; 3 to 4 ft., 20*s.* Birch, 1½ to 2 ft., 20*s.*; 4 to 5 ft., 40*s.* Beech, 1½ to 2 ft., 16*s.*; 3 to 4 ft., 26*s.* Alder, 2 ft., 16*s.*; 4 ft., 22*s.* Spanish Chestnut, 1½ to 2 ft., 20*s.* Hazel, 2 to 2½ ft., 20*s.* Oaks, English, 1½ to 2 ft., 16*s.* per 1000. Sycamore, 1½ to 2 ft., 16*s.*; 2 to 3 ft., 20*s.*; 6 to 7 ft., 60*s.*; 8 to 10 ft., 20*s.*

GARLIES MITCHELL, Nurseryman, Stranraer.

LONDON PLANES.—Splendid Trees, straight stems, fine roots, 12 to 14 feet, 4*s.*; 14 to 16 feet, 5*s.*; 16 to 18 feet, 6*s.*; 18 to 20 feet, 7*s.* 6*d.* each.

IRISH IVIES in pots, beautifully furnished, 4 to 5 feet, 12*s.* 5 to 6 feet, 15*s*; 6 to 8 feet, 21*s.*; 8 to 10 feet, 30*s.* per dozen.

LIGUSTRUM OVALIFOLIUM AUREUM (best Golden Privet), 12 to 18 inches, 6*s.*; 18 to 24 inches, 9*s.* per dozen.

BERBERIS AQUIFOLIA, 9 to 12 inches, 10*s.*; 12 to 18 inches, 12*s.* 6*d.*; 18 to 24 inches, 20*s.* per 100.

ROSES, FRUIT TREES, SHRUBS, CLIMBERS, BULBS, GARDEN REQUISITES, TOOLS, &c., of every kind. Priced descriptive LISTS on application.

W. FROMOW AND SONS, Sutton Court Nursery, Chiswick, London, W. Established 1829.

WANTED.—AUCUBA CUTTINGS. State price per 1000.

FRUIT TREES.

To MARKET and PRIVATE GROWERS.

We hold an extensive Stock of all kinds of the above, in first-rate quality, and at reasonable prices.

Intending Planters would do well to send for Descriptive Catalogue, free on application.

S. SPOONER & SONS,

HOUNSLOW NURSERIES, MIDDLESEX.

FROM PARIS.

STANDARD TEA ROSES and OTHERS,

LILAC CHARLES X, and PÆONIES in thousands.

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TEA ROSES and DWARFS, from open ground, £2 to £3 p. 100.

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EXHIBITIONS.

WATFORD CHRYSANTHEMUM SOCIETY.

President: the Right Hon. The Earl of Clarendon.

The NINTH ANNUAL EXHIBITION of CHRYSANTHEMUMS and other AUTUMN FLOWERS and FRUITS and VEGETABLES, will be held in the Clarendon Hall, Watford, on TUESDAY and WEDNESDAY, the 6th and 7th of November, 1894. Entries close on Thursday, the 1st of November.

CHAS. R. HUMBERT, Hon. Sec., Watford.

NATIONAL CHRYSANTHEMUM SOCIETY.

GREAT

AUTUMN CHRYSANTHEMUM FESTIVAL

£350 in Money Prizes, Valuable Challenge Cups, Plate, &c.

The Largest Display of Chrysanthemums in the United Kingdom.

ROYAL AQUARIUM, WESTMINSTER,

November 6, 7, and 8, 1894.

Schedules of Prizes on application to RICHARD DEAN, Hon. Secretary and Superintendent, 43, Ranelagh Road, Ealing, London, W.

THE SECOND ANNUAL SHOW of the DONCASTER and DISTRICT CHRYSANTHEMUM SOCIETY, "OPEN to ALL ENGLAND," will be held in the Corn Exchange, Doncaster, on NOVEMBER 7 and 8, 1894.—Schedules can be had on application to the Secretary,

J. W. HARESIGN, 31, Scot Lane, Doncaster.

THE BRADFORD and DISTRICT CHRYSANTHEMUM SOCIETY.

The EIGHTH ANNUAL EXHIBITION will be held in the St. George's Hall on November 16 and 17. Over £100 in prizes. Entries close November 12. Schedules now ready.

H. R. BARRACLOUGH, Hon. Sec.

383, Bowling Old Lane, Bradford.

KINGSTON AND SURBITON CHRYSANTHEMUM SOCIETY.

President—G. C. SHERRARD, Esq., J.P.

The EIGHTEENTH ANNUAL GRAND SHOW of CHRYSANTHEMUMS, FLORAL DECORATIONS, FRUITS, VEGETABLES, &c., will be held in the DRILL HALL, KINGSTON-ON-THAMES, on TUESDAY and WEDNESDAY, November 13 and 14, 1894, when the Seventh Champion Challenge Vase, value 25 Guineas, will be offered for competition, open to all subscribers of 21*s.* Also more than £150 offered in Prizes.

Schedules and all information may be had of the Hon. Sec., Mr. F. J. HAYWARD, 40, High Street, Kingston-on-Thames. Entries close November 9.

FARNHAM CHRYSANTHEMUM SOCIETY.

A Show will be Held at the CORN EXCHANGE, Farnham, on NOVEMBER 13 and 14. PRIZES to the value of £33 for Chrysanthemums, Fruit, Flowers, and Vegetables will be offered in the open classes. Schedules and entry forms from—

F. WELLER-POLEY, Hon. Sec.

Waverley Abbey, Farnham.

GREAT YARMOUTH CHRYSANTHEMUM SOCIETY.

The SEVENTH ANNUAL EXHIBITION will take place on TUESDAY and WEDNESDAY, November 13 and 14, at the Town Hall, Great Yarmouth. A SILVER CUP, value 5 guineas, given for best thirty-six JAPANESE BLOOMS. Entries respectfully solicited. Schedules and all information can be obtained from—

C. W. HORNE, Hon. Sec.

Royal Naval Hospital, Great Yarmouth.

SOUTH SHIELDS and NORTHERN COUNTIES CHRYSANTHEMUM SOCIETY.

This Exhibition will be held in the ROYAL ASSEMBLY HALL, SOUTH SHIELDS, on WEDNESDAY and THURSDAY, Nov. 14 and 15.

£150 will be given in Prize Money; £12 for 24 Flowers. Schedules ready. Apply to—

BERNARD COWAN, F.R.H.S., Hon. Secretary.

Harton, South Shields.

YORK CHRYSANTHEMUM SHOW.—The FIFTEENTH ANNUAL SHOW,

In the FINE ART EXHIBITION BUILDING, will be held on November 14, 15, and 16, 1894.

Challenge Prize, value £30, added to First Prize, £10, for 36 Cut Blooms. Liberal Prizes for Plants, Cut Flowers, Fruits, and Vegetables.

Schedules, &c., to be had from—

13, Feasegate, York. J. LAZENBY, Secretary.

READING CHRYSANTHEMUM SOCIETY.

ANNUAL SHOW, November 14, 1894, Queen's Hall, Valpy Street, Reading. WM. L. WALKER, Secretary.

Dunollie, Bulmershe Road, Reading.

THE TIVERTON CHRYSANTHEMUM SOCIETY will hold their next Show on THURSDAY, November 15. For Schedules apply to—

R. P. COSWAY, Hon. Sec.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

ANNUAL SHOW, Corn Exchange, Sheffield, FRIDAY and SATURDAY, November 16 and 17, 1894. £200 in Prizes. Schedules free on application.

WM. HOUSLEY, Secretary.

177, Cemetery Road, Sheffield.

WOKING and DISTRICT HORTICULTURAL and COTTAGE GARDENERS' ASSOCIATION.—FIRST ANNUAL CHRYSANTHEMUM SHOW, also FRUIT, VEGETABLES, and other FLOWERS, at the Church Room, Woking Station, on TUESDAY and WEDNESDAY, November 20 and 21. For Schedules and particulars apply—

H. W. ROBERTSON, Hon. Sec., Somerset Villa, Woking.

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The Finest Trade Show in Great Britain.

We have pleasure in announcing that our Stock, including all the finest Novelties, is in splendid condition, and that our ANNUAL SHOW opened on November 1, and will be on view until the 24th. Admission each day, until 1 o'Clock free; from 1 to dusk, 6*d.*

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(OPEN TO ALL ENGLAND.)

WILL BE HELD, by kind permission of the LEICESTER CORPORATION, in the

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VALUABLE PRIZES

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CELERY, CARROTS, CAULIFLOWERS, PARSNIPS, SAVOYS, BRUSSELS SPROUTS, LEEKS, ONIONS, BEET, AND POTATOS.

SILVER MEDALS

FOR

HARRISON'S NORMANTON GLOBE MANGOLD,
" DEFIANCE SWEDE,
" IMPROVED GREEN BARREL TURNIPS.

To be grown from SEED SUPPLIED by HARRISON & SONS (Potatos excepted).

For further particulars and conditions, apply to—

HARRISON & SONS Seed Growers, **LEICESTER.**

CHINESE SACRED NARCISS, or "Joss Flower," can be supplied by the dozen, hundred, or thousand. Price on application.

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TO NURSERYMEN, FLORISTS, and others. G. MUNTON, Commission Agent. Several thousands of EUONYMUS, Green and Golden. Special prices to the Trade by application.—11, Terminus Place, Eastbourne.

MRS. REYNOLDS HOLE CARNATION, very strong, well-rooted plants, 10*s.* per 100.

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1000 BLUE BELLS, 15*s.* 6*d.*, carriage paid. All strong flowering cultivated Bulbs.

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1000 SCILLA SIBIRICA or BLUE SQUILL, 17*s.* 6*d.*, carriage paid. Beautiful bright blue flowers in early spring.

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Special low Prices.

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Beg to direct special attention to the following Sterling Novelties :—

NEW TOMATO—FROGMORE SELECTED.

(*First-class Certificate, Royal Horticultural Society, April* 24, 1894).

This exceedingly fine variety was raised by Mr. Thomas, The Royal Gardens, Frogmore, and is the best Tomato yet introduced. The fruit is of good medium size, and a deep bright red colour, smooth and almost round, very firm and solid, with flesh of unusual depth. It is a most prolific and continuous cropper. For early forcing this variety is unequalled, and having ourselves grown it extensively during the past season, we confidently recommend it as a very desirable sort. It is also very suitable for outdoor cultivation. Mr. THOMAS, writing August 27, says :—"You will be pleased to hear that it is an excellent variety for outdoor culture. It has been tried here this season side by side with all the best sorts recommended for this purpose, and it has proved itself to be by far the best of any I have grown."

Per Packet, 2s. 6d.

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This high-class seedling was raised by Mr. Gilman, of Ingestre Hall Gardens, and is the result of a cross between Hero of Lockinge and The Countess, two well-known varieties of superior quality. The fruit is globular in shape, of medium size, and a bright golden-yellow, most beautifully netted, with very thin skin. It has great depth of flesh, which is almost white, very sweet and juicy, and the flavour superb. The plant is of robust constitution, and a very free setter.

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(*Syon House variety.—Award of Merit, Royal Horticultural Society, August* 9, 1892.)

Raised by Mr. Wythes, and quite distinct from the older form, being dwarfer, the flowers larger and deeper blue, with more substance. The plant is of dwarf pyramidal habit, exceedingly free-flowering, and clothed with foliage to the ground. The growth being strong and erect, staking may almost be dispensed with. As a decorative plant, this variety is invaluable, the plants being covered with bloom, which lasts a very long time.

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STREPTOCARPUS—VEITCH'S NEW HYBRIDS.

This popular greenhouse plant has been brought to a very high state of perfection by careful culture and hybridization, and the seeds now offered are selected from plants far in advance of the older varieties—in richness of colour, size, and form of flower, containing only the most distinct and rarer shades, particularly amongst the purple, purplish-violet, bright red, deep rose, and rich rosy-purple. The whites are more pure, and the markings on the throat more defined. **Per Packet, 2s. 6d.**

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NOVELTIES from Japan, America, the Continent, and the cream of the English. Also 800 SEEDLINGS, raised entirely from "home saved" seed. The whole forming the most complete trial of Novelties in existence. Worth going miles to see.

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FRUIT TREES

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TRAINED TREES A SPECIALTY.

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ESTABLISHED 1782.

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HUGH LOW & CO.

Have at present at their Clapton Nursery two houses full of unflowered Plants, in sheath, of this useful Winter-flowering Cattleya, of which they respectfully invite inspection.

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CONIFERÆ.—Abies Douglasii, 1½ to 2 ft., 20*s.* per 100; Canadensis, 10 to 12 in., 4*s.* per doz.; Cedrus deodara, 1½ ft., 6*s.* per doz.; Araucaria imbricata, 3 to 3½ ft., 4*s.* per doz., 4 ft., 60*s.*; Cup. macrocarpa. 3 ft., 6*s*; Lawsoniana, 3 to 4 ft., fine, 25*s.* per 100, 4 to 5 ft., 30*s*; Stricta, 2 to 2½ ft., 3*s.*, 3 to 4 ft., 40*s.*; Erecta viridis, 3 to 3½ ft., 40*s.*; Picea nobilis, 12 to 18 in., 6*s.* per doz., 2 ft., 12*s*; Nordmanniana, 3 ft., 18*s.* per doz.; Pinus Cembra, 12 to 18 in. 10*s.* per 100; Retinospora plumosa, 4 to 5 feet, 50*s.* per 100; Aurea, bushy, fine, 32*s.*; Squarrosa, 3 to 4 ft., 12*s.* per doz., 1½ ft. 25*s.* per 100; Thuia Lobbii, 3 ft., 20*s.*, 2 ft, 10*s.*, 4 to 5 ft., 50*s.*, 7 ft., extra, 75*s.*; Thuiopsis dolobrata, 2½ to 3 ft., 18*s.* per doz., 3 to 4 ft., 30*s.*

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ENGLISH YEWS, 2 to 2½ feet, 9*s.* per dozen; 60*s.* per 100.
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FROM SPECIMEN BORDERS,

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PERFECT SPECIMENS & SAFE to MOVE

(Transplanted within two years).

ALL THE CHOICEST GREEN AND GOLDEN KINDS.

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BULB LIST, STRAWBERRY LIST, AND CHRYSANTHEMUM LIST.

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No. 1.—50 Bulbs for 1/6.—3 Hyacinths. 10 Crocus, Blue; 10 do., White; 10 do., Striped. 3 Tulips, Single; 2 do., Double. 6 Anemones. 6 Snowdrops.

No. 2.—120 Bulbs for 2/6.—6 Hyacinths. 25 Crocus, Blue; 25 do., White; 25 do., Striped or Yellow; 6 Tulips, Single; 4 do., Double. 12 Scilla Sibirica. 5 Anemones. 12 Snowdrops.

No. 3.—175 Bulbs for 3/6.—4 Hyacinths, Red; 4 do., White; 4 do., Blue. 25 Crocus, White; 25 do., Blue; 25 do., Striped or Yellow. 18 Tulips, Single; 18 do., Double; 6 Ranunculus. 6 Anemones. 20 Scilla Sibirica. 20 Snowdrops.

No. 4.—250 Bulbs for 5/-.—3 Hyacinths, Red, for pots; 3 do., White, for pots; 3 do., Blue, for pots; 3 do., Red, for glasses; 3 do., White, for glasses; 3 do., Blue, for glasses. 35 Crocus, choice, for pots; 30 do., White; 30 do., Blue; 30 do., Yellow; 30 do., Striped. 6 Tulips, Single, for pots; 6 do., Double, for pots. 12 Ranunculus. 6 Anemones, Double; 6 do., Single. 12 Scilla Sibirica. 12 Snowdrops, Single; 12 do., Double. 5 Polyanthus Narciss.

No. 5.—396 Bulbs for 7/6.—6 Hyacinths, named, for pots; 4 do., Red, for pots or glasses; 4 do., White, for pots or glasses; 4 do., Blue, for pots or glasses. 6 Tulips, Single, for pots; 6 do., Single, for borders; 6 do., Double, for pots; 6 do., Double, for borders. 24 Crocus, for pots; 50 do., Yellow; 50 do., White; 50 do., Blue; 50 do., Striped. 25 Iris, English. 12 Ranunculus. 12 Anemones. 25 Scilla Sibirica. 25 Snowdrops, Single; 25 do., Double. 6 Polyanthus Narciss.

No. 6 Collection, 10/6.—6 Hyacinths, choice, named, for pots; 6 do., do., for glasses; 12 do., for borders. 100 Crocus, White; 100 do., Blue; 100 do., Yellow. 20 Tulips, Single; 20 do., Double. 25 Daffodils, Single; 25 do., Double. 25 Winter Aconites. 25 Ranunculus. 12 Anemones, Single; 15 do., Double. 25 Snowdrops, Single; 25 do., Double. 10 Polyanthus Narciss.

No. 7 Collection, 15/-.—9 Hyacinths, choice, named, for pots; 8 do., do., for glasses; 9 do. Red, for borders; 8 do., White, for borders; 8 do., Blue, for borders. 150 Crocus, White 150 do., Striped; 150 do., Blue. 25 Tulips, Single; 25 do., Double. 50 Daffodils, Single 20 Anemones, Single; 20 do., Double. 25 Scilla Sibirica. 30 Snowdrops, Single; 30 do. Double. 30 Ranunculus. 25 Narcissus Poeticus.

No. 8 Collection, 21/-.—20 Hyacinths, selected, named, for pots; 12 do., do, for glasses 30 do., for borders. 200 Crocus, White; 200 do., Striped; 200 do., Blue. 50 Tulips selected, Single; 50 do., selected, Double. 50 Daffodils, Single; 50 do., Double. 25 Anemones, Single; 25 do., Double. 50 Aconites. 50 Ranunculus. 50 Snowdrops, Single 50 do., Double.

No. 9 Collection, 30/-.—30 Hyacinths, extra selected, named, for pots; 15 do., do., for glasses 15 do., do., Blue, for borders; 15 do., do., White, for borders; 15 do., do., Red, for borders 200 Crocuses, selected, White; 200 do., do., Striped; 200 do., do., Blue. 75 Tulips, extra selected, Double; 75 do., do., Single. 75 Daffodils, Single and Double. 50 Anemones Single and Double. 75 Aconites, Winter. 50 Ranunculus. 75 Snowdrops, Single; 75 do. Double. 35 Polyanthus Narciss. 75 Narciss Poeticus.

No. 10 Collection, 42/-.—40 Hyacinths, choi est selected, named, for pots; 20 do., do., for glasses; 50 do., selected Colours, for borders. 550 Crocuses, selected, White; 220 do., do. Striped; 250 do., do., Blue. 100 Tulips, extra selected, Double; 100 do., do, Single 100 Daffodils, Single and Double. 75 Anemones, Single and Double. 100 Aconites, Winter 50 Ranunculus. 75 Snowdrops, Single; 75 do., Double. 45 Polyanthus Narciss, named. 100 Narciss Poeticus. 50 Spanish Iris. 25 English Iris.

SPECIAL FRUIT TREE QUOTATIONS.

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MILLIONS TO CLEAR.

Good Robust Trees, from 3 ft. to 4 ft. high, including all the very best varieties, can be trained to any shape either for covering walls, or Standards, or Pyramids, &c., &c., 1*s.* each; 3 for 2*s.* 9*d.*; 6 for 5*s.*; 12 for 9*s.* 6*d.*

Ditto, ditto, ditto, to fruit next year, 1*s.* 4*d.* each; 3 for 3*s.* 6*d.*; 6 for 6*s.*; 12 for 11*s.*

Dwarf and Horizontal-trained Trees for walls, espaliers, &c., from 1*s.* 6*d.* to 5*s.* each.

Standards, trained, well developed, fine trees, best varieties.

Pyramids, splendid stuff, leading kinds, 1*s.* to 5*s.* each.

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BEST VARIETIES, IN FINEST POSSIBLE CONDITION.

Standard trained, 5*s.* to 10*s.* each.

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RHUBARB, good roots, leading sorts, 6*d.* to 1*s.* each.

All the above carefully packed on rail.

STRAWBERRY PLANTS!—STRAWBERRY PLANTS!!

An immense stock, comprising all the best and most popular varieties. List free. Plant now. 2*s.* 6*d.* per 100; 21*s.* per 1000, free.

SPECIAL OFFER OF NURSERY STOCK.—PLANTS FOR WINTER BLOOMING.

PRIMULA (Single).—Various colours, very large flowers, assorted shades of colour, from pure white to scarlet, strong plants, out of small pots, 1*s.* 6*d.* per doz., free.

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Do., transplanted, 1*s.* 2*d.* per doz.; 2*s.* for 2 doz., free.

EXTRAORDINARY VALUE IN THE BEST CREEPERS,

For covering walls, trellis-work, &c.

THE SMALL VIRGINIAN CREEPER (Ampelopsis Veitchi), with foliage turning a very rich deep crimson in late autumn; plant now; self-clinging, with about 3 ft. of growth, out of 5-in. pots; 5*s.* per doz., free. Stronger plants, with 5 ft. of growth, 7*s.* 6*d.* per doz., free.

PASSIFLORA CŒRULEA (Blue Passion Flower),—First-rate climber for outside walls, &c., greenhouses and conservatories, from 2 ft. to 3 ft. high, out of small pots, 3*s.* per doz., 20*s.* per 100, free.

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PASSIFLORA GRANDIFLORA.—Larger flower than P. cœrulea and more vigorous grower, most useful for trellis-work, 2 ft. to 4 ft. high, 3*s.* per doz., 20*s.* per 100, free.

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HARDY SPRING BLOOMING PLANTS FOR PRESENT PLANTING.

Smaller quantities supplied at proportionate prices.
Orders of 100 and upwards carriage free.

WALLFLOWERS, Harbinger, single, early-flowering, rich deep scarlet, 2*s.* per 100. Large bushy transplanted plants, very bushy, 6*s.* per 100.

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„ Double German, very strong plants of this dwarf compact variety, bushy transplanted stuff, producing fine massive spikes of most beautiful double flowers, 7*s.* 6*d.* per 100.

SINGLE PYRETHRUMS, saved from the best named varieties, producing large quantities of most beautiful flowers in all shades of colour, ranging from white to crimson, 2*s.* 6*d.* per 100.

DOUBLE DAISY (Bellis perennis), mixed colours, invaluable for borders and edgings, 3*s.* per 100.

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SWEET WILLIAM, all the best varieties, very popular and pretty plant, should have a place in every garden, 4*s.* p. 100.

SWEET WILLIAM, Vigorous, bushy, transplanted plants, extra strong, 7*s.* 6*d.* per 100.

GEUM, double scarlet, vigorous, healthy plants, covered with pretty small red flowers, 2*s.* 6*d.* per 100.

PANSIES, for spring blooming.—We have a splendid selection of these most popular spring flowers, in all shades of colour, selfs, spotted, and blotched, 3*s.* 6*d.* per 100.

AQUILEGIA COLUMBINE, strong mixed seedlings embracing all the finest shades of colour, will flower profusely in early spring, very useful for cutting, 1*s.* 6*d.* per doz., 10*s.* per 100.

CHRYSANTHEMUM LEUCANTHEMUM, strong seedlings, producing in immense quantities large pure white flowers of great size, much esteemed for room decoration, 2*s.* per doz., 12*s.* per 100.

LYCHNIS CHALCEDONICA, immense heads of single scarlet flowers, invaluable for rockeries and borders, strong plants, 1*s.* 6*d.* per doz., 10*s.* per 100.

MYOSOTIS ALPESTRIS GRANDIFLORA, strong seedlings of this most popular plant, bearing in early spring an immense profusion of lovely deep blue flowers, 3*s.* per 100.

MYOSOTIS ALPESTRIS SEMPERFLORENS, this charming perpetual-flowering Forget-me not succeeds in moist situations, and is very floriferous, 3*s.* per 100.

SAPONARIA OCYMOIDES, strong seedlings of this evergreen trailing perennial, which in early spring is smothered with bright rose-coloured flowers, 3*s.* per 100.

PENTSTEMONS.—Strong vigorous Seedlings from best named varieties, blooming abundantly from May onwards. Very valuable for cutting and general decorative purposes 1*s.* 6*d.* per doz., 10*s.* per 100.

ROSES.

Very Best Varieties.

450,000 DWARF ROSES TO BE ALMOST GIVEN AWAY.
ALL STRONG HEALTHY DWARF BUSHES WITH GOOD ROOTS, WHICH WILL GIVE GOOD DISPLAY OF BLOOM.
CASH RETURNED IF UNSATISFACTORY IN ANY WAY. SPLENDID VARIETIES.

3 for 1/9, 6 for 2/9, 12 for 5/-, 50 for 20/-, 100 for 35/-, 1000 for £15. ALL CARRIAGE PAID.

ROSES. Very Best Varieties

MARÉCHAL NIELS.

Holding the finest stock in the kingdom of this lovely climbing Rose (especially for roof and walls of greenhouses and conservatories), we would strongly advise our numerous amateur customers to place their orders and plant soon to ensure a heavy crop of flowers next spring.

Fine strong plants in large pots, 4 ft. to 5 ft. high, 2*s.* 3*d.* each, 24*s.* per doz., F.O.R.; extra grand, large plants, in large pots, 8 ft. to 9 ft., 3*s.* 6*d.* each, 36*s* per doz., F.O.R.

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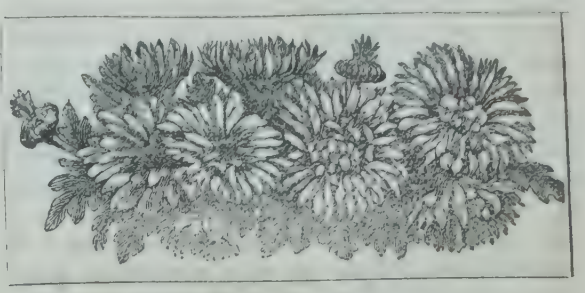
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THE
Gardeners' Chronicle.
SATURDAY, NOVEMBER 3, 1894.

BICTON.

FEW who know South Devon, and more particularly that part lying between Exeter and Sidmouth, can have failed to have heard of, if not actually to have seen, the beautiful gardens at Bicton, the charming home of the Hon. Mark Rolle. But as there are many who, not only have never been to South Devon, but have failed to go west at all, it has occurred to me that a short description of the gardens at Bicton may be of interest to some who read these pages. Bicton adjoins the long, straggling village of Otterton, and is distant from Sidmouth some four miles, the walk, west from Sidmouth, along high cliffs of massive red sandstone, and down into typical Devonshire lanes, where banks are carpeted with Hart's-tongue and other Ferns, being not the least pleasant part of the excursion. Certainly no snugger retreat, for all that is choice and delicate in plant life, could be found than the Bicton Gardens. A gentle southern slope, in a latitude where snow is rare and frosts comparatively mild — though even here we noted marks of the ravages of last winter, and the influence of a sea-tempered air, go to form a perfect site for what we find there. What strikes one, upon a first view of the gardens is, the scrupulous neatness and order of the *tout ensemble*. Not a weed visible anywhere, well-kept lawns, carefully tended hothouses, and that unspoken, but unmistakable tone about the whole that tells one that the garden is dear to the owner. The house is comparatively modern, and of little interest, but the park is rich in groups of magnificent forest trees, Beech, Elms, and Ashes; and boasts what is, perhaps, unique in England, a fine avenue of Araucaria imbricata, all grand trees of considerable age.

On presenting our tickets of permission to view, the head gardener led us through the glass-houses, bright with flowers many of them, and all containing some curiosity in plant or creeper. In the Palm-house we noticed some very grand trees, almost reaching to the summit of the exceptionally-lofty roof, and all in the most perfect condition. Orchids did not seem to be grown in any quantity, but stove plants were particularly well represented, and gave forth quite a glow of rich colour. A long row of pits contained Pines, some nearly ready for cutting; whilst the late vinery (it was then mid-September) showed a grand crop of Lady Downe and Black Alicante Grapes; there were, too, a few bunches of Gros Colmar still hanging. The gardens are laid out in terraces, sloping down, across green lawns, dotted with beds of every variety of flowering shrub and plant, to an artificial miniature lake, where fountains play, the background formed by a broad grass-drive, walled in by fine trees, and looking like a tilting-ground of ancient time, trending upwards to the park, a vista of which we catch as we pass

along a broad walk towards the church. The paths on either side, leading down to the lake by broad steps, are flanked by walls literally covered with Magnolia, the finest we have ever seen. We were shown several specimens of the Cabbage-tree, Dracæna, a native of New Zealand, we believe, which had suffered by last winter's frosts, having thereby lost their leaders. All seemed alive, however, and were breaking out, in a curious Kale-like growth, all up the stem. It seemed curious that this tree, considered quite hardy, should suffer, whilst Hydrangeas easily winter here in the open. The terrace facing the lake was ornamented with carefully-trained standard Myrtles, and about the lawns were statues, copies from Greek antiques. The fernery lay away to the left of the garden, and contained almost every species of British Fern. A delightfully cool spot this, on a hot summer day; roofed over by tall trees, a mass of living green and, just audible, the gentle falling of the tiny fountain, plashing its waters in the pool below. Huge boulders of stone, brought from near Sidmouth, one originally part of an ancient cromlech, formed the rockwork, and over these, in great profusion, grew Osmunda, Parsley Fern, Hart's-tongues, and a dozen others, whilst we even noticed a plant of real Maidenhair, presumably a hardy variety. Thick clumps of Bamboo helped to screen the sun from the moisture-loving plants. Strolling leisurely along, out into the sunshine again, we were guided into what was perhaps the most impressive part of all. Literally, acres of broken ground, planted in perfect taste, with the most magnificent Conifers it has ever been my pleasure to see. Here were isolated examples, grown to perfection, of the stately Pinus excelsa, and Pinus insignis; dark-foliaged Cupressus, dwarf Juniperus, the giant Abies Douglasi, and many others of the Spruce family—all labelled clearly and distinctly, so that the visitor "who runs may read," without much trouble. Then again, grand specimens of the wide-spreading Cedrus Deodara and Libani, and massive Arbor-vitæ claimed attention; whilst here and there, carefully guarded from the attacks of rabbits, were some lately-planted shrubs of rarer species. The walk took us upward to a large lake, where swans and the shy "bald" coot took their pastime, and where water-loving trees and shrubs grew close to the margin; and then away up a broader drive, overhung by drooping Limes, we were courteously conducted to the gate, and our visit to Bicton was over. *Market Gardener.*

New or Noteworthy Plants.

ECHIDNOPSIS DAMMANNIANA.

For many years the curious genus Echidnopsis contained but one known species; in 1892, however, Messrs. Dammann & Co. of Naples distributed a second species (E. Dammanniana), whilst last year a third (E. Virchowi) was added to the genus. Two of them have been properly described, but of E. Dammanniana no botanic description has yet been published, and as a specimen of it was kindly sent to Kew in August last by Messrs. Dammann & Co., I here give a description of the plant, and take the opportunity to make a few remarks upon the genus.

Echidnopsis is a genus of Asclepiadeæ belonging to the tribe Stapelieæ, that was separated from the rest of that group on account of its tesselated stems, and absence of an outer corona. The two recently-added species, however, have a corona identical in type with that of Caralluma, and it becomes a question as to whether Echidnopsis should be retained as a distinct genus, or merged in Caralluma; indeed, after an examination of many hundreds of flowers of very many genera, it becomes a very difficult question to decide on what characters many of the genera of Asclepiads can be maintained. A great number of genera have been founded upon slight modifications of what is essentially the same type of corona, and others on habit only. In Echidnopsis the habit and appearance of all the species is identical, but the corona shows two types of structure. In the original species, E. cereiformis, the corona consists of five simple lobes incumbent on the backs of the anthers, with no evident outer coronal lobes; these are, however, represented by very minute rudimentary denticles between the coronal-lobes at their base; but in the other two species the outer coronal lobes (i.e., those lobes or outgrowths from the staminal-column, which alternate with the anthers, and are opposite to the lobes of the corolla), are distinctly evident, and either unite the inner coronal-lobes together into a sort of cup by a series of five small pouches, or project between them as five small lobes, this being the same as the coronal structure of Caralluma, and as the corolla also agrees with that genus, there is no character to distinguish these two species of Echidnopsis from Caralluma, except that the stems are cylindric, with six to eight tesselately-divided angles, instead of being square or five-angled; but as this peculiarity is common to all the species, and they are very readily distinguished from all species of Caralluma by their stems alone, it will be perhaps more convenient to keep them generically distinct from Caralluma, until further discoveries shall render this character invalid also. At the same time this character is certainly a very artificial one, since in other genera with succulent stems, such as Cereus and Euphorbia, there are all modifications from three, four, five, to many angled stems. As to the coronal modifications, there is one species of Caralluma in which the outer corona is sometimes present and sometimes absent, whilst in Asclepias and Xysmalobium, which have no evident outer corona, it is represented in several species by minute rudimentary denticles, just such as are present in Echidnopsis cereiformis. Prof. Schumann has correctly stated (*Monatschrift für Kakteenkunde*, 1893, v. 3, p. 98) that in Echidnopsis the flowers spring from the grooves between the angles of the stem, but adds that in others of the Stapelia tribe they arise from the axils of the tubercles; this, however, is an error, as I have seen and examined in a living state hundreds of flowers belonging to this group, and have never found one that truly originated from the axil of a tubercle! In a few species of Caralluma the flowers are subaxillary or in terminal umbels, but in all the rest they always arise—and I believe, by dichotomy—from the grooves between the angles, although usually a little to one side of the middle of the channel. The following is a description of the specimen sent by Messrs. Dammann & Co.:—

> Habit as in E. cereiformis, stems succulent, $\frac{5}{8}$ to $\frac{3}{4}$ inch thick, cylindric, obtusely 8-angled, the angles tesselately divided into small obtuse tubercles by impressed transverse lines, dull greyish or purplish-green, glabrous. Flowers in fascicles of three to five in the grooves between the angles, subsessile, but developing pedicles about one line long when in fruit. Sepals $\frac{3}{4}$ line long, ovate acuminate, glabrous, very minutely papillate. Corolla rotate, $3\frac{1}{2}$ lines in diameter, the lobes $1\frac{1}{4}$ line long, 1 line broad, ovate, acute, glabrous, papillate outside, dark purple-brown, with the central part yellowish, dotted with purple-brown. Outer corona of five small concave lobes, that radiately spread out between and beyond the bases of the inner coronal-lobes and have their sides more or less pinched together at about the middle. Inner coronal-lobes half a line long, deltoid-acuminate, incumbent on the backs of the anthers, the entire corona dark purple-brown, glabrous. A native of Abyssinia. E. Dammanniana, Sprenger, in *Dammann Cat.*, 1892, p. 4, f. 5; *Wiener Illustrirte Gartenzeitung*, 1892, p. 351, f. 59; *Gartenflora*, 1892, p. 526, f. 107.

In the *Wiener Gartenzeitung* for 1892, it is stated that this plant finds a ready sale in Vienna, whilst Cacti, which have far more attractive flowers, are not to be seen in the market. *N. E. Brown.*

Orchid Notes and Gleanings.

SOPHRONITIS CERNUA.

This pretty species, on which Lindley founded the genus Sophronitis, is not held in such esteem in gardens as S. grandiflora, but how pretty it can be when properly grown is well exemplified at Messrs. W. L. Lewis & Co.'s nursery, Chase Side, Southgate, by a number of plants bearing sprays of light scarlet-coloured flowers. Mr. Ashton, the managing partner of the firm, has a partiality for neat-growing and pretty species of Orchids, such as Sophronitis, Pleiones, &c., and he is very successful in their cultivation, as is shown by the bright array of their flowers, together with those of Cattleya labiata and other species in these nurseries at the present time.

Odontoglossum crispum from Arddarroch.

Some flowers of a very distinct and pretty type of Odontoglossum crispum, some of them being charmingly spotted, have been received on several occasions from R. Brooman-White, Esq., Arddarroch, Dumbartonshire, who refers to this strain, which has been imported direct, as differing from other importations he has witnessed. In shape the flowers more nearly realise the florist's ideal than those of the best old variety, but they are scarcely so large; the white is also very pure, and the lip is invariably of a nearly oval-shape, like that of O. c. Lehmannii, and beautifully and evenly crimped at the edge. A very neat, handsome, and compact inflorescence is the invariable rule with this strain.

Odontoglossum Pescatorei, *Raphael's var.* (*n. var.*)

Variation in O. Pescatorei is not nearly so common as in O. crispum, and often when a really fine variety does appear, there is nothing about it which warrants a varietal name. But the present beautiful form which has flowered in the collection of G. C. Raphael, Esq., Castle Hill, Englefield Green, is not only remarkable on account of the size, breadth of the segments, and other characteristics of an unusually fine flower, but the broad labellum is so richly and quaintly marked that the variety can be readily distinguished by it. The crest is orange-coloured, changing to chrome yellow at the side, the upper portion being streaked with red. On each side of the lip from the base runs a broad irregular band of rich purple, the bands nearly meeting in front of the crest, and then diverging right and left over the front lobe. The space between these lines at the apex of the lip is filled by a diamond-shaped purple blotch. The margins of the side lobes and the sides of the front lobe of the lip are white, the whole lip being strikingly beautiful. *James O'Brien.*

MOMORDICA MIXTA.

The magnificent Gourd shown from Kew under this name at the last meeting of the Royal Horticultural Society, attracted much attention from its brilliant coral-red or crimson colour. Our illustration (fig. 70), shows the fruit of its natural size, studded with short conical spines. It is a native of India, Cochin China, &c., and was figured in the *Botanical Magazine*, t. 5145, and in the *Flore des Serres*, 14, 1478. According to the *Kew Index*, M. cochin-chinensis is synonymous, but under whatever name it may be known, it must be admitted to be one of the most splendid tropical climbing plants.

The flowers are described as four inches across, with five ovate lanceolate sepals with black stripes, and a bell-shaped, pale yellow corolla, with a purple eye. The leaves are cordate, palmately lobed, and their stalks are provided with cup-shaped glands. Judging from the acrid properties of its nearest allies, we should hesitate to consider this plant in any other light than as an ornamental one.



Fig. 70.—FRUIT OF MOMORDICA COCHIN-CHINENSIS SYN. MIXTA: FRUIT REDDISH-CRIMSON. (SEE P. 530)

STREPTOCARPUS.

I have during the past two years grown a good batch of this little-known plant, with the idea that by selecting the seedlings with decided colours it would be possible to get flowers of a larger size, with more substance in the petals, and more decided colours. Of course, with only a limited quantity, and those raised from seed yearly, it cannot be expected that any private grower can get plants like those grown at the Chelsea nurseries. I was informed there that many of them had been flowering continuously for six months, and were very beautiful at the time of my visit (September 29). The newer seedlings are very superior to the older or earlier introduced varieties, and though our own seedlings at Syon are good, especially the violet forms, we have not the red and crimson types of bloom so good at Chelsea. These reddish forms are a great gain, and quite distinct from the original hybrids, as in them the light and dark blue predominated, and the newer shades are so beautiful that they will be much admired by those who do not care only for size. At Chelsea I counted no fewer than nineteen distinct colours, from pure white to darkest purple, the white flowers with violet markings being beautiful. The magentas and crimsons were very rich in spot and throat markings, and the light and dark blues were equally brilliant. I consider these plants specially suitable for the decoration of the greenhouse, and as during the summer months there are none too many small flowering plants for decorative purposes, they are most useful, as they last so long, and give so little trouble. The value of the plants may not be great where cut flowers are in demand, their chief recommendation being their utility for house decoration, and their long lasting or flowering properties. During the past year there have been great strides in size and in the production of colours not seen in the earlier forms. I intended heading my note "Streptocarpus in Autumn," but though they are little grown for autumn bloom, I have obtained plants from a later or April sowing that are a mass of bloom at this date, and I do not see why they should not be as useful as the Primula at this, the dull season. I have always sown the seed early in January, and got the plants to bloom in June, but by making two sowings I get a succession and a late or winter lot of plants invaluable for decorative purposes during the winter months.

A few words as to culture may not be out of place. Many persons consider the plants difficult to raise, but such is not the case, and many fail by growing them in too much heat; indeed, the treatment given to the Primula at the start is a suitable one for these plants also. Early this summer I saw Streptocarpus planted out in a shady corner, showing that strong heat is not necessary, but I am not sure how such plants will winter. I do not think they will stand our variable winters, but they do well in summer. The plant, being a greenhouse perennial, will give a lot of bloom the second season after sowing if shifted into larger pots, and a larger proportion of loam be used in the compost. By sowing as advised early in the year, strong plants for autumn bloom may be obtained; the seed being very small, it is advisable to sow in small pans in a compost of two-thirds fibrous loam and one of peat, with a liberal quantity of sand, the soil having a fine surface. The soil should be thoroughly moistened previous to sowing the seed, and after sowing, let it be covered with glass or paper, and placed in a temperature of 70° till the seedlings appear above the surface. Then place them near the light, and prick-off into small pots, placing several plants round the sides of the pot, and growing on in a warm house, potting into 60-pots, and again into 48's when the plants are large enough, using a larger proportion of loam and good leaf-mould at the latter pottings. If there is suitable rockwork that is not liable to catch the drip from plants above, Streptocarpus turned out of small pots do well planted there, and have a very pretty effect. They may also be used for edgings of stages in warm greenhouses by planting out the second season, and they bloom profusely. I should point out that mealy-bug is very fond of the plants, so that they should never be placed in houses where this pest abounds. Thrips are more readily kept down, and if the plants are grown in a greenhouse, they are less troubled with insects, so that after the first shift, they may be given a cool frame or moist green-house, in which situations they will produce strong leaves and abundance of bloom. *G. Wythes.*

MARRAM GRASS.

Baron Sir Ferd. von Mueller contributes the following letter relating to the Marram-grass (Ammophila arenaria), the value of which for planting on loose sandy sea-coasts is so very great:—"I can inform you that cattle in this district will eat the Marram-grass, no matter how coarse it may have grown, and it is undoubtedly a good fodder for cattle during our winter. I do not attempt for one moment to say that I would plant Marram-grass for fodder on land that would grow Rye-grass, Lucerne, Clover, &c., but I do certainly say that if any person has got any sandy land which is of a shifting nature, and on which they can get nothing to grow, I would advise them to plant that grass, and they would soon have the land covered with vegetation, which would prevent the sand from drifting, and be feed for cattle, and the more the grass is dug out, burnt, or eaten off, the better it improves; it grows richer, and not near so coarse, and, once the land is properly stayed (if required) different kinds of grasses could be sown amongst the Marram-grass. As a sand-stay, there is nothing to equal it. It does not matter how high the sand-hill may be, or how great the drift, if the grass is properly planted, it is an easy matter to get it to grow, and also to prevent the sand drifting. I may inform you that the Borough Council of Port Fairy were desirous of making a road to the beach from one of the streets of the town, and to do so they had to cut through a hill of drifting beach-sand. Many persons at the time prophesied that it would be impossible to prevent the sand from drifting; however, the work was undertaken, and a cutting of about 25 feet width was made through the sand-hill, and the Marram-grass planted to prevent drift, with the result that no sand whatever drifted into the cutting, and the whole place is now covered with grass. While in Adelaide, some few weeks ago, I took a run down to Henley Beach and the Grange, where I noticed that the sand along that coast in places was drifting very badly; if steps were taken at once to plant the drifts with Marram-grass, it would prevent a lot of valuable property from being destroyed, and the cost would not be very great. *Samuel T. Avery, Port Fairy.* [For illustration, &c., see *ante*, pp. 745, 750, December 16, 1893.]

A TRAVELLER'S NOTES.

(*Continued from p.* 469.)

A bush-house, eight glass-houses, and various pits are situated in the old garden. The first, with ends and sides of open trestle-work, has a broad arched roof of dried twigs of Leptospermum scoparium. Tree Ferns and Palms occupy the main portion. Alsophila Cooperi, of which there are several good pieces, on stems 20 to 25 feet in height, is exceedingly pretty; Cyathea Cunninghami, C. Brownii, Dicksonia squarrosa, Cocos, Kentias, Latanias, &c., are all in good condition.

Of the eight houses, five are to a great extent devoted to propagating purposes, and three reserved as show-houses. The latter are as smart and neat as one can well wish to see. Two are devoted to a general stove collection, and one to Orchids, in very good condition. Calanthe Veitchii and C. vestita, Dendrobium Phalænopsis, Cattleya Bowringiana, Zygopetalum Mackayi, Cattleya Eldorado, Cypripedium Sedeni, C. Harrisianum, C. longifolium, Pholidota imbricata, are all in flower; Cœlogyne speciosa, one piece, has eight open blooms. Dendrobium undulatum is showing three spikes, and Angræcum eburneum a good strong one. The collection of Stanhopeas is good; Rhynchostylis retusa, large pieces of R. cœlestis, Brassia maculata, several Oncidiums, and Platyclinis are all doing well. The contents of the Orchid-house of the Sydney Botanic Gardens are in good condition, and one of the best collections in Australia.

The two stoves are in no way behind. In one, the stages are low, scarcely 30 inches above the ground; arranged in this manner, the plants are seen to greater advantage. The walks are channelled for the purpose of evaporation.

Amongst the best specimens of Palms are Hyophorbe Verschaffeltii, Areca rubra, Dæmonorops pericanthus, D. fissus, a most graceful thing; Carludovica palmata, small palmate leaves on erect 6 to 7 feet stalks; Verschaffeltia splendida, very fine, its leaves 10 to 11 feet in length, certainly one of the handsomest Palms grown; Caryota sobolifera, Chamædorea Ernesti Augusti, &c. In one house, from the roof, hung a Nepenthes Rafflesiana, with pitchers of maximum size, and N. Veillardii, a curious species from New Caledonia. The stove plants are in excellent condition and perfect health.

The Lower Garden, the greater part of which was reclaimed from Farm Cove, an inlet of Port Jackson, would probably appeal to the general public as the prettiest portion of the whole. Divided from the old garden by a wall (shortly to be removed), a broad border runs along its length at the highest limit. Here Ficus Parcelli, 15 feet high, is as striking a variegated bush as could well be imagined, the numerous fruit flushed with red in no little degree contributing to the effect. Daphniphyllum glaucescens in perfect condition, assumes even greater dimensions. The large metallic leaves of Ficus Bennetti from the South Sea Islands, produced in profusion on a tree 30 feet high, and covering a space, the diameter of which is as great, form an imposing mass. Behind is a noble New South Wales Flame-tree, the largest I have met; it must offer a gorgeous spectacle when in flower!

Theophrasta imperialis, Bocconia frutescens, Alstonia constricta, the Bitter Bark, the fine foliaged Macadamia tenuifolia, and Musa sapientum fruiting freely, do well in this border; but possibly the most interesting is a huge Platycerium alcicorne on an old tree stem. Being 10 feet in diameter, this mass of fronds is a remarkable sight.

Immediately in front of the refreshment kiosk is one of the ponds, dependent for its water on the creek running through the garden, the banks of which in parts are lined with Tree Ferns.

Weeping Willows, and dwarf stumps of Todea barbara line the slopes of the pond, one side being a perfectly solid bank of Canna indica.

On the island in the centre are various plants of Seaforthia elegans, and a Livistona australis, on stems 35 to 40 feet in height, and several fine trees of Alsophila Cooperi and A. australis with an undergrowth of Cannas, Caladium esculentum, &c.

Buried in the end of a clump of Cyperus antiquorum is a plain stone obelisk "To the memory of Allan Cunningham."

To the left of this pond is a section devoted to Monocotyledonous plants, each of the variously shaped beds containing a natural order represented by the most diverse genera available.

In the borders close by, Solandra lævis is in flower, with its long cup-shaped yellowish blossoms. Michelia Champaca has grown to 40 feet in height, and Panax incisa, with immense rich glossy pinnate leaves, Simaruba grandis from tropical America, Erythroxylon macrohyllum, Plumiera acuminata, Eugenia grandis, a fine shrub, 25 feet in height; and the Queensland Tristania conferta, over 60 feet, are all worthy of mention.

On a lawn behind the tongue leading to the west gate are many Conifers, some thoroughly at home. The tall symmetrical Cupressus Benthamii from Guatemala, Pinus longifolia, P. canariensis over 50 feet, P. Pinea over 60 feet, Pinus Laricio, P. Massoniana. Cupressus thyoides variegata 25 feet, C. lusitanica, &c., all do well. The finest Fig in the garden, a Ficus rubiginosa, a truly magnificent specimen, is but a few yards from that portion devoted to Dicotyledonous plants, and there is also a small collection of those medicinally valuable.

Several Jubæa spectabilis, Thuia orientalis, Ficus Harlandii from Hong-Kong, its old and young wood studded with myriads of fruit; Magnolia grandiflora 25 feet high, a seedling Kentia Fosteriana, but little less, situated near a clump of Bambusa plumosa, Juniperus chinensis, and Ptychosperma Alexandræ, slight and graceful as in its Queensland home, are amongst the specimens and general borders of the western side.

The largest lake is about the centre, and well stocked with swan and duck. Willows, shortly to assume their winter garb, do well on its banks and islands, the latter having some good Livistonas, Musas,

and Chamærops, &c. Following the eastern tongue of the cove, various mixed shrubberies are met with, whilst amongst the single specimens are Ficus Bellengerii, with peculiar oblong fruit, Eugenia achimenoides, with pretty young growth; Ficus macrophylla, with a low flat head, probably owing to the silt it is planted in; and Citharexylum subserratum, with numerous narrow long spikes of white flowers.

Mexican plants are well represented, the foliage of Fourcroya Lindeni is particularly massive, and that of Agave Milleri 12 to 14 inches across. Near a good Quercus virens on the slope are Ilex latifolia, Arbutus canariensis, Photinia serrulata, Bauhinia purpurea, Ficus Benjamina, a weeping species, and Hedera terebinthacea from Ceylon. Sterculia rupestris, the Queensland Bottle-tree, has a diameter at its broadest part of 3 feet, and Quercus Cerris reaches 50 feet.

One bed is devoted entirely to Agaves, and another to Macrozamias—M. Moorei being at the moment the most striking of all.

From Adelaide to Sydney many old residents agree that the climate of the last few years is markedly different to that experienced previously. The terrible hot north winds are less fierce and less common; one explanation offered being they blow over cultivated land instead of sandy waste or scrub. In N. S. W. and Victoria droughts have been less severe, and this season in particular a specially heavy rainfall is recorded. An increasing mildness of climate has undoubtedly prevailed for several years—the natural question is—will it be permanent? *James H. Veitch.*

(To be continued.)

GREENHOUSE HARD-WOODED PLANTS.

(Continued from p. 118.)

Statices.—Strictly speaking, the greenhouse Statice may not be a hard-wooded plant, but it is sufficiently so to claim notice under this head. The true value of the Statice as a decorative plant is not nearly enough known or appreciated in private gardens; on the other hand, as a market plant, it is not perhaps sufficiently showy to attract those who attend alone to this particular feature. As a greenhouse or conservatory plant, however, the Statice in its best known varieties should be grown far more than it is at the present day. Those who have to provide a large number of decorative plants will find n the genus in question a true friend from early in May until September. A dozen or so, for instance, of Statice profusa would do as much service as twice or thrice the number of other and commoner plants. True, the colour in each variety is very nearly the same, yet we have not any too many flowering plants in which blue prevails; the actual flowers themselves are white, but these do not last any great length of time, yet they are rapidly succeeded by others until each spike is exhausted. The calyx of each individual flower will last in good condition for a considerable length of time, provided the treatment be in accord with the keeping of the same; a damp atmosphere or the use of the syringe overhead, be it noted, will soon cause the blue or bluish-purple to vanish. When grown in a well-ventilated house each spike is a most pleasing feature, the pure white flowers affording a delightful contrast to the calyces.

Culture.—Under no circumstances can Statices be considered difficult plants to manage, except in so far as all plants that are subjected to attacks from insect pests come under that category. They are essentially free-growing plants, being easily managed by all who have a greenhouse at their disposal. I have myself grown and exhibited them from a cool vinery, but I should prefer the greenhouse. Starting with young plants in the early spring, it is possible to have them of good size by the autumn. As soon as growth becomes active early in the year, it may still further be encouraged by keeping the plants in a moist atmosphere; a Peach-house, for instance, would suit them for a month or six weeks, then the ordinary temperature of the greenhouse will suffice. If the plants are not wanted to flower very early, the first spikes may be pinched out—this will give two in the place of each one later on. Potting I much prefer to perform in the spring, when the roots commence to be active. In doing this, avoid by all means the evil of over-potting; it may incite the growth for a time, but the day of reckoning will as surely follow. The roots of the Statice are minute, produced in profusion, but tender; hence very susceptible to sour soil, which will ensue after over-potting. The soil best suited to their culture is fibrous yellow loam and good lasting peat; two-thirds of the former to one of the latter with silver sand in plenty. Should the peat be at all indifferent, use good leaf soil in its stead; in fact, it is almost a matter of choice between the one and the other, provided the other essential of firm potting be attended to in a proper manner. If a plant be somewhat unhealthy at the roots, a reduction of the ball and a close treatment afterwards will be a beneficial to it. When well established and the plants taking water freely, with spikes of bloom opening, I have found a weak solution of Peruvian guano in water to be a good stimulant. Any other manure would do that is not highly concentrated, and with a tendency to burn (so to speak) the roots. In no case should dependence be placed upon strong or repeated doses of any manure, as the results may be contrary to the expectations. As the plants go out of flower, less water should be given; sufficient only to keep them from flagging. This will carry them safely through the winter season, but during growth a more generous treatment in this respect is most advisable. Propagation is easily accomplished in the spring in moderate heat, each cutting being placed singly in a small pot, using as soil nearly half sand and the rest loam.

Of insect pests I have found the black thrip to be the most troublesome, and if not closely watched it will soon injure the foliage. Dipping is more effective than fumigation, as this insect is not so easily reached by the latter process, being located in most cases upon the under surface of the leaves. Mealy bug is a great annoyance, and it is only by the closest attention that it can be eradicated, for in the use of strong insecticides there is the risk of injury to the foliage. Other insects will rarely cause any serious trouble.

Varieties.—The varieties of the Statice as now grown in the greenhouse are not numerous, three only calling for any special comment. I note, however, on reference to the catalogue of a well-known firm (date 1871), that eight kinds are enumerated. Statice profusa (already alluded to) is no doubt the best all-round variety to grow by reason of its dwarf and compact habit, and the profusion of its spikes during a long-continued season. It is useful as a small plant in a 48-sized or larger pot; in a 32-pot a really good plant can be grown. Statice Butcheri is a variety of S. imbricata, but much superior to it in colour; beside the former the latter is of quite a pale shade when in bloom, and not nearly so effective. A well-managed plant of S. Butcheri has the deepest coloured flowers (i.e., calyces) of any. Along the south coast it is nearly always a fine feature at the summer shows. To manage it well, so as to produce a fine mass of flower, the spikes, as they attain to about half their full length, should be pulled down gradually to a horizontal position; this will cause lateral shoots to issue from buds on the spikes which would otherwise remain either quite dormant, or at the most, be but weakly offshoots from the main spike. S. Holfordi, which I would quote as the third variety, is reputedly a garden-form of S. macrophylla; from the size of its foliage, I do not think there can be much doubt on this point. When well-grown it is a noble-looking plant, both as regards foliage and flower, its spikes are very robust; its leaves glabrous and almost entire, whilst those of S. Butcheri are deeply lobed and downy. S. Holfordi with its tall spikes makes a fine plant for the greenhouse or conservatory during the summer.

Of S. imbricata, Messrs. C. Lee & Sons possess an excellent variety of dwarf and profuse-flowering character. The name under which it is known is Statice floribunda, a First-class Certificate having been awarded it by the Royal Horticultural Society on May 23, 1883.

Witsenia corymbosa.

No one who takes an interest in, and has room to cultivate a general mixed collection of greenhouse plants, should lose sight of this singularly interesting plant. When in flower, scarcely anyone could fail to be struck with its beauty, the bright mazarine blue of the blossoms being so very distinct. It has not the reputation of being free-flowering, but it is easily grown. To remedy the defect just alluded to, I would endeavour to overcome it by keeping the plant as dry through the winter as is consistent with safety, almost in the same way as with Agapanthus umbellatus. Then by giving a decidedly different treatment from the spring onwards, I am persuaded that the results would be satisfactory. It is an ally of the Iris, a distant one, it is true, but in the disposal of its small leaves this can be detected, although, unlike the Iris, it forms a hard-wooded stem. It is a peat-loving plant, and whilst growing should be watered freely, a cool but moist atmosphere being likewise congenial to it. Only one species is known to exist, and this was introduced as far back as 1803. *J. Hudson.*

(To be continued).

BLICKLING HALL.

[See Supplementary Illustration.]

Blickling Hall is one of those mansions in which the eastern counties abound, and which has the element of age to add to its other fascinations to the visitor, be he interested in arboriculture, horticulture, or antiquities. It is only comparatively old, and is in a state of excellent preservation, a substantial sort of link with bygone times, connecting those of the early Stuart with our own. The mansion, a large quadrangular structure, built in the form of the letter H, has two open courts in the centre, with turrets at the angles, and a clock tower over the entrance, and it is built of brick with stone quoins and window openings.

The surrounding park has an area of 700 acres, well-stocked with deer; and about 200 yards distant from the house is seen a portion of the large lake of about 90 acres, one of the finest pieces of artificial water in the kingdom. This extends in crescent form for about a mile, with a width, where broadest, of 400 yards, and it is skirted by park-land and well-wooded gentle acclivities, which afford a very pleasing bit of landscape.

It may be interesting to note that the manor of Blickling was held by Harold, and after his defeat at Hastings, the Conqueror settled the entire manor and advowson on the See of Thetford, afterwards on the foundation of Norwich Cathedral—an instance of the manner of dealing with vested interests in the 11th century.

In 1413, Blickling became the property of Sir Thomas Erpingham; and having passed through several hands, it came into the possession of Sir Thomas Boleyn, the father of the unfortunate Anne Boleyn. From the Boleyns the manor passed to Sir Robert Clere, on his marriage with Alice Boleyn; and then to the Hobarts, ancestors of the Earl of Buckingham. The old mansion was pulled down by Sir John Hobart, and the present house built, it being finished in 1628. The second Earl rebuilt the west front in 1769. Money could not have been very plentiful in the family at that period, for we find the countess bequeathing her jewels towards defraying the expenses. The present possessor is the kindly and popular Constance, Marchioness of Lothian, who throws the place open to visitors every Tuesday—a rule, we were given to understand, not very rigidly adhered to.

Our illustration shows the present flower-garden, which is adjacent to the mansion, occupying a sheltered level nook of about 1½ acre, which has been cut out of the land which sloped somewhat steeply upwards at that part, the rising ground itself beyond being dealt with in a bold and effective manner by constructing a central gravelled path of considerable breadth, so as not to run into insignificant narrowness at the end farthest from the

beholder. This path, bordered on either hand with turf, and shrubberies planted with Evergreens, is furnished with occasional flights of steps in its course, so as to modify the steepness of the ascent, and afford considerable stretches of nearly level walking. The soil excavated from the site of the flower-garden was used in filling in the end of the lake nearest the mansion. This flower-garden last summer was a very charming example of the modern style of filling the beds, and we have little hesitation in saying that it is one of the best existing in which tender exotic plants are almost banished by hardy herbaceous perennials.

The present head gardener, Mr. Oclee, who has made most of the present gardens during the past twenty-five years, has entirely mastered this new, or shall we not say, revived old style of planting a flower garden, which while it is never ablaze with masses of colour gaudy or otherwise, is at all times well-furnished with flowers, and therefore an object of just admiration. The form is an equal-sided parallelogram, and its general surface contour is effectively broken up by low standards of Acer Negundo foliis variegatis, beneath which was planted Lobelia cardinalis variety Firefly, a very glowing and vigorous growing plant. These standards being irremovable, afford something to look at in the spring and early summer arrangement, and being made amenable to somewhat close pruning, would be very pretty objects when coming into leaf. Other objects to break up the surface and afford variety are Junipers and Thuias, the latter being kept squat and low, and the former allowed to keep their columnar habit.

The beds are of simple form, as best befits their occupants, and the beautiful old turf as soft as velvet, such as one always finds about these old country seats, out of which the design is cut, is of that sufficient width between the beds to prevent any appearance of crowding, and yet not to err on the side of too great looseness. There is no point, not even from the adjacent high ground, whence the whole design can be seen; there is, therefore, the charm of there being something worth seeing beyond, that is always necessarily absent in flower gardens consisting of a number of beds filled with dwarf plants, where you get no surprises. We may specify a few of the kinds of plants employed—Dahlias of all sections, Zinnia Haageana, a good orange-coloured variety, more trustworthy than any Calceolaria for bedding; and of similar usefulness a buff-coloured variety of tuberous-rooted Begonia, a plant Mr. Oclee is fond of. It is well adapted for good-sized beds, and is of more than ordinary good quality as a flower. Salpiglossis in variety, Tagetes patula or pumila, a most useful plant, and very showy in masses, clumps, or lines. Coreopsis in variety, Carnations, Cannas, Helianthus of tall and dwarfish varieties, both single and double flowered; Gladiolus Brenchleyensis and G. Gandavensis; Phlox decussata in great numbers, both tall and short; Hollyhocks, Marguerites, Michaelmas Daisies for late flowering, Chilian Beet, Monarda didyma, and much more of the same kind of material. Pelargoniums were remarkable for their almost complete absence.

This garden is kept presentable the whole course of the year, and so soon as the summer occupants are considered to be no longer sightly, their places are taken by Evergreen shrubs and the usual kinds of spring and early summer-flowering plants, including bulbs of all kinds, these again making room for the summer flowers.

The woodland walks and pleasure-grounds at Blickling are well worth a visit, and many interesting views of the interior of the place and the surrounding landscape are obtained in the course of a walk round. Much fine timber is found about the grounds, and rare species of trees are not uncommon.

Two immense specimens of Platanus orientalis stand together, yet with space for the fullest development, whose branches, some 16 to 20 yards in length, have reached the turf and there taken root all round these trees, some of them being rooted in two and three different places.

The kitchen garden, admirably kept, revealed fine crops of Pears on the walls, the fruits of Beurré Diel and Glout Morceau being of rare size. Apples and Pears are grown on walls that were once planted with Peach trees, these latter never being a success in northern Norfolk if placed on walls facing east, the brine-laden winds soon causing a blighted and unhealthy appearance.

The Vines are well done, and excellent crops of Gros Colmar, Black Alicante, Muscat of Alexandria, and Madresfield Court as a back-wall Vine, were remarked.

The peacheries contained many fine fruits of Princess of Wales and Prince of Wales Peaches, and in the earlier ones the trees were large and healthy. In a plant stove Bougainvillea glabra was finely in flower, and Cheilanthes Mooreana had grown into an enormous specimen. This most interesting old place is reached by railway to Aylsham, from which it is distant about 1½ mile.

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

MISCELLANEOUS OPERATIONS.—Except in very favoured parts of the country, flowers out-of-doors fit for cutting are over, and those under glass will for the future be used instead. Amongst these at the present time the Chrysanthemums stand first, possessing as they do such varied colours as to well fit them for filling vases, &c. Care should, however, be taken that the blooms are fully developed before cutting them, or they will be lacking in character. Where these plants are extensively grown it is usual for the gardener to arrange one or more groups in the greenhouse, when, if the colours are well chosen, they have a very good effect. In arranging such groups the blooms should stand well apart, so that the handling of them may be done without inconvenience, it being essential that they should be frequently examined, and all the decayed florets, as fast as they appear, removed. The varieties, Edouard Audiguier, Viviand Morel, F. A. Davis, &c., are more subject to damping than some others, and should be kept in the warmest part in the greenhouse, with a free current of air passing amongst them. It would not be easy to fix the exact temperatures in which the plants should be kept at this season, as so much will depend on the manner in which they have been cultivated, the purposes for which the plants are grown, the stage of bud development, and the position of the structure in which they are located, and the outside temperature.

BOUVARDIAS.—These plants, if flowering freely, should be kept somewhat close; with a night temperature of 55°, while with sun-heat 10° more may be afforded. Continue the use of manures, regulating the strength of the doses according to the state of the root-growth.

CYCLAMENS.—The earliest batch of these plants now coming on to flower should be stood close to the glass, allowing a current of air to pass under the foliage, moderately cool treatment being aimed at; but a slight degree of heat in the hot-water pipes with ventilation will be found to answer well. Water at the root must now be carefully afforded, the plants at this stage being easily spoiled if too much water be supplied. When any flower is removed, it should be pulled clean away from the crown of the corm, as if cut off with a knife the remaining portion damps off, and there is the danger of decay being set up in the corm. Later lots should be kept freely ventilated in light houses. Salvias, Eupatoriums, Lantanas, &c., will now be supplying a large proportion of the cut flowers, and will require liberal supplies of farmyard manure, with a pinch of soot added to it, which will assist in the production of finer flowers, as well as in prolonging the flowering of the plants. A temperature of 50° by night, with a rise of 10° by day, will suit them if air in moderation be admitted if the structure is a light one, otherwise air in considerable amount should be admitted. Solanums, being less fruitful this season, owing to lack of sunlight, should be more than usually well-ventilated and kept near the glass, by which means a freer setting of the berries will be encouraged.

LASIANDRA (PLEROMA) MACRANTHA.—The flower-buds having now formed, manure water may be resorted to, to plump them up; a slightly warmer temperature maintained, and the house kept rather dry.

CELOSIAS.—The latest batch will now be coming into flower, and should be stood in the plant-stove, water being very sparingly afforded. A suitable size of flower-pot for Celosias at this season is a 48.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

PRUNING OF WALL TREES.—In view of the shorter working day, and the various hindrances to the carrying out of various operations in the fruit garden which occur in the winter season, every opportunity should be seized upon to forward them. Pears and Plums, if aged, require much reduction in the number and length of the fruit-spurs. In dealing with such trees, it is best to saw off the longest of these to about 2 inches of their base, these saw-wounds being made smooth with the knife. It is a practice which, if carried out every year, tends to keep the trees furnished with fruit-spurs of moderate length, and renders the pruning, nailing, and cleaning of the trees easy matters; moreover, the fruit is exposed to the light far more than is the case of trees with a great number of long bearing spurs. Pruning at this season favours the production of new shoots from dormant eyes, which is not the case with late pruning. Any further pruning of Pear and Plum-trees on the walls will consist in the removal of the later growths on foreright shoots, and shortening of the leading shoots, more or less, in accordance with the amount of space which has to be furnished. Any trees of great vigour may have the leading shoots of the main branches cut back to 2 feet from the point whence they started, which will secure a good break along its entire length. Young trees which have been replanted as a check to strong growing may be left unpruned till the spring, a time when the trees having begun to make roots anew, the cut-back shoots will break readily.

INSECTICIDES.—Trees of the Pear that are infested with scale are not easily ridded of these insects, and the first step should be to loosen the trees from the wall, and with Fir-tree oil, or other insecticide, of twice the strength recommended for aphis, scrub every part with a half-worn-out paint-brush, being careful to get at the back of the branches. Apart from the injury the Pear-tree scale causes, it gets on to the fruit, whence it is not easily removed. Any Plum tree infested with brown-scale should be treated in a similar manner, but if black-aphis only be troublesome, the trees may be well syringed with strong soap-suds, to every 3 galls. of which 1 gill of petroleum has been added, keeping it well stirred up whilst being applied to the tree.

THE STRAWBERRY.—All beds of these fruits, excepting the newly-planted ones, should be drenched with liquid-manure, which, after the recent rains, will be easily obtainable in most gardens. As previously pointed out, this practice is more to be recommended than the commoner one of a heavy dressing of manure, which provides a shelter for the slugs, and hinders the aëration of the soil and the sweetening effects of frost upon it.

ARREARS OF WORK.—Any root-pruning, lifting, and replanting of Apricot, Peach, and Nectarine trees or any other operations advised in recent calendars, should now be completed; bearing in mind that the early replanting of trees on the Plum stock leads to no loss of crop the next year.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

FRENCH BEANS.—Those growing in pots should be placed where they get full sunlight, preferably in a heated pit. Let the temperature range from 60° by night, to 70° and 75° by day. It gives less trouble to cultivate French Beans on beds of soil in such hotwater-pits than to grow them in pots. The soil should be light and rich, and the Beans planted in rows at 1 foot apart, thinning out the weaker plants, so as to leave those that are to stand for a crop at 8 inches apart. Afford no water till the plants are in true leaf, and then at a not lower temperature than that of the pit. Syringe the plants on fine days except when in flower, at which time, and in cloudy, dull weather, a morning dewing over will suffice. If a proper place be not at command, the forcing of French Beans had better be postponed till mid-winter is past.

CAULIFLOWERS.—A watchful eye should be kept upon those plants now turning-in, breaking a few of the heart-leaves over the curd to prevent injury by frost and rain. Those having usable heads should be lifted with a ball of soil, and stood thickly together in a deep frame or some temporary kind of pit.

BROCCOLI.—Where these have been planted upon firm and not over-rich ground, and sufficient space allowed them, the plants will be sturdy and not so liable therefore to injury by frost; but if they are drawn, or coarse have a leaf-growth due to close planting, or a rich soil, heeling the plants over will be advisable. It is not so injurious as replanting them. Take out a spadeful of mould on the north side of each plant and press it over in that direction with as little disturbance of the roots as possible, placing the spadeful of soil on the south side, and making it firm with a tread of the foot.

MUSHROOM HOUSE.—More artificial warmth may be now required in this place, although if many beds are in various stages, the warmth they give off will be considerable, and consequently fire-heat needs to be cautiously used; a temperature of 60° should not be exceeded. Under 60° growth is slow, but when above this figure, the beds soon exhaust themselves, and the produce is thin and poor in quality. Collect material and make new beds; and should the warmth of a bed decline quickly after spawning, cover it over with fresh straw or litter, which will cause the temperature to rise somewhat, and thus save the crop.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

TERETE-LEAVED ORCHIDS.—In almost every general collection of Orchids, some of the following terete-leaved species are included. Many of them are beautiful, some singular, and by no means unattractive. Scuticaria Steelei requires an East India-house temperature, and should be suspended well up to the roof-glass in the lightest position. A less showy species is S. Hadwenii, but which nevertheless is well worthy of cultivation; it should be grown in the intermediate-house, and well exposed to the light at all times. Both plants may be either attached to flat blocks of Teak-wood, with a little sphagnum about the roots, or be placed in shallow baskets. The success in cultivating them depends more on the temperature and atmosphere of the house than on anything else. When in full growth they should be freely syringed, but during the resting season they will need to be dried, though it must not be carried so far as to cause the foliage to shrivel. Angræcum Scottianum is quite a little gem; it succeeds admirably when grown in a hot sunny corner of the East Indian division, and if well syringed overhead several times a day during active growth, it will thrive and bloom profusely. At this season a good watering both morning and afternoon will be sufficient. The best and most natural method by which to grow them is to train their slender stems, which are of semi-scandent habit, around Teak cylinders. It is very important to keep the stems upright, and to tie them firmly to the bars, so that the small roots immediately they commence to grow may have something substantial to cling to. When the plants have overgrown the length of the Teak bars, another cylinder should be screwed on to the top of the old one, thus avoiding any disturbance of the roots, which, if once detached from the material they are clinging to, rarely, if ever, make further progress. During the flowering period the syringing overhead must be discontinued, but the stems and roots may be kept moist by pouring water over them from a watering-can. The beautiful white-flowered Aërides vandarum requires similar treatment in all particulars, but to induce it to flower freely it should be well exposed to the sunlight during the autumn months. If, however, cultivators find any difficulty with this plant in the warm-house, they should remove it to the Mexican-house, where it may succeed better. There are also two Brassavolas, B. Perrinii and B. stricta, which have terete, pendulous leaves, and, like the preceding species, they do well in a high temperature, succeeding best on Teak rafts suspended near to the roof. During their period of rest they only require water at the root on bright sunny days; at other times the moist atmosphere in the house is sufficient to keep the pseudobulbs plump. Oncidium Sprucei, O. rotundifolium, and O. juncifolium have similar leaf characteristics, but are erect in their habit of growth. These do well in pots or small hanging pans, in peat and moss in equal proportions. During growth, copious supplies of water are necessary, but the most critical time is on its completion, when, if kept too wet or too dry, the leaves may spot or fall prematurely. Put them in the hottest house available. Of the terete-leaved section of Oncidium, O. Jonesianum is undoubtedly the most handsome, but unfortunately it is a plant difficult to preserve in a satisfactory condition. For a year or two it grows fairly well; even then, under the best cultural conditions, the leaves rarely attain the size of those imported, and after producing a strong inflorescence, they generally show signs of exhaustion. So far as my experience goes, attachment to blocks is the most suitable, and the temperature of the Cattleya or Mexican-house. Suspend the plants close to the glass, and where they may be but thinly shaded; afford abundance of water during growth, and when completed, fully expose to direct sunlight, and do not allow the leaves to shrivel. Those who possess plants of this species would do well not to allow the flower-spikes to remain on the plants for too long a time. Vanda teres and V. Hookeriana were treated upon in a former Calendar; and it is only necessary to caution inexperienced growers against over-resting the plants. Here they are never subjected to any severe drying, and under such treatment each stem produces strong spikes, with from four to nine flowers of large size and substance. Luisia Amesiana, L. volucris, L. zylanica, and L. Psyche are all very similar in habit of growth to Vanda teres, and, like that species, they require much light, and when growing, much water. Tetramicra bicolor, better known as Leptotes, a dwarf-growing species, with short terete leaves, may be grown on blocks of wood, with a little sphagnum about the roots, or in small shallow pans, with fibrous peat and broken potsherds intermixed; and they prefer a light airy position near the roof of the intermediate-house. Water should be afforded at all seasons whenever the compost has become dry.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

VINES.—The pruning of Vines may now be taken in hand as soon as they are relieved of their fruit and the leaves begin to fall, there being no necessity to wait till every leaf has fallen. There are different opinions as to the best kind of instrument for the work; with me for many years past the short pruning scissors (*sécateur*), 6 inches long, have taken the place of the pruning-knife. They are very strong, make clean cuts, and are handier than the knife. Many of us remember the old apprentice days, when one of us had to sharpen the knives, and the other hold the Vine-rod for the master to cut. Any Vines that were planted last spring, and which have not grown strong enough to be fruited, or that are not required to fruit next season, should, if they are intended for single rod Vines, be cut down as far as the bottom of the vinery rafter; and those for double rods should be cut back to a point 15 inches lower than this, so as to give space for training the shoots into the best position. It is better to carry out one uniform system for each house of Vines, either of single rods or double rods, as it looks neater, especially when a new range is planted. Extra Vines planted between the permanent ones for fruiting next season, if strong and well-ripened, should be cut down to about 9 feet, or to a good strong part of the cane, when it is strong enough to carry fruit; and young permanent Vines strong enough to be allowed to fruit next season should not be left too long for the first season, but should be cut back to about one-third the length of the rafter, for if left of greater length the lower part of the cane will perhaps break weakly, and the permanent spurs for future fruit-bearing not be satisfactory. Two-year-old Vines should be pruned well-in on the close spur system, leaving one bud close to the main stem; and the leader must be pruned back in proportion to its strength and fitness for bearing and forming spurs. As a remedy against bleeding after the pruning, use painter's knotting or styptic. The spur system is the best for young Vines for some years, but when signs of weakness or exhaustion from hard forcing or severe cropping are visible they can soon be brought round by allowing new rods to be taken up, the extension in this way causing new roots to push forth at the same time. Early forced Vines after a few years often require to be thus extended. Young rods on old Vines are very accommodating, they may be carried in any direction and yet ripen well. Old Vines should always be pruned as soon as possible at this season, affording them abundance of air afterwards; and the spurs should be thinned out to 12 or 15 inches apart, overcrowding in any form being carefully avoided. The bundle-of-rods system, about the worst that can be adopted, should be avoided; about 4 feet is the least distance at which each rod should stand apart, and then they obtain all the light and air that is required.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HARDY DECIDUOUS FLOWERING TREES AND SHRUBS.—Where alterations in or the making of shrubberies are contemplated, it will be necessary first of all to put the ground in good order for the various trees, shrubs, &c., by deep digging, manuring, and the incorporation of peat and loam, according to the needs of the various kinds of plants. Wet land should be drained with rubble drains, 3½ to 5 feet deep, draining into a dry well or other outlet. Such drains should not be more than 20 feet apart and ought to run in the direction of the fall of the land if it have any, or be made with an artificial fall to the main drain. When planting commences, that is, after the dug land has had time to settle somewhat, and is not sticky on the surface, each plant, after it is properly set in a hole and the roots spread out, should have these slightly covered with the soil, and then some manure; covering this with more soil, treading all moderately firm before quite filling-in the hole. The proximity of the manure to the roots causes them to tend upwards rather than downwards in search of nutriment, and progress is quickened thereby. Towards the end of this month, Lilacs, Viburnums, Philadelphus, Forsythias, Spiræas, Daphnes, Azalea mollis, A. pontica, Privets, &c., also those usually classed as trees, viz., Cerasus in variety, Prunus, Cratægus, Mespilus, and Acacias may be planted. In planting shrubs, allow them sufficient space to grow into characteristic specimens, and show themselves to the greatest advantage. When forming new beds of shrubs, the position which the permanent specimens will occupy should be indicated with stakes and labels, planting them first; the filling in with others being done for the sake of appearance. These latter in most cases will be subsequently cut out or transplanted as soon as the least crowding is apparent. It is seldom that this timely removal of superfluous plants is well done, and the resulting state of things leads to shifting and transplanting every year which are a great waste of money and effort, and often leading to the retention of the wrong shrubs. Shrubs which flower on the wood of the previous year should not be pruned now as a general rule, although shoots which are weak and presumably flowerless, and the weak shoots of the interior of the bush, may be cut out. Young shrubs which it is desired to render more bushy may have the strong shoots cut back, and the weak ones removed entirely. Spring and summer-flowering shrubs of this kind should receive their pruning when flowering is over. Those shrubs that flower on the young wood may be pruned at this season. No shrub which is to be or has been transplanted this year should be pruned.

FLOWER-BEDS AND BORDERS.—The recent frost experienced generally over the country (here we had 11° on Oct. 21) will have disfigured all tender bedding plants, and these should be cleared off the beds as quickly as possible. The tuberous-rooted Begonias should receive attention first, carefully removing the tubers according to the colours of the flowers, and labelling them forthwith—a matter that is soon effected. Do not clean the bulbs of all the soil that hangs to them, but leave a thin coating, letting this dry gradually in some airy shed or house for a time; then rub off the rough parts, and store them in boxes in sand, or place on shelves where they will be safe from frost and damp. Gladiolus will require similar treatment, but these will need to be well ripened up and cleaned, the bulbils being removed, storing them all away in paper bags till again required.

ECHEVERIAS AND SEMPERVIVUMS.—Store these plants in sand or dry soil. Nooks or odd corners may often be found for these, and if well exposed to the light, a slight frost will not injure E. secunda glauca. If places of this kind cannot be found for these plants, stack them in sand or soil in an almost upright position by the side of a warm wall, where the eaves will assist in sheltering them from the rain and snow, and a slight covering protect them from severe weather; the chief point being to keep the soil in which they are planted as dry as possible.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

TUESDAY, Nov. 6 — National Chrysanthemum, at the Royal Aquarium, Westminster (three days). Chrysanthemum Shows will also be opened at Brighton (two days), Leeds (two days), Croydon (two days), Watford (two days), and Devizes (two days).

WEDNESDAY, Nov. 7 — Chrysanthemum Shows at Bournemouth (two days), Wolverhampton (two days), Torquay (two days), Bath (two days), Hereford (two days), Ware, Doncaster (two days), Ascot (two days), and Newbury.

FRIDAY, Nov. 9 — Devon and Exeter Gardeners' Association Chrysanthemum. Hitchin Chrysanthemum and Horticultural.

SALES.

MONDAY, Nov. 5 — Dutch Bulbs, at Protheroe & Morris' Rooms. Roses and Hardy Plants and Bulbs, at Protheroe and Morris' Rooms.

TUESDAY, Nov. 6 — Important Annual Sale of an enormous quantity of Nursery Stock, at the Hale Farm Nurseries, Tottenham, by order of Mr. T. S. Ware, by Protheroe & Morris.

WEDNESDAY, Nov. 7 — Clearance Sale of Nursery Stock at Shortlands Nursery, Bromley, by order of Mr. J. B. Bryant, by Protheroe & Morris. Great Sale of Fruit Trees and General Nursery Stock, at the Hounslow Nurseries, Middlesex, by order of Messrs. S. Spooner & Sons, by Protheroe & Morris (three days). Enormous importation of 39 825 Japanese Lilies, also Araucaria excelsa, &c., at Protheroe & Morris' Rooms. Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Nov. 8 — Dutch Bulbs, at Protheroe & Morris' Rooms. Plants from Belgium, Roses, &c., at Protheroe & Morris' Rooms.

SATURDAY, Nov. 10 — Dutch Bulbs, at Protheroe and Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—44°.

The Wheat Crop and the Weather.

In addition to its direct importance to the agriculturalist, the following letter with which we have been favoured by Sir John Lawes is of very great interest to physiologists and gardeners. Wheat is an annual, and is less dependent on the character of the previous season than a perennial or a fruit tree would be. Possibly, however, the difference is not so great as might be imagined, for the proper maturation of the seed is, of course, every whit as important as that of storing of food in the bark, which gardeners include in the term ripening the wood. In any case, as the ripening is, in the case of Wheat, rounded off in a single season, the influence of the climatal variations on that ripening is clearly defined. Moreover, we have not only the seed to consider, but the vegetative organs, or straw. The extensive and varied experiments at Rothamsted, dating in continuous uniform sequence under identical conditions, except as to season, from 1844, are, therefore, of the highest possible value to cultivators and seed-growers :—

THE WHEAT CROP OF 1894.

To the Editor of the "Gardeners' Chronicle."

"The aggregate Wheat crop of the country in 1893 was the worst in point of quantity since 1879, and it was the worst in point of value in the present century. Our bad Wheat crops are generally grown in wet summers, and under such conditions a deficiency of grain is frequently more or less compensated by a large amount of straw. But the crop of 1893 was even more characterised by deficiency of straw than of grain. Whilst people generally were rejoicing in the magnificent season, which from the beginning of March was one of almost perpetual sunshine and drought, the unfortunate farmer was left not only with scarcely any hay-crop, but with hardly any straw for either food or litter for his stock; and the price of his grain fell to a lower level than it had ever reached before; indeed, of the many bad years which the farmer has recently had to face, 1893 may perhaps be considered as upon the whole the worst.

"It is fully recognised that the weather has a very important influence on our crops, but it is very seldom that we have two seasons in succession which show such remarkable distinctions in their influence on agricultural production. As the Rothamsted experimental Wheat-field is cultivated as nearly as possible in the same way every year, the seed is sown as nearly as possible at the same time, and the same manures are applied to the same plots year after year, the results afford a measurement of the influence of the weather of each year, which cannot be obtained under other conditions.

Harvest.	Unmanured. Plot 3.	Farmyard Manure. Plot 2.	Artificial Manures. Plot 7.	Plot 8.	Plot 9 (or 16).	Mean.	Mean of Plots 3 2, and 7, 8, 9 (or 16).
Bushels of Dressed Grain, per Acre.							
1894...	18	45½	48⅜	49	47	48⅛	37¼*
1893...	9¾	34¼	20¼	21¾	19½	20½	21½†
1854...	21	41⅛	45½	48½	38¾	44¼	35½‡
1863...	17¼	44	53¾	55⅜	55½	55	38¾§
1864...	16½	40	45¾	49⅞	51	48⅞	35⅛‖
Weight per Bushel of Dressed Grain in Pounds.							
1894	60⅓	61⅝	62⅝	61⅞	61⅜	62	61¼
1893	62¾	63⅜	62½	62⅜	62⅛	62⅜	62⅞
1854	60⅝	62½	61¾	61⅝	60¾	61⅜	61½
1863	62¾	63⅛	62½	62½	62⅛	62¾	62¾
1864	62	62½	63	63½	62⅝	63	62½
Total Straw, Chaff, &c., per Acre, in Cwts.							
1894	13¼	50½	53⅞	61¾	56⅜	58⅜	40¾
1893	5½	20⅛	11¾	13⅞	11½	12⅜	12⅝
1854	19⅛	29¾	49½	54¾	37	47⅛	35¼
1863	14¼	38¼	52⅜	59	56⅜	55⅞	36⅜
1864	12	34⅜	44⅜	49⅞	53½	49¼	32

* Equal to 38 bushels at 60 lb. per bushel.
† Equal to 22½ bushels at 60 lb. per bushel.
‡ Equal to 36⅜ bushels at 60 lb. per bushel.
§ Equal to 40½ bushels at 60 lb. per bushel.
‖ Equal to 36⅝ bushels at 60 lb. per bushel.

Comparing first the produce of 1894 with that of 1893, it is seen that the unmanured plot gives very nearly twice as much grain in 1894 as in 1893, namely 18 bushels per acre, against only 9¾ bushels in 1893. The farmyard manure plot has given 45½ bushels this year against only 34¼ in 1893. It is worthy of remark that, contrary to what is usually the case, the farmyard manure crop was laid earlier, and more completely, than that of any of the other plots. The farmyard manure gives, as a rule, more even produce, and is less influenced by good or bad seasons than the artificial manures. This was especially noticeable in 1863, which was the year of the highest produce of grain yet obtained in the experimental field, and of the highest produce of straw, excepting that of the present year, 1894. In 1863 the farmyard manure plot gave 44 bushels, whilst the three artificially-manured plots gave, respectively, 53¾, 55¾, and 55½ bushels. In 1893, the same three artificially-manured plots gave only 20¼, 21¾, and 19½ bushels, whilst this year they have given considerably more than twice as much, namely, 48⅜, 49, and 47 bushels.

Although the yield of grain per acre was thus, under all conditions of manuring, unusually high in 1894, and unusually low in 1893, the quality of the grain, as shown by weight per bushel was, owing to the bad ripening weather, considerably the lower in 1894. Still, it considerably exceeded the standard weight of 60 lb. per bushel.

It is, however, in the difference in the quantity of straw produced in 1893 and 1894, that the distinction between the growth of the two seasons is most clearly shown. Thus, in 1893, the three artificially-manured plots gave, respectively, 11¾, 13⅞, and 11½ cwt. of straw per acre; whilst in 1894 they gave 53⅞, 64¾, and 56⅜ cwt. per acre—that is on the average not much less than five times as much in 1894 as in the immediately preceding year.

Referring to the characters of the season of 1894, in which such extraordinary crops have been grown, it may be stated that September (1893) was very dry and rather cold, October very wet and warm, and November fairly dry; whilst in December there was about an average fall of rain, with considerably above the average temperature. The first week in January (1894) was very cold, showing, over a large area of the country, 10° to 12° of frost; the remainder of the month was, however, warm, the third week being unusually so, with an average rainfall. February was, upon the whole, very warm, and drier than average. The greater part of both March and April was also unusually warm, with only moderate rainfall. May and June were, however, both cold months, with upon the whole a considerable amount of rain. The beginning of July was warmer than average, with but little rain; the rest of the month was cold, with more or less rain almost every day, making in all, however, even rather less than an average for the month—though from its continuity damaging the crop considerably. In August, again, there was more or less rain almost every day, with occasional rather heavy falls, giving, in some localities, an excess for the month; but fortunately the temperature was generally below average, or there would probably have been more damage than there was from sprouting.

Thus, the winter and early spring were, upon the whole, favourable for luxuriance, and the summer favourable for continued vegetation, but not for ripening. It is, however, difficult to account for the great bulk of Wheat and other crops without taking into consideration the remarkable characters and results of the previous season. Owing to the drought and high temperatures of 1893, much of the otherwise available fertility of our soils was locked up and useless for the crops of that year. The results in the experimental wheat field afford an interesting illustration on this point. Not only were some of the spring-sown manures observed on the surface of the ground at harvest, but the drainage-waters collected from the various plots after the harvest of 1893 and before the sowing of the greater part of the artificial nitrogenous manures early in 1894, were considerabiy richer in nitrates than usual at that period; and it was doubtless in great part owing to the large amount of nitrates in the soil that the Wheat plots showed unusually luxuriant winter growth. It is of course impossible to say how much the crops of the country generally have this year benefited by such accumulations of unused fertility; but it is reasonable to suppose that they have done so to a greater or lesser extent, as hay, grain crops, Beans, and even roots, have all shown very good growth.

Unfortunately, however, the Wheat lacked the golden hue which indicates fine condition, the result of



The Flower Garden, Blickling Hall, Norfolk.

favourable ripening and harvest weather; and there can be no doubt that a large proportion of the crops of the country has suffered more or less from bad maturing and harvesting. It was in the southern and earlier districts of England that the crops suffered the most; whilst in the later districts the harvest weather was less unfavourable. The cutting of the Rothamsted experimental Wheat was commenced on August 8; but the crop was not completely carried until August 29.

Comparing the produce of 1894 with that of each of the three years of highest produce previously obtained, the figures show that in 1894 the yield of grain by farmyard manure was higher than in either 1863, 1854, or 1864. The average yield per acre of grain on the three artificially-manured plots, though less in 1894 than in 1863, was nearly as high as in 1864, and considerably higher than in 1854. The produce of straw by farmyard manure was very much higher in 1894 than in either of the other three years of high productiveness; whilst the mean of the three artificially-manured plots indicated more straw in 1894 than in 1863, and considerably more than in either 1854 or 1864. The produce of 1894 showed, however, on the average of all the selected plots, a rather lower weight per bushel than that of 1854, and considerably lower than that of 1863 or 1864. The selected experimental plots have in fact this year indicated nearly as high an average produce of grain per acre as in 1863, the year of the highest yield of the 51 of the continuance of the experiments; and more than in either 1854 or 1864, the second and third in order of high productiveness. This year has also given an average of considerably more straw than ever before; and though not a high weight per bushel, a considerably higher one than the official standard average of 60 lb.

It has abundantly been proved that, not only on the average of years, but in a very great majority of the individual seasons, from 1852 up to the present time, the calculated average produce of the selected plots in the experimental Wheat field, has very closely indicated the average yield per acre of the United Kingdom at large. In a few exceptional seasons, however, especially when from local damage or other causes there has been more than usual irregularity in the crop in different parts of the country, and also when, a few years ago, first one half and then the other half of the experimental plots had to be left fallow for the purpose of cleaning, some modification of the direct indications of the selected plots has had to be adopted. The present season, 1894, must certainly be considered one of unusually variable and exceptional character over the different districts of the Wheat-growing area of the country; and, accordingly, judgment must again be exercised in forming an estimate of its average yield. The average produce of the selected plots shows 38 bushels per acre at 60 lb. per bushel. Having regard to the reports of the progress and condition of the crop in different localities, it is out of the question to assume so high an average yield as 38 bushels over the country at large; and after careful consideration, I am disposed to adopt as probable an average of 33 bushels per acre, at 60 lb. per bushel; though I should not be much surprised if it should turn out to be even higher than this.

The average population for the harvest-year ending August 31, 1895, is estimated at a little over 39 millions (39,001,405). Taking the consumption to be 6 bushels per head (at 60 lb. per bushel), the amount of Wheat and flour reckoned as Wheat, that will be required to feed the population is almost exactly 29¼ million quarters (29,251,054). The area under wheat in the United Kingdom was rather less than 2 million acres (1,977,304). This area, at 33 bushels per acre, would yield a home crop of rather more than 8 million quarters (8,156,379); and deducting from this 2 bushels per acre required for seed, equal 494,326 quarters, there remain about 7⅔ million quarters (7,662,053) for home consumption. The estimated requirement from stocks and imports would thus be more than 21½ million quarters (21,589,001). If, however, as will probably be the case with such extremely low prices prevailing, a larger amount of Wheat than usual should be given to stock, the requirement from other sources than the home crop will be so much the greater. Not only, however, is there this year more than usual uncertainty in the estimate of the yield of the home crop, but the fluctuation in the stocks of foreign grain in warehouse in the United Kingdom has to be taken into account. According to Dornbusch's estimate, the stocks in warehouse at the commencement of the harvest-year were about 1 million quarters less than at the same period in 1893. Upon the whole, the evidence points to the conclusion that probably more than 22 million quarters will be required to be provided from stocks and imports within the current harvest-year. *J. B. Lawes, Rothamsted, October* 23, 1894."

Royal Botanic Society of London.—At a meeting of the Council of this society last Saturday, the subject of opening the gardens to the public was considered, but, seeing that all students have free admission, as well as all persons seeking information relative to the many vegetable products in connection with the Arts, Sciences, and Manufactures, that others can obtain admission by tickets from Fellows of the Society, and bearing in mind the weight of the high rent, rates, and taxes, the council regretted they could not afford general admission to the public, but that the experiment would be made on one day next season, probably Whit-Monday.

National Chrysanthemum Society.—A meeting of the General Committee was held at Anderton's Hotel, Fleet Street, on the 29th ult., Mr. R. Ballantine in the chair. There being a large attendance, some further amendments to the rules were considered and adopted, the same to be submitted for adoption at the annual general meeting in February next. It was stated by the Secretary that the President of the Society, Sir Edwin Saunders, would preside at the annual dinner of the Society on November 29 next. A resolution was unanimously passed instructing the Secretary to invite to the judges' luncheon on November 6 the whole of the members of the Floral Committee, in consideration of the services rendered to the Society by them as members of that body. A sub-committee of twelve persons, together with the officers *ex officio*, was appointed to revise the schedule of prizes for 1895. Twenty-two members, including two Fellows, were elected, and the People's Palace Horticultural Society was admitted to affiliation. The Secretary reported, that with the addition of the members elected that evening, there had been added to the roll of membership during the present year 101 ordinary members and nine Fellows, together with sixteen affiliated societies. A vote of thanks to the Chairman brought the proceedings to a close.

The Royal Gardeners' Orphan Fund.—A meeting of the committee was held at the Hotel Windsor on the 26th ult., Mr. W. Marshall in the chair, the attendance being small owing to the wet evening. The Hon. Secretary announced the following special amounts as received during the recess: J. Bertram, Esq., as a thank-offering on his restoration to health, £5 5*s.*; Wakefield Paxton Society, £10; The Sandringham Estate Cottage Garden Society, £5; J. Slater, Esq., £5 5*s.*; Beddington Flower Show, per Mr. G. W. Cummings, £2 7*s.* 6*d.*; The *Gardeners' Chronicle*, in small sums, £2 4*s.* [contributed by correspondents who availed themselves of our services in naming fruits, flowers, &c.]; J. Selway, Esq., Dover, £4 10*s.*; Mr. J. Miles, Southampton, box, £3; Mr. W. Miller, Underley Hall, box, £1 17*s.* 6*d.*; The Bradford Gardeners' Mutual Improvement Society, £1 16*s.*; Mr. T. Turton, Maiden Erlegh, Reading, £1; Mr. W. Farr, Isleworth, box, £1 2*s.* 8*d.*; Mr. C. Sutton, Chevening, box, 11*s.*; Mr. E. T. Hazelton, Brocklesbury Park, box, 9*s.* 6*d.*; Mr. Richard Dean, sale of flowers at the Royal Aquarium, 12*s.*; Mr. W. G. Head, Crystal Palace, Sydenham, box, 8*s.* 7½*d.*; Crystal Palace employés, £1 19*s.* 2*d.* The Hon. Sec. presented a cash statement to date which was of a highly satisfactory character, and a resolution was passed authorising the investing in consols of a further sum of £500. The case of one of the children of the Fund whose mother has married since the date of the election came up for consideration, and the committee decided that the child was no longer eligible (according to Rule 13), the circumstances of the mother having so altered as to render further assistance unnecessary. The Committee decided that there should be an election at the annual meeting to be held in February next, and that applications on behalf of candidates must be sent in to the Secretary not later than December 11. The Chairman announced that Mr. Harry J. Veitch had kindly consented to preside at the next annual summer festival of the Fund.

Physalis Francheti.—Our description of this fine new species of Bladder Cherry (see p. 434), hardly did justice to its splendid colour. The calyx of the flower is at first green, but as the calyx rapidly expands to an even larger size than the examples shown in our illustration at fig. 57, the colour changes to pure sulphur-yellow. This quickly changes to bright yellow, then orange, and at length to a brilliant orange-scarlet. The long peduncle changes in a like manner from green through sulphur, to scarlet, and as maturity is reached, the ovary is also bright scarlet. The harmonies of colour, pale and dark green, sulphur, ochre, orange, and scarlet, are most striking. We hear the plant is not an annual, as we had supposed, but has a perennial rhizome.

Parish Councils.—It is most sincerely to be hoped, but hardly to be expected, that party politics will not be permitted to influence either the election or the doings of these bodies. Many gardeners will be eligible as voters or even as members of the Council, and there are many questions in village economy where their special knowledge would be most useful. A "Parish Meeting" will be held in every village in the course of December next, and the principal business of this meeting will be to elect a "Parish Council." Rate-payers and those entitled to vote at parliamentary (or County Council) elections can also vote at the parish meeting. They can vote for whomsoever they please, provided the person for whom they vote has lived in the village, or within three miles of it, during the last twelve months. The Parish Council, so elected, will have the management of the affairs of the parish, and of all charities that are not specially connected with some church or chapel. These latter will still be under the management of the authorities of the particular church or chapel to which they belong. The Council will have the power of procuring allotments at a reasonable rate. A leaflet explanatory of the principal provisions of the Act may be had from the Kentish District Times Co., Ltd., Bromley, Kent. For those who require fuller information, Mr. G. F. Chambers' *Popular Summary of the Law relating to Parish Councils and Meetings* may be recommended. It is published by Stevens & Sons, 119, Chancery Lane.

Bournemouth Gardeners' Association.—It is stated in the *Bournemouth Observer*, that Mr. D. T. Fish gave his second and concluding lecture on "The Diseases of Fruit Trees," at the Tregonwell Assembly Rooms, on Tuesday, October 18. The president (Dr. Hitchcock) again occupied the chair, and there was a large attendance. The lecturer, in his opening remarks, called attention to the various exhibits of fruit and flowers, consisting of a collection of Apples, Strawberries in pots, and a basket of ripe fruit grown in the open air, by Mr. J. Kettlee. A large basket of Celosias by Mr. Stevenson, seedling Nerines by Mr. H. Elliott, and examples of healthy young fruit trees by Mr. Kettlee, added much to the interest of the meeting. Mr. Fish, in proceeding to speak on special preventatives of disease, gave numerous remedies and dressings to be applied, and concluded with some remarks on various insect pests which prove so destructive to fruit trees. The lecture was illustrated by coloured drawings and diagrams,

and was very attentively listened to throughout. A hearty vote of thanks was accorded Mr. Fish for his instructive lecture, also to the chairman for his continued interest and support.

The Peebles Leek Show, Etc.—The Leek forms a common object of exhibition in northern parts of the country, amateurs and gardeners going far and wide with their produce. At Peebles recently, a show was held by the Leek Club at the Chambers Institution, and Leeks were shown by Mr. A. Dickson, Glenormiston, the six roots weighing 17 lb. 7 oz., as against 16 lb. 14 oz., the weight of the heaviest last year. The best blanched six Leeks were shown by Mr. McIntyre, The Glen Gardens. Besides these homely vegetables, in th. cultivation of which much skill is required, and special manures are employed (we believe sulphate of potassium), there was a very excellent exhibition of seasonable vegetables, special prizes for excellence being awarded. A Cabbage, variety not stated, of a weight of 21 lb. 10 oz., was shown by Mr. W. Davidson, Cringletie. Last year the heaviest was 22 lb. 10 oz. Evidently Peebles is strong in vegetable cultivators, for at the recent meeting of the horticultural association of that town, Mr. Jas. McNiell, of Priorsford, gave a paper on the Kitchen Garden, which was very favourably criticised by the audience. A lecture will be given at the next meeting by Mr. Mungo Temple gardener at Carron House, Falkirk, entitled "Failure in Vine-growing, and its Causes."

Lecture on Allotments and Cottage Gardens at Beccles.—On Wednesday evening, October 24, Mr. J. Batters, gardener to J. G. Kenyon, Esq., Gillingham Hall, Beccles, gave a lecture on the above subject at the Rectory-room. The lecture was held under the East Suffolk County Council, and in connection with the Cottage Allotment Show, which the committee of the Beccles and District Chrysanthemum Society have arranged to hold in the Town Hall on Wednesday. The Vice-President of the Society, Mr. E. Masters, C.C., presided, and introduced the subject of the evening in a few well-chosen remarks. Mr. J. Batters then described a lengthy list of vegetables and their culture, illustrating his remarks with some excellent specimens of his own growing.

Bulb Growing.—At a recent (October) meeting of the Kyrle Society, M. Robert Sydenham read a paper on "Bulbs and their Cultivation," in which he spoke of the various methods of growth, propagation, and culture of bulbs. The lecture was interspersed with various illustrative examples.

Birmingham and District Amateur Gardeners' Association.—At the meeting of the above, held on Wednesday, October 3, at their rooms, 116, Colmore Row, the Secretary (Mr. W. B. Griffin) read a paper, prepared by Mr. F. Nash, of Bath, on "Lilies and Irises." Mr. Nash dealt with the growth of these plants in a very thorough and able manner, specifying the position, soil, and general treatment which each required. Mr. Nash also gave a select list of species and varieties, their height, colour, &c. A vote of thanks was passed to Mr. Nash for his paper.

Chrysanthemums.— A third edition of *Les Chrysanthèmes*, by MM. Bellair and Berat, and published by O. Doin, Paris, is before us. It is a small treatise, very clearly written, and highly to be recommended to those who read French with facility.

"Annals of Horticulture for 1893."—This is intended as a "Witness of passing events and a record of progress" in horticulture in North America during the year 1893. It includes a history of the World's Fair at Chicago, where Prof. Bailey spent nearly four months for the express purpose of compiling this account. Although, of course, mainly concerned with the horticultural interests of the United States, there is much that renders the little volume of service to horticulturists on this side of the Atlantic. So convenient a work of reference will be very serviceable in our horticultural libraries. Among other things we note a legal decision of the United States Supreme Court that a Tomato is a "vegetable." The account of the Horticultural Exhibition at the World's Fair will be useful as a record, and it is some satisfaction to find that there are at least some things—such as judging at flower shows, which are better done by effete Britishers than by progressive Americans. Among curiosities of classification, such as must always occur in such gigantic enterprises, we find the exhibits of wine included under horticulture, those of whisky under agriculture, and cider under both. The book is edited by Prof. L. H. Bailey, of Cornell University, Ithaca, New York, whose competence has to be spoken of in the superlative, and is published by the Orange Judd Company of New York. It may be procured from Williams & Norgate.

Newcastle-on-Tyne Chrysanthemum Show.—The executive of the Newcastle-on-Tyne Horticultural Society are determined not to be behindhand in relation to the Chrysanthemum. The first show will be held under the auspices of this old-established Society on November 21 and 22, in the Olympia, Northumberland Road, Newcastle-on-Tyne. Exhibitors will do well to write to the Secretary, Mr. Jas. J. Gillespie, Jun., Cross House Chambers, Westgate Road, Newcastle, for schedules and fuller information. Taking into consideration the popularity and success of both the spring and summer shows, this new departure should prove so encouraging to the committee as to make it an annual affair. The schedule is a comprehensive one.

"American Gardening."—Our contemporary, *American Gardening*, is now under the editorship of Mr. Leonard Barron, whose practical experience in various departments of horticultural work render him well fitted for the post. We wish the paper and our late coadjutor all prosperity in this, their new connection.

Somerset County Education Committee.—Mr. F. Nash, manager to Messrs. George Cooling & Sons, nurserymen, Bath, has been engaged to deliver a course of six lectures on "Cottage Gardens and Allotments," at Hinton Charterhouse. The course began on Wednesday, October 31, with a lecture on "Hardy Fruits."

The Kew Index.—The third part of this colossal work has just been issued. It includes the names of plants from Ka to Ps, so that it is now within a measurable distance of completion. It is impossible to over-estimate its value to students and to those who have to refer to the names of plants. We have already spoken of the nature and scope of the work, so that it is now only necessary to congratulate the compilers on its steady progress, and to repeat our expressions of gratitude to them for this invaluable boon. It is published by the Clarendon Press, Amen Corner, E.C.

Book Notice.

The Wild Garden.

The fourth edition of Mr. Robinson's well-known book (published by Murray) requires but little introduction to readers who remember the publication of the first edition twenty years ago. Others less familiar with the work should note that the somewhat misleading title, *The Wild Garden*, has no reference to British wild flowers grown on cultivated land; but rather refers, to quote the author's own words, to "placing plants of other countries, as hardy as our hardiest wild flowers, in places where they will flourish without further care or cost." It may be added that these foreigners are to be encouraged to dwell in the natural or "wild" manner in which they appear to most advantage; not formally arranged, clipped, or in any way forced.

The one chapter in the book on "The Garden of British Wild Flowers" does, however, treat of the beauty of certain native species, and their suitability for cultivation. Too frequently, we agree with Mr. Robinson, are many of our British plants overlooked and excluded from gardens where they might well be used in addition to, or in the place of, the costly exotics preferred by many modern gardeners.

In concluding the notice of this book, attention should be drawn to the woodcuts which illustrate it, and show many a pretty picture of plants growing amid appropriate surroundings—not trimmed and trained to suit the florist's convenience.

CHRYSANTHEMUM, HAIRY WONDER.

This is the best of the hirsute section yet sent out, and is one of the most curiously distinct of Chrysanthemums. As will be seen from the illustration (fig. 71), the flowers are of large size and capital substance, whilst each floret is studded singularly with numbers of hairy appendages. The colour of the flower is buff, with an apricot centre. Our engraving was from a flower shown by Mr. H. J. Jones before the Royal Horticultural Society at the last meeting, when it received an Award of Merit. On the succeeding day, the National Society awarded it a First-class Certificate.

CHRYSANTHEMUMS ABOUT LONDON.

(Continued from p. 502.)

Chrysanthemums at the Royal Horticultural Gardens, Chiswick. — The collection of these, placed in the Fig-house and in the Paxton-house, is now in a fairly good condition, and the plants are mostly such as might be well grown for decorative purposes. Amongst early and semi-early Japanese varieties recently noted may be mentioned Roi des Précoces, perhaps the finest of all kinds for decorative use, flowers rich bright crimson, wonderfully free and effective; O. J. Quintus, pink-mauve, also very free; the best of its colour is William Holmes, large flower, rich crimson, with golden reverse; Alexander Dufour, rosy purple, fine bushy habit, free and good. Other good Japanese sorts observed are Mr. John Laing, dark crimson-red, shaded velvety-brown, speckled gold; Eynsford White, large, florets semi-drooping, somewhat in style of Avalanche; Lady Selborne is also a good white, and valuable on account of its being very early; the old, but still good and useful, Elaine, is quite worth a notice; Source d'Or, bright orange, shaded gold; Stanstead White, very large, white petals semi-incurved; Viviand Morel, large flower, long drooping florets, blush-mauve on a white ground; a charming and attractive flower is W. Tricker, delicate rose, Amongst good incurved flowers we noted Golden George Glenny—this is a sport from Mr. George Glenny—a type of small but most beautifully formed flowers, a fine flower for decorative purposes, grown without stopping or disbudding; Golden Beverley, Golden Canary—a sport from the latter is Mr. Bunn, but a deeper colour and finer flower; Mrs. George Rundle, pure white, small, but of fine form. *J. B.*

Mr. W. Seward, Hanwell.

This raiser of varieties has a very promising batch of Seedlings this season, few of which will be brought out this year, some of the plants only bearing one flower, and others are very late. Doing exceedingly well are the following Japanese varieties: William Seward (Seward), a very fine deep rich blackish-crimson, florets long and of firm texture; J. Shrimpton (Seward), will probably prove to be one of the finest dark Chrysanthemums grown, colour brilliant crimson-scarlet, bright golden reverse, just showing as the florets expand; Charles Davis is a golden sport from the popular Viviand Morel, canary-yellow, tinted rosy-bronze; Viviand Morel is lighter in colour than usual. Colonel W. B. Smith looks like making some good high-built flowers, rich golden-bronze, petals very broad and long. The good and

well-known varieties, Avalanche and Sunflower, look well; Eda Prass, a large variety, with stout broad petals of a silvery-pink colour, is looking remarkably well; Robert Owen, one of the best of the incurved Japanese, will not be at its best for another fortnight; Mrs. W. Seward is a very promising white. *J. B.*

a deal of time in order that the florets may be removed as soon as they have changed colour. Latterly, Mr. Stevens has grown Chrysanthemums largely for decorative purposes and for the supply of cut blooms, and may be a larger number of plants have been grown than there is proper room for, at any rate it is intended next season to grow a very much reduced

certain varieties are very much better and prettier cultivated in sprays, and these are cut and sold in this manner, most of the blooms being required to supply the two florists' shop belonging to Mr. Stevens in the High Street, Putney.

Sunflower is always grown largely, and is considered one of the finest yellows for the florist. It



FIG. 71.—CHRYSANTHEMUM HAIRY WONDER. (SEE P. 538.)

MR. GEO. STEVENS, PUTNEY.

St. John's Nursery, Putney, is situate so close to the river, that in a dull damp season, when Chrysanthemum growers experience annoyance through the damping of blooms, Mr. Stevens' collection suffers considerably, and the present season is such an one, care being necessary generally in more or less degree to prevent loss from damping. Here the injury is most marked, and some plants have all their blooms quite spoiled from this cause, and others affected in less degree require number in the same space, and under similar conditions with a view to prevent damping as much as possible. Many other growers need to make and carry out a similar resolution. Growing the plants for the supply of cut blooms, Mr. Stevens has in company with many of the newest varieties in commerce, a good number of plants of each of those kinds especially valuable for that purpose, and in speaking of cut blooms we mean the best sample of such, for at this place most of the varieties are thinned and large blooms are obtained; but on the other hand

usually does very well here, and seldom damps. A companion to Sunflower is W. H. Lincoln, also in good quantity and specially suitable for this work. A house almost full of Elaine is evidence that this fine old variety is not yet without value; and Elsie, a very pretty pale straw-coloured Japanese, is a real gem for florists' work, but it should never be thinned—grown in sprays as it is here, it is most beautiful. William Seward was present in many instances, and John Shrimpton, too, doing well, and this fine-coloured flower stands

the damp much better than the first named. Etoile de Lyon had good blooms, and Baron Hirsch was very numerous and good, as also Florence Davis, a rose-coloured sport from Empress of India, which may make a valuable incurved, but it does not appear strong enough this season to finish very large blooms. It will be worth trying again however. E. Molyneux is a good thing for the florist, and in its way is yet unbeaten; Richard Dean in close proximity to it, but has not yet proved to be equal. One of the best for the market, in Mr. Stevens' opinion, is the old Roi des Précocés, a small scarlet flower with yellow reverse; it is a neat little Japanese. Several blooms remained of Preſét Robert, the Japanese incurved, flower amaranth, with silver reverse, certificated at the last meeting of the Royal Horticultural Society.

One wonders that the Pompon section and the single-flowered varieties are not cultivated more for florists' work.

Mr. Norman Davis, Camberwell.

At the Lilford Road Nurseries, we found Mr. Davis personally busy among his Chrysanthemums; but he was not very flattering in his opinion of the weather during the season, or of its behaviour at the present. All the houses are well filled with plants, and many of them, to all appearance, are not likely to bloom before Christmas, although, of course, a good number are already in flower. No attempt has been made to mass the plants in flower into one house to cause a display, and we understand that Mr. Davis does not intend to exhibit during the present season. There are plenty of good plants though, and many new sorts, so that an inspection of the collection is very far from uninteresting. Immediately on entering the house some capital plants of Charles Davis cause a display, and a remark from us anent the popularity of this sport, is followed by one from Mr. Davies, to the effect that it had gone to all parts of the world where Chrysanthemums are specially cultivated. So far, its colour is not quite up to the mark this year, but the later blooms may be better. Here we found several plants of the splendid acquisition Louise, bearing such large flowers of delicate flesh colour, and combined with a habit which may be described as perfect. Mr. Davis says it is good on any bud, and it is always remarkably dwarf. The full-flowered Japanese Mrs. E. G. Hill, was next noticed, and an American variety called Rosstrevor, another deep-flowered Japanese, in the way of Coronet, but narrower petals; the colour is orange fading to a shade of yellow. After noting some plants of William Seward, and of the yellow sport from Lady Selborne, a splendid decorative variety, an American variety called William Bolia, was attractive. Its florets are light amaranth with silver reverse, and are twisted. Mr. Davis remarked a curious circumstance that in so late a season as the present, Mrs. F. Jameson usually opening late was already in bloom. Florence Davis has done as well as any variety this season, and John Shrimpton may be spoken of similarly; both of these will be exhibited well. The new President Borel had carried fine large blooms, but they were nearly past. Mrs. E. S. Trafford is the name given to a sport from William Tricker. This rosy-bronze variety is in all respects save colour, similar to the type, and is valuable. Souvenir de la Petite Ami is an exceedingly pure white Japanese flower, and Mr. Davis says he prefers to consider it a first-clase decorative variety, suitable for half specimens rather than a subject for producing show-blooms. Commandant Blusset (Calvat) is a good flower of crimson amaranth with white reverse, and Vice-President Calvat, an extremely strong grower, has large crimson flowers with bronze reverse. It is capital when the flower is quite finished. The above are a few of the interesting varieties only at Camberwell.

Mr. W. Wells, Earlswood.

At the Earlswood Nurseries, near Redhill, Surrey, will be found a fine collection of well-grown plants, thoroughly representative of the new and first-class varieties, particularly in the Japanese section. In regard to culture, the success obtained is very superior to anything we have before observed here. The plants have been much better grown; the character of the wood and the persistency and texture of the foliage sufficiency demonstrate this, even apart from the flowers, which however, are very good, and many of the Japanese flowers will make a good stand on the exhibition tables, for it is Mr. Wells' intention to exhibit a little during the season that is now commenced. Until this season Mr. Wells has done as many other growers do—he has had too many plants in a given area. It will only be appropriate if we mention first the variety that Mr. Wells considers to be the novelty of the year, which at present has been seen only by a few growers, though it was shown before the last meeting of the Royal Horticultural Society. Ethel Amsden is the name of this new comer, which is no seedling but a sport from Viviand Morel. The flowers are quite green, and even when fully expanded there is but little of anything else to be seen; the shade becomes a little lighter perhaps, but not greatly. Whether it will be liked and grown permanently by many, we are not prepared to say, but there is little doubt that as a novelty it will have a very large run, and it is likely to be grown largely for the florists and for market. A very similar variety was figured lately in one of the Japanese horticultural publications. When we see people in town with green Carnations artificially dyed as button-holes, there appears to be some likelihood that a naturally-green Chrysanthemum will be popular for that and similar purposes. Mr. Wells has a small span-roofed house full of it, and we saw thousands of flowers upon these plants, most of which blooms have been already sold to a London florist at 6*s.* a dozen. In habit it is apparently similar to the type, and we think it is most likely to be appreciated when grown with little or no thinning rather than as plants to produce large flowers. Pea-green is the nearest description of the shade we can give, though possibly it is a little lighter. M. B. Spaulding, a new American-Japanese, was noticed as a very large flower with long irregular lemon-yellow-coloured florets; it is a very strong grower. Autumn Tints, another new one, looks likely to be a moderately-sized flower, but the splashed florets are pretty. Mrs. Jeremiah Coleman, sent out from here last season, is a white Japanese, shaded with violet, and is not quite so large this year. W. G. Newett is very fine here, and will be useful as a good white Japanese flower with a pale lemon centre. A good incurved Japanese is Miss Dorothy Frankland, a seedling from W. H. Lincoln. It is deeper than Lincoln, the florets are forked, and the plant is about 6 feet high; it has been certificated by the Royal Horticultural and the National Societies. Frank Wells is a Japanese flower, much similar in form to Mdlle. Thérèse Rey, but in colour is violet-rose, with pale rose reverse. Souvenir de la Petite Ami (Calvat) is evidently going to make a grand white Japanese. The blooms are capital, on very dwarf plants even; it is easier to do than Avalanche, and will probably be preferred. Cecil Rey, sent out by Beckett last season, is a good yellow Japanese, with good long florets, and a nice habit. Some wonderfully good buds are bursting of Beauty of Castlewood (Spaulding), sent out a year or two since; the florets are an inch in width. There will be one very good bloom of Alpheus Hardy, a pretty variety, but most growers are obliged to give it up. President Borel, and Duke of York, both capital varieties, are seen in good form here. Mrs. M. Simpkin, though not good enough for an incurved, as described when imported, is, nevertheless, a pretty incurved Japanese bloom. The great salmon rose-coloured Japanese from America, called International, is noticed here, but they are not quite finished. American Flag will be liked as a novelty. The florets are white, striped with darkish crimson; the flower will be large when finished. Robert Owen is, without doubt, one of the finest Japanese incurved ever sent out. Its bright golden bronze flowers are doing very well here, and it is but little trouble; the variety is now well known. Flossie is the name of a pretty white decorative Chrysanthemum, grown here in quantity for very late blooms; the florets are tubular, and at the apex are notched, the blooms resembling—when grown without thinning—small pieces of wool. Baron Hirsch, and many of the incurved, are well done, but the flowers are late. Pompons and singles are also well represented, the stock of the latter being uncommonly large.

Ambleside, Wimbledon Park.

This is a small suburban residence in the south-western district, and close to Southfields Station. Mrs. Barclay may be congratulated upon possessing a very nice collection of about 400 well-grown plants, which include many of the choicer and newer varieties. The show they create is vastly superior to that met in many gardens with much greater pretensions. Mr. French, the gardener, takes much interest in Chrysanthemums, and usually exhibits more or less at the local shows. The most of the plants have been neatly arranged in a conservatory which adjoins the sitting-room, and here they make a very charming display. The wall opposite being finely clothed with Ferns planted in pockets, a pretty effect is produced. It says something for the autumn flower that such a collection can be well grown with but little labour. It will be seen from the following varieties that the collection is well up to date. W. Tricker, Viviand Morel, and Chas. Davis had done capitally, and the new Rose Wynne, a large white variety with good florets, was conspicuous. Florence Davis also had succeeded well, as had G. W. Childs, and G. C. Schwabe. Edwin Beckett is a fine yellow Japanese, and is thought to be richer than Sunflower. Gloire du Rocher has obtained a good colour, and Jno. Shrimpton, Wm. Seward, Louis Bœhmer, Alberic Linden, and Primrose League, were remarked. Frank Wells was pretty good, and Moonlight had four flowers which promised to be good when finished. The pretty fleshy-pink coloured Mr. E. G. Whittle, and Silver Cloud were good. Niveum, J. Haggett, and President W. R. Smith are all new, and of good merit. The plants of the collection generally are dwarf, and have retained their foliage to a large extent.

(To be continued.)

Home Correspondence.

THE LEAVES OF PLEIONE LAGENARIA.—It may interest some of your readers, particularly those who are, like myself, beginners in Orchid culture, to note that there is a curious unanimity in Orchid manuals in erroneously describing P. lagenaria as having a solitary leaf. I will instance four works: Nicholson's *Dictionary*, Comte du Buysson's *L'Orchidophile*, D. Bois' *Les Orchidées*, and Williams' *Manual*. Veitch's *Manual* leaves the matter open. These books mystified me completely last year, and it was only by taking flowers to Kew the other day, where they were at once identified, and plants shown to me, that I was made sure of what I had grown. At Kew, as with me, P. lagenaria pseudobulbs are surmounted by two leaves, even my smaller bulbs, hardly strong enough to flower. I have about three dozen bulbs, so speak from personal observation. *Tar.*

THE BLACK CURRANT-MITE.—Whilst fruit-growers must never lightly treat information of an entomological kind, so far as affecting fruit pests, yet it is well to regard what is often stated with some coolness and even scepticism. There are insects which we know only too well, and which no care in culture can keep away. Aphis will appear under any conditions, but then we know aphis and how to deal with it. Caterpillars, maggots, &c., we know, and how to check their depredations also. But the Black Currant-mite is so little known comparatively, that it needs much searching for to find. I I have never seen it or its effects on Currant-buds. [!!] There are myriads of gardeners in like case, and so far as evidence in relation to this insect goes, it is found almost exclusively where proper cultivation is absent. That would of course account for its non-appearance in good gardens. I have been reading a paper entitled "Recent Investigations on the Currant Bud Mite," taken from the *British Naturalist*, and the conclusion arrived at is, that where culture is good and old wood is cut from bushes every year, they being also helped to make strong fruiting

growth with the aid of manure-dressings, the Currant-mite gives no trouble, and is unknown. It is not at all a pest to make a bogey of. In the paper it is stated that large or unduly-swollen buds signify the presence of the mite. That remark will only apply locally, as nothing is more common than the presence of many very large plump buds on Black Currants; but then these, it will be found, produce a cluster of bunches in the spring, and not one only. However, it will be productive of no harm if Currant-growers will now examine their bush-buds, and dissecting them, look for the presence of the mite or its absence with a good glass. *A. D.* [Our correspondent must be unusually fortunate. Ed.]

THUIA GIGANTEA.—A good specimen of the above Conifer stands in the arboretum here, which is close upon 50 feet high, and measures 7 feet 10½ inches round the trunk at 3 feet from the ground. *J. Mayne, Bicton, East Devon.*

POSITION OF MALE AND FEMALE CONES.—In trees like the Cedar, having male and female cones, is it the case that some boughs always bear female cones and some always male? I ask the question because my Cedar is always full of male cones, but has very few female ones; but the ripened cones seem always to come on the same boughs. This year whereon there are perfect cones, they are on the branches on which perfect cones were last year, so that there are the green cones of this year standing close to and touching the brown cones of last year. In my tree the branches bearing female cones have no males, and those bearing males have no females. Does this at all fall in with your observations? If I am right, the same thing would of course apply to other fruits in more or less degree. *Henry M. Ellacombe.* [We do not think any rule can be laid down on this point. Ed.]

FRUIT AND FACT.—I see that, under the heading of "Fruit and Fiction," I am taken to task, pleasantly enough, for a supposed misdescription in an early work of mine. I would only say that the number of trees per acre is exactly that prescribed by my admired friend, the late Mr. Thomas Rivers, and that I have his very cordial approval of the description thus impugned by "Reader." Perhaps Dr. Hogg may bear in mind that he, and his brother pomologist just mentioned, honoured me with a visit *circa* 1865, and admired my pyramid Peach-trees, crimson with fruit *sub dio*, and standing only 4 feet asunder. But, of course, it never paid to do. While I am about it, I may just mention that my enthusiasm—referred to by "Reader"—though forty times annually disappointed, is not dead yet. With Duchess Pears, fine enough for exhibition, selling last week at 3*s.* per bushel, and Beurré Hardy, and Superfin, gone at 2*s.* 6*d.*, a grower is apt to grow sad, though he should not be described as a whiner and snapper for simply producing a fad or too, without even a sigh to burden them. If there is any *new* advice to come, here am I ready and eager for it. All as yet received has been anticipated some thirty years or more agone. I have tried the best salesmen in London and the local trade simultaneously, with the skill of the most advanced costermonger; I have packed in every imaginable way, and "graded" with the finest "degradatis;" my fruit is of the very best market kinds, Williams, Pitmaston, Marie Louise, Louise Bonne, Beurré Hardy, &c., yet here stands the fact that for the present year I have not sold a bushel at a paying price, and want to know when I shall do so. Now, instead of being angry, good tree-sellers, and writers up of marketing, and kitchen-garden lecturers, will you just tell me how to get more for a thing than anybody will pay for it? Without knowing aught of me, you vote in a body that I am a muff; because I cannot do what you take uncommonly good care not to attempt in purse and person, while you stimulate others to go in for it, and so to cast into your laps that substance which they shall never behold again. The motive of your "boom" is obvious; but no selfish motive can be ascribed to me; for I am too old to dread competition now, and in plain truth the money I drop annually here is not essential to me. I am heartily glad that you should push your trade; but surely it might be done without so many fibs. And let one of you—that would be enough—try it on a large scale; instead of nursing pet-stuff under glass, to make silly mouths water, and silly heads think "Oh, I could do that." When we find any of you in earnest going in for larger fruit-growth in the open, we shall believe that you are not to be compared to the racing-tipsters, who live on abstract prophesy, or the outside dealers in stocks who invest everybody's money except their own. I see that a gentleman attacks me because I have written books, and therefore have no right to grow fruit. Whether he himself began with drapery first, or gardening, I will not be rude enough to ask; but his objection may vanish—supposing his wit to be capable of light process—upon my solemn statement that I was a fruit-grower for ten years before I became a novelist. Haply, but for that dark investment, I need never have been charged with fiction. *R. D. Blackmore.* P.S.—Marguerite Marillet, now cracked up, is nothing else than Secrétaire Rodin, which I condemned years ago for bletting—a watery Pear at the best. Précoce de Trévouxe is Clapp's Favourite, sent out under a French name. Mr. George Bunyard is wrong in praising Beacon, Triomphe de Vienne, Magnate, and at least a dozen other Pears. We have too much rubbish already. *R. D. B.*

PEAS IN 1894.—The season of 1894 has not everywhere been a satisfactory one for Peas; complaints of not setting well have been made in some places, and in others aphis have been troublesome. Here, however, they have generally been good, and some kinds exceedingly so. Our first crop was Veitch's Extra Early, which was sown in turves early in January, and placed in cool pits. They were subsequently planted out upon a south border. In forwarding Peas under glass, with a view to planting them out, I prefer having them in cool pits to warm ones; they are more sturdy, and consequently do better after being planted out, particularly where the soil is heavy and cold, as it is here. Our successional early Peas were Chelsea Gem and William I., and they gave every satisfaction. The former, owing to its dwarf habit, is particularly useful for planting upon narrow borders or in exposed gardens, or where there is difficulty in getting stakes. It is a heavy cropper, and its Peas are good in quality. Of Main-crop varieties we grew Duke of Albany, Veitch's Main-crop, Criterion, and Autocrat. The first-named produced its large pods well filled and abundant, its haulm being both robust and free from mildew. This is one of the best mid-season Peas we have grown. Main-crop we tried for the first time, and in a limited degree. We like its appearance; it does not grow so tall as many mid-season Peas do, while it cropped very freely, and its long curved pods were closely packed with Peas of good quality. Criterion is generally well known, and its crop was good in every way, as it invariably is. For late crops, we grow Autocrat and Ne Plus Ultra. When we first grew Autocrat, I was not altogether satisfied with it; but the fault evidently rested either with the cultural conditions under which we tried it, or the character of the season, for subsequently it has proved to be an invaluable variety for late use. There are numerous early and main-crop Peas, but reliable late sorts are not plentiful. For many years Ne Plus Ultra has been our reliable one for this purpose, and it has been deservedly esteemed; so much so, that I am loath to discard it. Nevertheless, this I ought to do in favour of Autocrat. We have this year grown these two varieties side by side, and the newer kind has been decidedly the better; it has a stronger constitution, and continues in bearing over a greater length of time, while its quality when cooked is unsurpassed. The length of time that Autocrat continues to grow and blossom—a property particularly desirable where space for vegetables is limited—is worthy of remark; as is also the satisfactory way in which it fills its pods until cut down by frost. This autumn we had a supply of young Peas from it until October 25, when it was stopped by frost. *Thos. Coomber.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

October 23.—Present: Dr. M. T. Masters, in the chair; Mr. McLachlan, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Coniferæ.—Dr. Masters exhibited a series of cones and branches of various trees exhibited at the late Conference at Chiswick. They included very fine specimens of the cones of Abies cephalonica, A. magnifica, Cedrus Deodara—which rarely fruits in this country, Abies Nordmanniana, A. Veitchii, remarkable for developing the bracts under cultivation; A. ajanensis, and Pinus Pindrow. There was also a portion of a trunk of a fine plant of Thuia gigantea, nearly 4 inches in diameter and twenty-five years old, the tree at Orton being 60 feet in height. It was suggested by Dr. Masters that this tree might form a good substitute for the Larch, which appears to be dying out in many places. The specimens shown were grown in the gardens of the Marquis of Huntly at Orton, by Mr. Harding; in those of Viscount Powerscourt in Wicklow, by Mr. Crombie; and of Sir P. Murray in Fife, by Mr. Croucher.

Chionodoxa Bulbs attacked by Aphis.—Mr. McLachlan exhibited some bulbs which had a shrivelled appearance. He observed that he had received specimens from two different sources. On examination, there were seen numerous aphides beneath the outer skin of the bulb. It was named Aphis subterranea, and had not been known before to attack bulbs, though it infests the roots of many plants, to which it does not prove very injurious. The aphis, therefore, had probably got to the bulbs from some fibrous-rooted plant. Mr. McLachlan regarded the attacks as being serious, because the aphis was protected by the skin of the bulb from insecticides. He suggested the removal of the skin when the bulb was first lifted, and a thorough examination be made. He thought that perhaps if the ground were treated with bisulphide of carbon it might prove effective. It was also suggested that a trial might be made of putting the bulbs under cover, and submitting them to the fumes of tobacco, or where spirits of turpentine could evaporate. Examination should be made to see the bulbs themselves were not injured by the process. Of course, all old skins should be burnt.

Lawns damaged by Ferncha fers.—Mr. McLachlan showed the larva of a beetle, Rhizotrogus solstitialis, which sometimes does considerable damage to lawns.

Phenological Phenomena.—A communication was received from the Secretary of the Royal Meteorological Society alluding to the appointment of a Committee to investigate this subject some twenty years ago, since which period that Society has published records occupying some 350 pages of the *Journal*, as well as maps and diagrams. It is suggested that the whole subject shall be now reviewed by a fresh Conference, in order to consider whether the observations should be continued or otherwise. It was proposed that the Secretary should confer with the Secretary of the Meteorological Society on the matter.

NATIONAL CHRYSANTHEMUM.

October 24.—The Floral Committee of the above Society met at the Royal Aquarium on the above date, Mr. W. H. Fowler in the chair, and there was a large attendance of members.

A First-class Certificate of Merit was awarded to Japanese Reine d'Angleterre, rosy, or amaranth-purple, like a deep-coloured Etoile de Lyon, with broad, drooping florets, from Mr. W. J. Godfrey, nurseryman, Exmouth. In addition, Mr. Godfrey had Mons. C. Molin, which the committee wished to see again; Comtesse de Galbert, a pretty blush incurved Japanese; Florence Bond, deep silvery-pink, a pretty flower, but which does not come large enough for exhibition; Lady Kennaway, and Marchioness of Drogheda, golden-buff and apricot, darkening to salmon, which the committee wished to see again. First-class Certificates of Merit were also awarded to Carnations Reginald Godfrey and Miss Mary Godfrey, both from the same exhibitor.

Mons. E. Calvat, Grenoble, France, who has been successful in raising some very fine seedling Japanese, sent four varieties, to which First-class Certificates were awarded, viz., Robert Ballantine, purple-magenta, with broad, drooping florets, large and full, and extra-fine; to Mrs. H. J. Jones, a large incurving white Japanese of great promise; and Admiral Avellan, a large deep yellow variety, of excellent quality. Fleur Grenobloise, a delicate blush flower, was also shown. Mons. H. Fatzer, Quessy, France, sent a white sport from Mdlle. E. Rey, which the committee considered to be very promising, and recommended M. Fatzer to grow it another season, and exhibit it in a more developed character.

Mr. Wells, of the Earlswood Nurseries, Redhill, had a collection of new varieties he had exhibited the day previous at the meeting of the Royal Horticultural Society, but added Standard, of the type of Prefect Robert, but not so broad in the petal. Mr. Peters, gr. to H. P. Sturgis, Esq., Leatherhead, sent Miss Sturgis, a large Japanese variety in the way of Primrose League. Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Notts, received a First-class Certificate of Merit for Sarah Hill, exhibited the previous day at the Drill Hall. Japanese

Hairy Wonder, from Mr. H. J. Jones, Lewisham, was unanimously awarded a First-class Certificate of Merit; and the same award was made to a Japanese Anemone-flowered, of a bright wine-coloured crimson hue. A First-class Certificate of Merit was awarded to reflexed Miss Florence Lunn, brighter and deeper coloured than Dr. Sharpe, highly promising; he also had Pallanza, a very fine deep yellow Japanese in the way of Sunshine, which was Commended; and Burgess Hill, a promising English incurved, the committee wished to see again. Japanese Prefect Robert was shown by Mr. T. L. Turk, Cholmeley Lodge Gardens, Highgate, and the blooms from the latter being the finest, a First-class Certificate of Merit was awarded. The same award was made to Miss Goschen, pure deep lemon-yellow, with large full flowers—a fine Japanese variety; from Mr. E. Beckett, Aldenham House Gardens, Elstree, who has Mrs. Norman Wrightson, a large pure yellow Japanese; Winnie Sweet, golden buff; and William Fyfe, soft lilac-pink, large, pleasing in colour, but a little flat as shown. A First-class Certificate of Merit was awarded to Mrs. E. S. Trafford, a sport from Japanese W. Tricker, of the colour of Sarah Owen, having a salmon-buff centre—a fine incurving variety, from Mr. W. H. Lees, The Gardens, Trent Park, Barnet. M. Auguste Lacvivier, from Messrs. H. Cannell & Sons, Swanley, was Commended.

WORCESTERSHIRE FRUIT SHOW AND CONFERENCE.

October 24, 25.—A very successful conference and show of hardy fruit, vegetables, Chrysanthemums, and dried and preserved fruits, was held in the Shire Hall, Worcester, on the above date, under the auspices of the County Council, and upon somewhat novel lines; for whereas prizes in cash were avoided, suitable awards in the shape of Silver Cups and Silver and Bronze Medals were made in accordance with the merits of the exhibits. These exhibits were arranged in specified classes, and open to the exhibitors residing in the county. Upwards of 700 dishes of fruit were placed in the large hall, with plants and flowers at either end.

The objects of the exhibition are the encouragement and development of hardy fruit cultivation, the furnishing of object-lessons in fruit-growing, and showing the capabilities of Worcestershire as a fruit-growing county. The arrangements for the show were carried out by a committee of the Worcestershire Union of Workmen's Clubs and Institutes, with Mr. E. C. Newmarch as hon. secretary.

Section 1, for thirty-six dishes of Apples and Pears, open to gentlemen's gardeners or others, brought an extraordinary display of large, clean, high-coloured fruits, and in a very marked degree showed the capability of the county to hold its own even with Kent. Much the best of it came from Madresfield Court, a place fortunately for some exhibitors, where showing for competition is prohibited. A Silver Cup of the value of £5 was awarded this fine collection. The best Apples were Peasgood's Nonsuch, Lord Derby, Tyler's Kernel, Cox's Pomona, Lady Henniker, Stone's, Blenheim Orange Pippin, Calville Malingre, Calville Rouge Précoce, and Barnack Beauty.

Pears.—Doyenné du Comice, very fine; Pitmaston Duchesse, Beurré Bachelier, B. Superfin, B. Hardy, Conference, Marie Louise, Glou Morçeau, &c.; Lord Hindlip was 2nd, and Sir E. Lechmere 3rd.

Section 2 was set apart for nurserymen, and Messrs. Rowe & Co. and Mr. J. H. White staged well, showing some fine Pitmaston Duchess, Doyenné du Comice, and other varieties of Pears, and were each awarded a Silver Medal. The Black Pear of Worcester, one of the city emblems, as well as Doyenné du Comice, Beurré Superfin, and Marie Louise, were shown well in Messrs. Rowe's collection.

The next two classes were for fruit farmers holding over 10 acres and under 10 acres, but the produce in these cases was poor and undersized, and almost devoid of colour.

Section 8 was for vegetables, and two of the most complete collections ever seen in the county were shown. A Silver Medal and a Special Commendation were awarded to that which came from Madresfield Court, everything in season being in best condition, reflecting much credit on Mr. Crump, the gardener. Dowager Lady Hindlip won the Bronze Medal.

The best packed basket of Grapes, not less than 12 lb. nett, brought out a good competition, but some were disqualified for not complying with the conditions of forwarding by public means of conveyance. Earl Beauchamp won the Silver Medal with a fine basket of Black Alicante Grapes packed with moss.

The Fruiterers' Company offered a Silver Medal for the best packed box, basket, or barrel for market, quality of fruit and economical method of packing to be considered, to be delivered at the exhibition by public means of conveyance. Mr. Crump was again to the front, with a splendidly-packed box, (60 lb.) of Pitmaston Duchess Pears, and another equally well-packed box of 60 lb. of Peasgood's Nonsuch Apples; each fruit was wrapped in pink tissue paper, and layers of wood-wool.

Messrs. G. Bunyard & Co., Maidstone, showed, not for competition, 200 dishes of very fine Apples and Pears; receiving a vote of thanks. In flowers, Lord Coventry exhibited a stand of stove and greenhouse plants with particularly fine foliage, and some yellow and white Chrysanthemums, remarkable for size and beauty. Canon Coventry also showed some good Chrysanthemums. The other exhibits in this class were principally by nurserymen.

The class for dried and preserved fruits was not well filled, this method of treatment not having made much progress locally. Mr. F. Ricardo, Ledbury, however, had a very interesting display of conserved fruits, herbs, and vegetables, including a large variety of dried Apples, which should cause considerably more interest to be taken in this method of dealing with fruit.

Papers were afterwards read at the Conference by Mr. Baillie, Chester; Mr. W. Crump, Madresfield; and Mr. Masters, Evesham. A good discussion followed.

SCOTLAND.

AUTUMN IN SUTHERLANDSHIRE.

The autumn of 1894 will be long-remembered in the North of Scotland as the finest experienced for at least a third of a century. I have carefully examined the meteorological records kept here since 1859, a period of thirty-five years, and can find no record of such a long spell of fine autumn weather such as we have enjoyed this year. We had a good deal of rain during the months of May, June, July, and the first three weeks of August. The reign of fine weather set in on August 23, and has continued to the present time (October 13) without a break, excepting a fine mild rain on October 9, which was much required; indeed, more would have been welcome, as only ·38 of an inch fell.

The total rainfall for September was only ·19, or a little under two-tenths of an inch, which fell in light showers on five days during the month, but without spoiling a day of the glorious weather during the month, the average rainfall for September at Dunrobin being 2·60 inches. From August 23 to October 13, a spell of seven weeks and three days, there has only been 0·65 of an inch of rainfall, mostly as light showers on ten days. The mean maximum for September was 56°·5; the mean minimum, 46°·4. Many of the days have been fine, clear, and sunny, with occasional dull mild days between, but all equally enjoyable.

The first half of October was a continuation of the weather of September, with a slight lowering of the temperature, though up to that there time had been no frost, and the flower gardens were nearly as bright then as in August. Heliotropes, Dahlias, Mignonette, Tropæolums, and similar tender plants were still flowering profusely. The absence of wind for the previous seven weeks was most remarkable. On very few days was there wind enough to open out the folds of a flag. The equinoctial gales, which almost invariably put in an appearance some time about the 18th to the 25th of September, this year made no sign. The barometer was steady and high, ranging between 30·10 and 30·60, falling below 30·00 no 29·96, on two days only during the seven weeks. Farmers for once, in the north at least, have had no room to grumble about the weather during harvest time. The grain was cut, matured, and gathered into the stack-yard almost without a shower.

We were fortunate here in escaping damage by spring frosts, at the glass only went down to 32° in the Stevenson screen on the night of the 19th of May, with a northerly wind and light shower of snow. Probably our proximity to the sea, and the shelter afforded by hills and woods, in taking the edge off north winds, accounts for our comparative immunity from the frosts which were so destructive in more southerly parts of the country. The rainfall in May, June, July, and the first half of August was over average, and in some districts the securing of the hay harvest was rather troublesome, though in most cases it was secured ultimately in fairly good condition. The wet suited most growing crops, and all kinds of fruits and vegetables have been plentiful and good. Onion and Carrot crops have been entirely free from grub and maggot. The Apple crop has been excellent; the fruit perhaps a little smaller than usual, owing to the heavy crop. Bees have had a good time, and are still adding to their winter store. We can scarcely hope for many more days of the fine weather; and the gradual lowering of the night temperature is a warning that we may have a taste of winter any time now with little notice. *D. Melville, Dunrobin Castle Gardens.*

PERTHSHIRE NOTES.

Orchid growers in the North are mostly familiar with the name of Sharpe, who is the cultivator in charge of the well-known gardens of Mr. Wood, a country proprietor very favourably known in Scotland as a patron of horticulture, and of Orchids in particular. These plants are grown extensively at Freelands, in the romantic parish of Forgandenny, with its ancient kirk placed in a weird position, and near the picturesque village. Freelands is well known in Scottish history as the home of the Ruthvens, who have left their name engraved on the page of time; but not in the felicitous manner in which Mr. Wood is doing at the present day in horticulture and arboriculture.

There is much that is ancient, and beautiful as well, in this fine domain which is wisely retained intact, notably fine avenues of lofty Beeches, Silver Firs of great height and girth; and Yews among the largest in the kingdom. Giant Larches and Coniferous trees of much later date are to be found throughout the grounds associated with choice shrubs.

The spacious mansion stands fronting a well-kept lawn, where bushes of Rhododendrons are conspicuous in the background, and hills of pleasant aspect form a grand bordering to the picture. It was the Orchids, however, which I was desirous of seeing, the choicest of which may often be found gracing the tables at the shows of the Royal Caledonian Society, for to see them at Freelands is much more interesting and instructive.

Passing with Mr. Sharpe into what we may call the show-house, a span-roofed structure, filled with plants in flower, or about to open their flowers, I observed more than ten dozen spikes of Odontoglossum Alexandræ on plants, some of which are of large size, but the greater number of middle size. The species O. Hallii, O. Pescatorei, and O. triumphans were well represented, and had fine long spikes of their handsome flowers.

Masdevallias were in fine form, and many open blooms were observable, especially of Harryana and "Bull's Blood." Epidendrums are well done in this house. In another division Odontoglossum vexillarium was making good progress under the cool treatment afforded. Oncidium aurosum and O. macranthum were in robust health, blooming freely. Odontoglossum polyxanthum and O. Uro-Skinneri were noticed among the choice species in this structure. O. pulchellum, O. cordatum, and O. nebulosum were flowering very freely, and they are much valued for their general usefulness in decoration. Platyclinis, Dendrochilum filiforme was growing vigorously in this house. Passing through stoves filled with popular flowering and foliage plants such as Dræcanas, Crotons, Eucharis, a pair of fine healthy plants of Vanda cœrulescens was remarked, which possessed fine spikes of flowers.

Strawberries and Tomatos were noted when passing to a large house filled with Vandas, Cattleyas,

Dendrobiums (some immense specimens), Cypripedium Lawrencianum, and C. Sanderianum, Cattleyas, Dendrobium densiflorum, Wardii, and nobile, and some Vandas were conspicuous for size and health, as well as were Cattleya labiata and C. Trianæi.

Some plants are grown specially for their usefulness as cut flowers. A plant of Dendrobium densiflorum over 6 feet across was prominent at the end of this house. Cœlogynes are grown in quantity, and much valued during the winter and spring for their flowers when cut. Cypripedium grande, C. ciliolare and others figured well in this house of valuable plants.

After spending a large portion of my time among the plants, the fruit houses could only be cursorily glanced at. Entering the range of vineries which runs along the northern side of a fruit garden, Hamburgh and Muscat Grapes were remarked; the crops being very heavy and regular, with strong growth in the four houses. In this department much progress has been made since a previous visit. In the Peach-houses healthy trees and good crops of fruit were remarked; Early Silver, Noblesse, Dymond and Barrington being the varieties which are in special favour, and among Nectarines, Lord Napier, Pine-apple, Violette Hâtive and Victoria predominate, and these varieties do remarkably well. In a Rose-house very floriferous plants of Souvenir d'un Ami, Niphetos, and Maréchal Neil were noted, where, trained in front and up the back wall, they afford a large quantity of flowers.

While in this locality, one could not resist the temptation to visit Rossie Gardens, where a most successful Chrysanthemum cultivator resides. Those who examined the 1st prize lot of thirty-six blooms at Edinburgh exhibition last November, which was looked upon as one of the finest ever seen in the North, may understand that Mr. Nicol is a first-rate cultivator; and it is more than likely that this enthusiastic but very retiring exhibitor will have even higher honours than last year. His plants are at present as promising as they can be. A fine range of glass has just been erected by McKenzie & Moncur, for plant and fruit-growing. Vines are already of great strength, almost erring, indeed, on the side of vigour! This is one of the oldest gardens in Perthshire, and coming rapidly to the front. *M. Temple, Carron House, N.B.*

FOREST DESTRUCTION IN AMERICA.

But a few weeks have elapsed since the world was startled by descriptions, per cable, of wide-spread devastating fires in the great Pine forests of the North-western United States, including also many towns and the inhabitants thereof. The statistics ventured upon by the American newspaper agencies as to loss of life and property, were so startling, that it seemed only right that some inquiry should be made into the matter, and this by the fountain-head in Washington, viz., the Department of Forestry, affiliated to that of Agriculture, dominated by Mr. J. S. Morton. Of course, there was no delay on the part of the Secretary of the Forestry Department, and this is what he wrote under date of September 26:—"This Department is not in a position to ascertain more correctly the loss than the various State agencies and interested parties; and it will take quite a long time before any approach to correct statements will be reached. The newspaper accounts may in general be considered exaggerations, and considerable discounts must be made from their statements as to loss of life and property. The present disaster, however, has been most unusual in extent and amount of damage, and especially in loss of life. From good sources, it would appear that the latter may be placed at a round thousand people. The estimates in loss of timber are beginning to be reduced by later reports, sometimes to one-half the original estimate. The various lumber operators and timberland owners have now their agents in the woods to ascertain the damage, and to learn what quantities must be felled in order to prevent total loss from insect pests following such fires. In addition to these losses, which can be estimated, there are, of course, enormous incalculable losses in the devastation of timberlands, which, are of such usual occurrence every year on so vast a territory, so thinly settled, that no account is taken of them. The agitation for measures to prevent the occurrence of such disasters is now thoroughly aroused, and we hope the beneficial result a more efficient protection in the future."

To this last sentence we heartily say "Amen," in the hope that the measures taken will be sufficient to give confidence to settlers in timberlands, even so early as during the advent of the summer of next year.

KEW NOTES.

Fagræa zeylanica.—There is a large specimen of this Ceylon shrub now in flower in the Victoria-house at Kew. It does not flower often, the last occasion being in June, 1888. It grows so freely, that it would soon fill a house if left to itself. The branches are somewhat succulent, the leaves obovate-oblong, 10 inches by 4 inches, fleshy, and not unlike the leaves of Griselinia. The flowers, which are in short terminal corymbs, are trumpet-shaped, not unlike those of Lilium longiflorum, but smaller, the tube being 4 inches long, and the reflexed lobes 2 inches by 1 inch; they are fleshy and creamy-white. The genus is related to Buddleia, and there are some thirty species, all natives of the Old World tropics.

Carex "japonica" = C. brunnea.

Carex japonica is a name that has been given to several distinct species which have been introduced into our gardens at various times from Japan. One of these is the erect, linear, dark green-leaved plant figured in the *Gardeners' Chronicle*, and grown largely by market growers for decorative work. Four years ago this plant was thought to be C. tristachya, but it has lately been determined by Mr. C. B. Clarke, P.L.S., our first authority on this most difficult genus, to be C. brunnea of Thunberg, native of Japan, India, &c. Another name for it is C. gracilis of Robert Brown. (See *Revue Horticole*, 1892, p. 384.) A variegated variety of C. brunnea is in cultivation under the name of C. japonica variegata and C. tenuis variegata. It differs from the type only in having a narrow band of creamy-yellow on the edges of the leaf.

Another plant known in gardens as C. japonica is C. Morrowii of Boott. It has shorter and much broader leaves than C. brunnea, and is represented in cultivation by a variegated form. It is cultivated by the Glasgow nurserymen, and makes a pretty little pot-plant. It is hardy at Kew, but not at all attractive when grown in the open ground. These three plants may be seen correctly named in the No. 4 conservatory.

Still another plant, with linear, recurved, variegated leaves, densely tufted, and deciduous in winter, is called C. japonica in gardens, but it is certainly not that species, although as it has not flowered it cannot be determined. The true C. japonica does not appear to be in gardens here. There are about 300 species of Carex in Japan! *W. W., Kew.*

TRADE NOTICE.

We are informed by Messrs. W. L. Lewis & Co., Southgate, that Mr. George Booker, hitherto serving as Orchid-grower in their establishment, will in future re present them as traveller.

ENQUIRY.

"He that questioneth much shall learn much."—Bacon.

Mr. John Maehns would be much obliged if any of our correspondents could inform him of the whereabouts of John Peiver, who in 1870 was Foreman (or had been Foreman), to Mr. E. Spivey, in the gardens at Hillingbury Place, Bishop's Stortford?

MARKETS.

COVENT GARDEN, November 1.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	4 0-12 0
Aspidistra, per doz.	12 0-30 0	— small, per 100	4 0- 6 0
— specimen, each	5 0-15 0	Foliage plants, doz.	9 0-24 0
Erica, various, doz.	9 0 12 0	Lilium Harrisii, per dozen	12 0-24 0
Chrysanthemums, per dozen ...	6 0-15 0	Marguerites, p. doz.	6 0-12 0
Cyperus, per dozen	4 0-10 0	Mignonette, p. doz.	0 0- 6 0
Dracæna, each ...	1 0- 5 0	Palms, various, ea.	2 0-10 0
Evergreen Shrubs, in var., per dozen	6 0-24 0	— specimens, ea.	10 6-84 0
Ficus elastica, each	1 0- 7 6	Primulas, per dozen	4 0- 6 0
		Solanums, per dozen	10 0-12 0

Cut Flowers.—Average Wholesale Prices.

	s. d. s.d.		s. d. s. d.
Arums, per doz. bl.	3 0- 5 0	Orchids:—	
Bouvardias, p. bun.	0 6- 1 0	Odontoglossum crispum, 12 blm.	3 0- 6 0
Carnations, 12 blms.	0 9- 2 0	Pyrethrums, 12 bun.	2 0- 4 0
— per dozen bun.	9 0-12 0	Roses, Tea, per doz.	1 0- 2 0
Chrysanthemums, per 12 blooms ...	1 6- 6 0	— coloured, p. dz.	2 0- 4 0
— per 12 bunches	4 0- 8 0	— yellow (Maréchals), per dozen	6 0- 9 0
Eucharis, per dozen	3 0- 6 0	— red, per dozen	1 0- 1 6
Gardenias, per doz.	3 0- 4 0	— outdoor, per dozen bunches ...	6 0-12 0
Geraniums, scarlet, per 12 bunches ...	4 0- 6 0	— (French), red, per dozen... ...	1 6- 2 6
— 12 sprays ...	0 6- 0 9	— (French), yellow, per dozen ...	1 0- 1 6
Gladiolus, doz. bun.	18 0-24 0	Stephanotis, dozen sprays	4 0- 6 0
Lapageria, 12 blms.	1 0- 2 0	Tuberoses, 12 blms.	0 4- 0 6
Lilac (French), per bunch	3 6- 5 0	Violets, Parme (French), p. bch.	2 6- 3 6
Lilium Harrisii, doz.	4 0- 8 0	— Czar (French), per bunch ...	1 6- 2 0
Maidenhair Fern, per 12 bunches ...	4 0- 6 0	— doz. bunches	1 0- 1 6
Marguerites, 12 bun.	1 0- 3 0	— (English), per dozen bunches ...	1 6- 2 0
Mignonette, 12 bun.	1 0- 3 0		
Mimosa (French), per bunch ...	1 0- 1 3		
Orchids:—			
Cattleya, 12 blms.	6 0-12 0		

Orchid-bloom in variety; rather scarce.

Fruit.—Average Wholesale Prices.

	s. d. s. d.		s. d. s. d.
Apples, American, per barrel ...	10 0-12 0	Grapes, Muscat, per lb.	1 6- 2 6
— Cooking, per sieve	4 0- 6 0	— Muscat, 2nd quality, per lb.	0 9- 1 0
— Dessert, half-sieve	2 6- 3 6	— Guernsey, per lb.	0 5- 0 9
Cobs, per 100 lb. ...	25 0-27 6	Melons, each ...	2 0- 3 0
Grapes, 1st quality, black, English, per lb.	1 0- 2 0	Pears, Dessert, half-sieve	2 0- 4 0
— English, 2nd quality, per lb.	0 6- 1 0	Pine-apples, St. Michael, each ...	2 0- 6 0

Vegetables.—Average Wholesale Prices.

	s. d. s.d.		s. d. s. d.
Beans, Runners, siv.	1 6- 2 6	Mushrooms, per lb.	1 0 ...
Cauliflowers, p. doz.	1 0 ...	Onions, per bush. ...	2 0- 2 6
Cucumbers, per doz.	2 0- 3 0	Tomatos, per lb. ...	0 6- 0 7

Potatos.

The market is being kept rather short of supplies by farmers who are now busy with other work on the land while favourable weather continues. Prices in consequence have made slight advances in most cases. Best kinds, good samples, 85*s.* to 100*s.*; ordinary samples and blacklands, 55*s.* to 70*s.* *J. B. Thomas.*

SEEDS.

London: *October* 31.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market bare of buyers. Clover seeds generally show no important change. The remarkably low rates current for Alsyke, attract increasing attention to the article. For Winter Tares there is a diminishing inquiry. Seed Rye is also neglected. Rye-grasses are drooping. The sale for Bird seeds is small. Haricots are strong at the late rise. Blue Peas keep steady. New English Mustard and Rape seed continue exceedingly cheap. Higher prices are asked for Scarlet Runner Beans. Linseed is dull. Fine French Buckwheat can now be bought on very tempting terms.

FRUITS AND VEGETABLES.

Borough and Spitalfields: *October* 30.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.*; Savoys, 2*s.* to 4*s.*; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* per tally; Carrots, 1*s.* to 2*s.*; Parsley, 9*d.* to 1*s.*; Turnips, 1*s.* to 2*s.* per dozen bunches; Horseradish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, foreign, 2*s.* to 2*s.* 6*d.* per bag; do., English, 3*s.* 6*d.* to 4*s.* per cwt.; Apples, 2*s.* to 8*s.* per bushel; Pears, 1*s.* 3*d.* to 3*s.* per half bushel.

Stratford: *October* 30.—The market has been well supplied with every description of produce during the past week, and, with a good attendance of buyers, a brisk trade was done at the prices mentioned below:—Cabbages, 1*s.* 6*d.* to 2*s.* 6*d.* per tally; Savoys, 1*s.* 6*d.* to 3*s.* do.; Greens, 3*s.* to 5*s.* do.; Cauliflowers, 6*d.* to 1*s.* per dozen; do., 2*s.* to 5*s.* per

tally; Celery, 7*d.* to 1*s.* per roll; Horseradish, 1*s.* to1*s.* 3*d.* per bundle; Brussel Sprouts, 1*s.* 6*d.* per to 2*s.* flat; Turnips, 1*s.* 6*d.* to 2*s.* 3*d.* per dozen bunches; ditto, 25*s.* to 40*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* per ton; ditto, cattle-feeding, 18*s.* to 25*s.* do.; Parsnips, 6*d.* to 10*d.* per score; Mangels, 12*s.* to 17*s.* per ton; Swedes, 15*s.* to 20*s.* per ton; Onions, English, 60*s.* to 75*s.* per ton; do., Dutch, 2*s.* to 2*s.* 6*d.* per bag; do., Valencias, 6*s.* to 6*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel.

FARRINGDON: *November* 1.—Quotations: Cabbages, 5*d.* to 6*d.* per dozen; do. pickling, 1*s.* to 1*s.* 6*d.* do.; Cauliflowers, 10*d.* to 1*s.* do.; Spinach, 1*s.* per bushel; Sprouts, 1*s.* 3*d.* to 1*s.* 6*d.* per half bushel; Parsnips, 9*d.* per dozen, 3*s.* per cwt.; Beetroots, 9*d.* per dozen; Carrots, 2*s.* 6*d.* per dozen bunches; Turnips, 2*s.* per dozen bunches; Onions, English, 4*s.* per cwt.; do., 6*s.* per case; Horseradish, 1*s.* 4*d.* per bundle; Celery, 1*s.* per dozen; Apples, cooking, 5*s.* to 6*s.* per bushel; do., dessert, 6*s.* to 7*s.* do.; Pears, 2*s.* to 8*s.* do.; Tomatos, 6*s.* per doz. lb.; Grapes, English, 1*s.* to 1*s* 4*d.* per lb.; Walnuts, 8*s.* per bag; Blackberries, 2*s.* per basket (= 2*d.* per lb.)

POTATOS.

BOROUGH AND SPITALFIELDS: *October* 30.—Quotations ranged from 50*s.* to 95*s.* per ton.

STRATFORD: *October* 30.—Quotations: — Magnums, Dark-soil, 55*s.* to 60*s.* do.; Light-soil, 60*s.* to 70*s.*; Bruces, 60*s.* to 70*s.*; Imperators, 55*s.* to 80*s.*; Main Crop Kidneys, 60*s.* to 75*s.*; Scotch Main Crop, 75*s.* to 85*s.* per ton.

FARRINGDON: *Novembsr* 1.—Quotations:—Snowdrops, 80*s.* to 90*s.*; Main Crop, 80*s.* to 100*s.*; Magnums, 65*s.* to 85*s.*; Hebrons, 75*s.* to 90*s.*; Regents, 65*s.* to 75*s.*; Champions, 60*s.* to 70*s.*; Kidneys, 60*s.* to 75*s.*; Early Rose, 60*s.* to 70*s.*; Black Lands, 55*s.* to 65*s.* per ton.

CORN.

Averages.— Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending October 27, and for the corresponding period last year:—
1894: Wheat, 17*s.* 7*d.*; Barley, 23*s.* 8*d.*; Oats, 13*s.* 3*d.*
1893: Wheat, 27*s.* 6*d.*; Barley, 29*s.* 6*d.*; Oats, 18*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 132*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 80*s.* to 120*s.*; do., specially picked, 130*s.*; do., inferior, 36*s.* to 60*s.*; Mixture, 90*s.* to 120*s.*; and Straw, 22*s.* to 38*s.* per load.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending October 27.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 —	18	30	+ 294	— 27	0 aver	183	40·2	32	32
1	4 —	19	36	— 95	+ 39	2 +	168	29·0	35	34
2	3 —	29	11	+ 8	— 56	11 +	174	22·5	14	32
3	1 +	41	1	+ 30	— 117	3 +	169	21·2	29	35
4	0 aver	40	8	+ 25	— 100	11 +	159	20·8	21	31
5	3 +	64	0	+ 88	— 132	9 +	158	23·9	23	35
6	3 —	29	15	+ 18	— 54	9 +	169	37·4	26	32
7	1 —	36	4	+ 159	— 125	17 +	167	29·0	18	33
8	2 +	58	0	+ 97	— 83	15 +	170	32·1	25	37
9	1 —	35	8	+ 27	— 23	14 +	187	30·6	20	30
10	0 aver	41	0	+ 45	— 69	21 +	170	33·4	25	32
*	3 +	92	0	+ 266	— 18	10 +	177	28·9	29	43

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

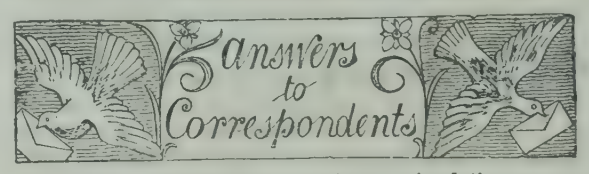
THE following summary record of the weather throughout the British Islands for the week ending October 27, is furnished from the Meteorological Office:—

"The *weather* during this week gradually became extremely unsettled and rainy in almost all parts of the Kingdom. The rainfall was unusually heavy over Ireland, England, and the more south-western parts of Scotland. Thunderstorms and a good deal of lightning occurred at several of our more southern stations during the middle or latter part of the week.

"The *temperature* continued below the mean in 'Scotland,' and the northern districts of 'England and Ireland,' but was rather above the normal in most other parts of the Kingdom. The highest of the maxima (which were recorded between the 24th and 26th) ranged from 63° in 'England, S. and the Channel Islands,' to 56° in 'Scotland, N.' The lowest of the minima were registered either on the 22nd or 23rd, when the thermometer fell to 18° in 'Scotland, E.' (at Braemar), to 21° in 'Ireland, N.,' 22° in the 'Midland Counties,' and to between 24° and 31° in all other districts, except the 'Channel Islands,' where the lowest reading was 45°.

"The *rainfall* just equalled the mean in 'Scotland, N.,' but exceeded it in all other districts, the excess being very large, except in 'Scotland, E. and England, E.' The largest amounts recorded during the week at any individual stations were 4·49 ins. at Killarney, 4·46 ins. at Westbourne (Sussex), and 4·28 ins. at Holyhead. At Westbourne on Wednesday, as much as 2·09 ins. fell between 8 A.M. and noon.

"The *bright sunshine* exceeded the mean value at most of the 'Scotch' stations, and just equalled it in 'England, E.;' elsewhere there was a general deficit. The percentage of the possible amount of duration ranged from 35 in 'Scotland, E.,' and 32 in 'Scotland, N.,' to 18 in 'England, N.W.,' and to 14 in 'England, N.E.'"



**** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

**** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six varieties should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BEGONIA LEAVES: *F. G. G.* Bacteria and fungi are entirely absent from the Begonia leaves. The conditions are due to some errors in treatment, probably imperfect ventilation.

BOOKS: *Young Gardener. The Art and Practice of Landscape Gardening*, by Henry E. Milner, published by Simpkin, Marshall, Hamilton, Kent & Co., Stationers' Hall Court, London.

CORRECTION.—Mr. Geo. Stevens received an Award of Merit at the last meeting of the Royal Horticultural Society for Japanese incurved Chrysanmum Prefect Roberts, not President Borel.

DATE OF DEATH OF J. WILLIAMS: *E. H.* On Christmas Eve, 1891; see *Gardeners' Chronicle*, Jan. 2, 1892, for notice of the same; and for his portrait the following week.

FRUIT ROOM UNDERGROUND: *J. B. T.* The position of the room and its depth below the surface should make it an admirable place for keeping Apples and Pears. The walls should be hollow by preference—that is, built of two walls, 4½ inches in thickness, with a 4½-inch space between them, and be connected by bonding bricks, the outer wall being set in cement, so as to exclude moisture. The floor may consist of beaten clay, gravel, or tiles, and the roof of straw or reed-thatch 1 foot in thickness, finishing off with good overhanging eaves, that will throw off the water to some distance from the walls. In lieu of guttering, make a runlet round the walls of small pebbles, laid in hydraulic mortar or cement. If it be span-roofed, there might be a door at each end with a swinging light over each, to admit of well-ventilating the place whilst the fruit is sweating. With a thatched hurdle placed against the doors, such a fruit-room is safe from frost of any severity. If you have much fruit to be stored, shelves are indispensable, otherwise an earthen bench, with retaining walls of brick, would answer very well. If shelves must be put up, do not use deal; and give the shelves a slight slope towards the front.

FUNGUS ON BEECH TREES: *A. C. F.* Specimen this time with the gills eaten away by insects, but it looks like Agaricus (Ærmillaria) mucidus, which is a saprophyte. I never saw it on living trunks. Fomes annosus is the old Polyporus annosus of Fries, and I think called Trametes radiciperda. Some affirm that the latter is different from annosus, although the difference cannot be distinguished by the naked eye. *M. C. Cooke.*

GRAPES: *W. S.* Your bunches of Mrs. Pince, judging by the very unripe state of the berries sent, will not mature. They are also "shanked," and you must look to the roots. See answer to "G. C. B." last week, and some others in recent numbers of the *Gardeners' Chronicle.*

GROWTH ON MARÉCHAL NIEL ROSE: *D. D.* The growth in question is common on this variety of Rose, and is often attributed to the action of frost. We suspect, however, that a slime fungus is also present. We will examine, and let you know.

FINGER-AND-TOE ON TURNIPS: *W. R.* Probably not; the spores of the fungus are in the soil.

INSECTS AND STRAWBERRIES: *R. K.* Cockchafer grubs in the second year of development, a stage at which they are capable of causing much injury to the roots of plants. It is very probable that your three-year old Strawberry plants which almost failed may have suffered from these grubs, as you say that at the root of almost every plant two or three were to be found. Dig the land, and leave it exposed to the weather and the attention of the birds. If a pig or two could be penned on the land, a clearance of the grubs would soon be made.

MANURE FOR BOWLING-GREEN: *F. W. R.* Neither of those manures that you mention in your note, unless they are in a very rotten state, and at once available as plant-food, are suitable. The object being the securing of a regular fine sward free from coarse grasses, it would be better to mix rotten manure, wood-ashes, and loam together, pass it through a ½-inch screen or sieve, and apply the mixture to the lawn twice or thrice during the winter.

NAMES OF FRUITS: *J. J. W.* 1, Beurré Bosc; 2, Vicar of Winkfield; 3, Bellisime d'Hiver; 4, Belle de Bruxelles; 5, Beurré Diel; 6, Van Mons Leon le Clerc.—*Hon.* 2, Grange's Pearmain; 3, Vicar of Winkfield; 4, Beurré Superfin; 5, Pitmaston Duchess; 6, not known.—*W. Parker.* 1, Beurré Hardy; 4, Figue d'Alençon; 8, Gansel's Bergamot; 28, Duchesse d'Angoulême; 35, Beurré Superfin; 43, Beurré d'Anjou; 68, rotten.—*R. Garret.* Pear, 1, Brown Beurré; 2, Urbaniste; Apple Hollandbury.—*Rev. G. H. Engleheart.* 1, Vicar of Winkfield; 2, Beurré Diel; 3, Beurré Rance.—*W. Wadsworth.* 2, Beurré Diel; 3, Duchesse d'Angoulême; 4, rotten White Doyenné; 5, Doyenné du Comice; 6, a small Uvedale's St. Germain.—*E. D.* 1, Comte de Lamy; 3, Comte de Flandres; 4, Triomphe de Jodoigne; 2, not known; 1, worthless.—*F. W. S.* 1, Duchesse d'Angoulême; 2, Bergamotte Esperen; 3, Emille d'Heyst; 4, Beurré Diel.—*D. D.* 1, Glout Morçeau; 2, Beurré Diel; 3, Verulam.—*H. Horsefield.* 1, Blenheim Orange; 2, Lord Derby; 3, Grange's Pearmain; 4, Forge; 5, Not known.—*Carter, Page & Co.* 1, Red Autumn Calville; 2, Lord Grosvenor?; 3, Bedfordshire Foundling; 4, Hubbardstone Nonsuch.—*J. M. Ritchie.* 1, Rymer; 2, Dutch Codlin; 3, Old English Codlin; 4, Cambusnethan; 6, Manks' Codlin; 8, Cox's Orange Pippin; 7, 9, Worcester Pearmain; 10, Pear Josephine de Malines—one Pear rotten.

NAMES OF PLANTS: *Chepstow.* 1, Cymbidium pendulum; 2, Cymbidium Mastersii; 3, Cypripedium barbatum; 4, Oncidium sp., send flowers; 5, Pellionia pulchra; 6, Fittonia argyroneura; 7, Not found; 8, Acalypha Macfeeana; 9, Duranta variegata.—*T. W. R.* The Acer is a form of the Japanese A. palmatum. The material sent is not sufficient to make out the Cratægus and Birch?—*W. P. B.* Cotoneaster affinis.—*R. P.* Cratægus Aronia. It may have been grafted on a

common Thorn, but can scarcely be a sport from it. —*Constant Reader, Aboyne, N.B.* Euonymus europæus (Spindle Tree).—*Sedum, Tunbridge Wells.* The Sedum is the white form of Sedum spurium. —*Zero.* Francisca calycina major (syn. Brunsfelsia).—*W. J. P., Farnham.* 1, Berberis Darwinii; 2, Berberis Wallichii; 3, Hypericum Androsæmum; 4, Elæagnus japonica aureo-variegata; 5, Spiræa (send when in flower); 6, Cotoneaster microphylla.—*G. N., Swansea.* 1, Send flowers; 2, Send in flower; 3, Habrothamnus (Cestrum) Newellii; 4, Acacia armata; 5, Aralia Chabrieri of gardens; 6, Adiantum hispidulum; the Phœnix is attacked by fungus peculiar to Palms.—*J. C.* 1, Aster Amellus; 2, A. diffusus horizontalis; 3, A. vimineus.—*W. Ogg.* 1, The Claret Vine; 2, Thuya gigantea (Lobbi of gardens); 3, Piptanthus nepalensis; 4, Hypericum calycinum; 5, Schizostylis coccinea; 6, Pernettya mucronata; 7, Libonia floribunda.—*B. G.* Schizostylis coccinea.—*G. T.* Rhus toxicodendron, very poisonous.

Palm Leaves: *G. N.* The spots on the leaves are caused by a fungus called Graphiola phœnicis. They have nothing whatever to do with spores of Gymnogramma.

Portugal Laurel: *H. C.* The silver leaf disease common in Laurels, Peaches, Plums, &c. The cause is not known. We should cut the plants back, and give a good dressing of manure. We fear, however, that but little can be done.

Salesman: *W. B.* We cannot advise you on such a question.

Tea Plants in Bad Health: *Thea.* At this season but little can be done to better their condition beyond putting the drainage in the pots in good order, picking out some of the old surface-soil, and surfacing them with a sandy mixture of loam two-thirds, leaf-mould one-third, and keeping them in a light, well-aired part of the greenhouse. The soil should be kept moderately moist—in fact, afford it the kind of treatment which would suit Camellia japonica. In March the plants should have much of the old soil removed, decayed roots cut back to sound tissue, and repotted in rather small pots, using the same kind of soil above-named, with the addition of a small quantity of peat. A temperature of 50° to 55° by night, and 65° to 70° by day should then be afforded them, and a syringing with clean water twice daily—i.e., from 7 to 8 A.M., and at closing time, 2 30 P.M. Summer treatment, when quite recovered from ill-health, may be similar to that given the Camellia.

To Keep Ampelopsis Leaves in a Fit State for Table Decoration: *Table Work.* The colours would be preserved in fairly good condition by pressing them between sheets of herbarium-paper, changing the paper thrice and keeping them under pressure. Another way would be to place them between layers of perfectly dry silver-sand in wide-mouthed jars or boxes. Passing a hot iron over them when placed between sheets of blotting-paper preserve the colours of some kinds of leaves very effectually; you might try this method with a few. There is no book that we know of now in print on the subject named. Try at the *Bazaar* office, 170, Strand, London, W.C.

Communications Received.—Henshall Russell.—J. C. Stogden.—T. W. E.—C. Fidler.—G, H.—Tom G.—B. W. P, —A. C. F.—E. J. H.—W. A. C.—B. W.—A. D.—A. D.W.—J. J. W.—E. C.—T. H. S.—Wild Rose.—A. E—M. T.—J. M. R.—W. H.—J. C.—T. T. C.—W. Weeks.—G. B. & Co.

Specimens Received.—A. G.—J. McM.—J. C.—R. H.—H. M. T.—Alpha.—Poivre.—A. and McA.—B. L.—C. L.—G. W.—J. P.—J. H. J.—G. W.—T. F. J.—J. M.—J. C.—S.

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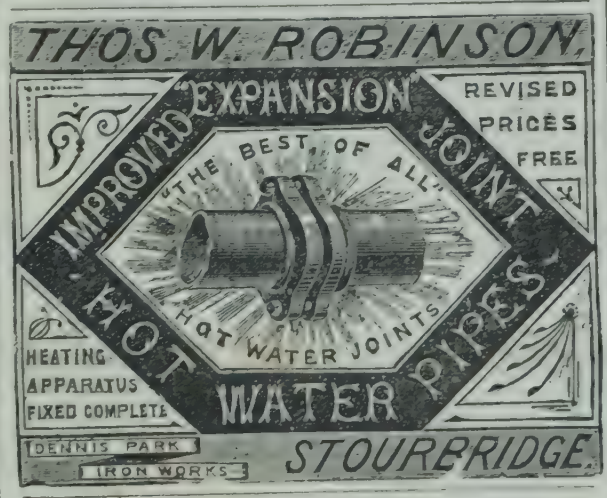
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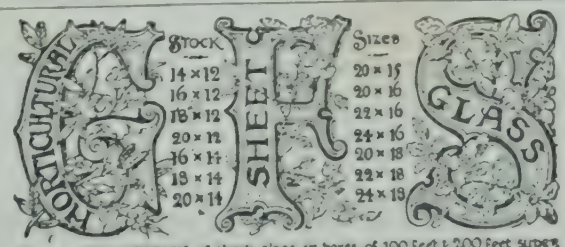
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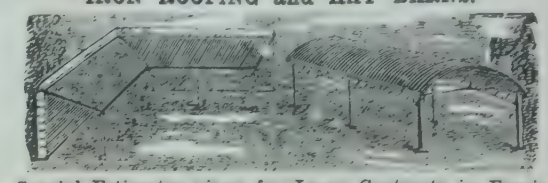
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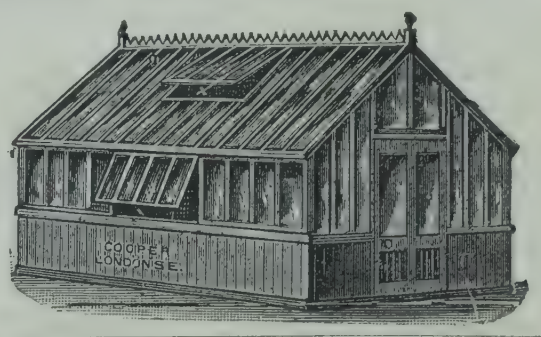
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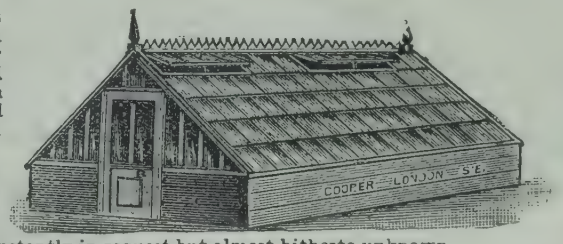
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8	5	7 0	4 0	5 0 0
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10	7	7 6	4 6	6 15 0
12	8	8 0	5 0	8 0 0
15	10	8 6	5 0	12 0 0
20	10	9 0	5 6	16 0 0
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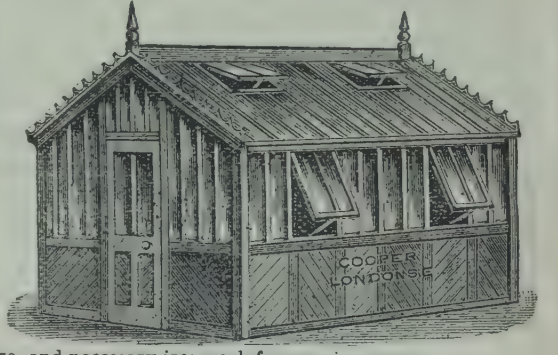
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8	5	7 0	4 10 0	20	10	9 0	14 10 0
9	6	7 3	5 0 0	25	10	9 0	19 0 0
10	7	7 6	6 5 0	50	10	9 0	36 0 0
12	8	8 0	7 10 0	100	10	9 0	65 0 0

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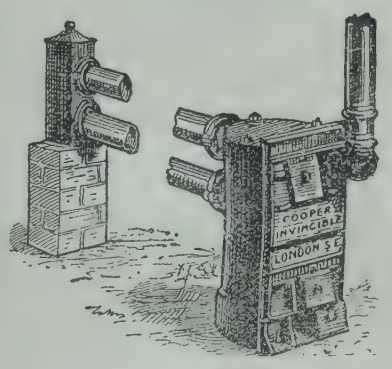
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8	5	7 0	4 0	7 10 0	20	9	9 0	6 0	22 0 0
9	6	7 0	4 6	9 0 0	25	9	9 0	6 0	28 0 0
10	7	7 6	5 0	10 0 0	50	9	9 0	6 0	55 0 0
10	8	7 6	5 0	11 0 0	100	9	9 0	6 0	90 0 0
12	8	8 0	5 6	12 0 0					



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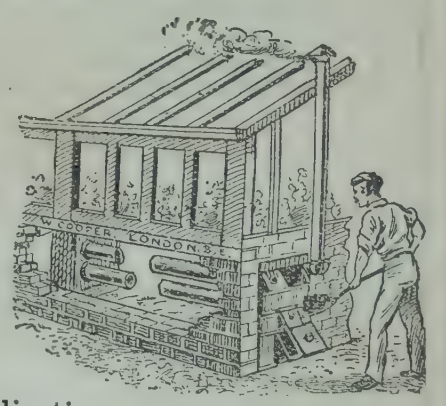
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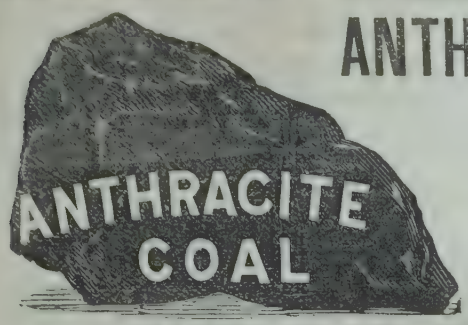
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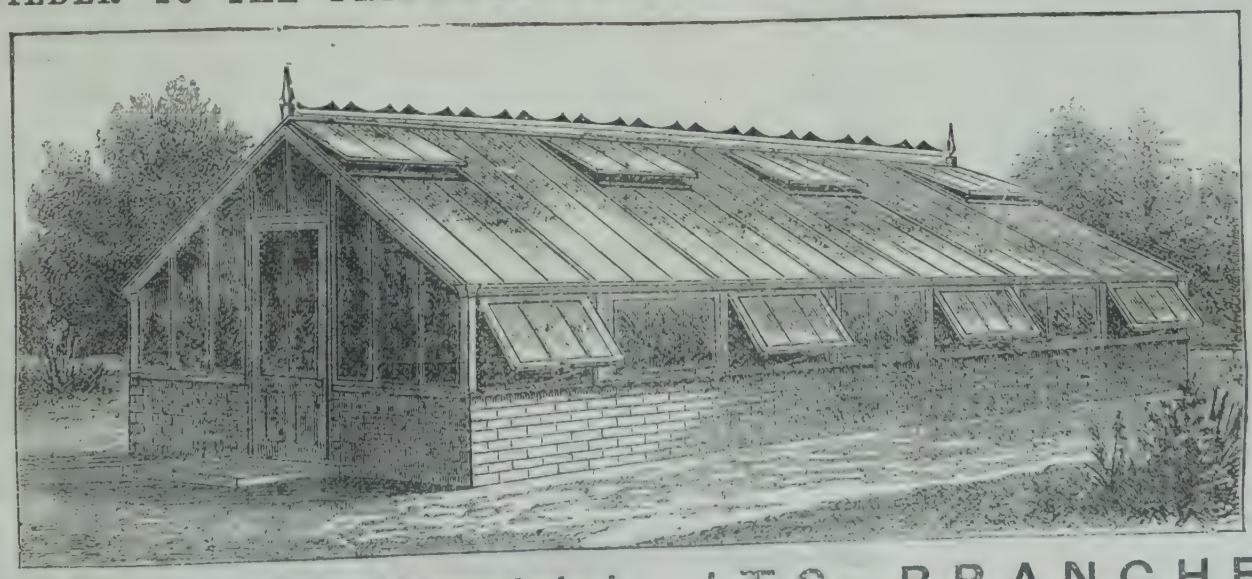
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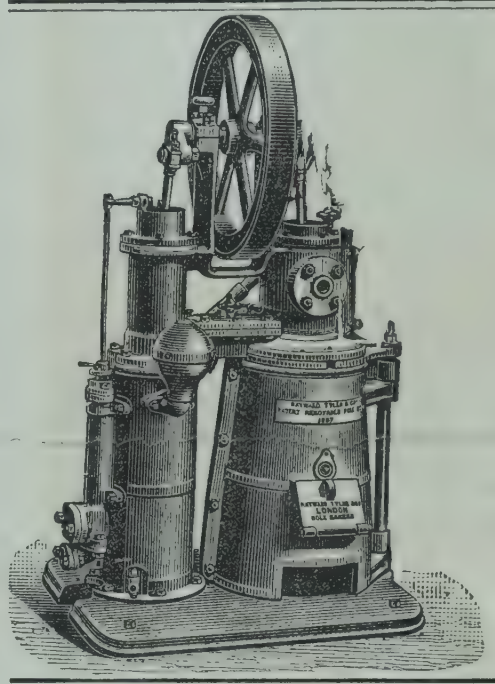
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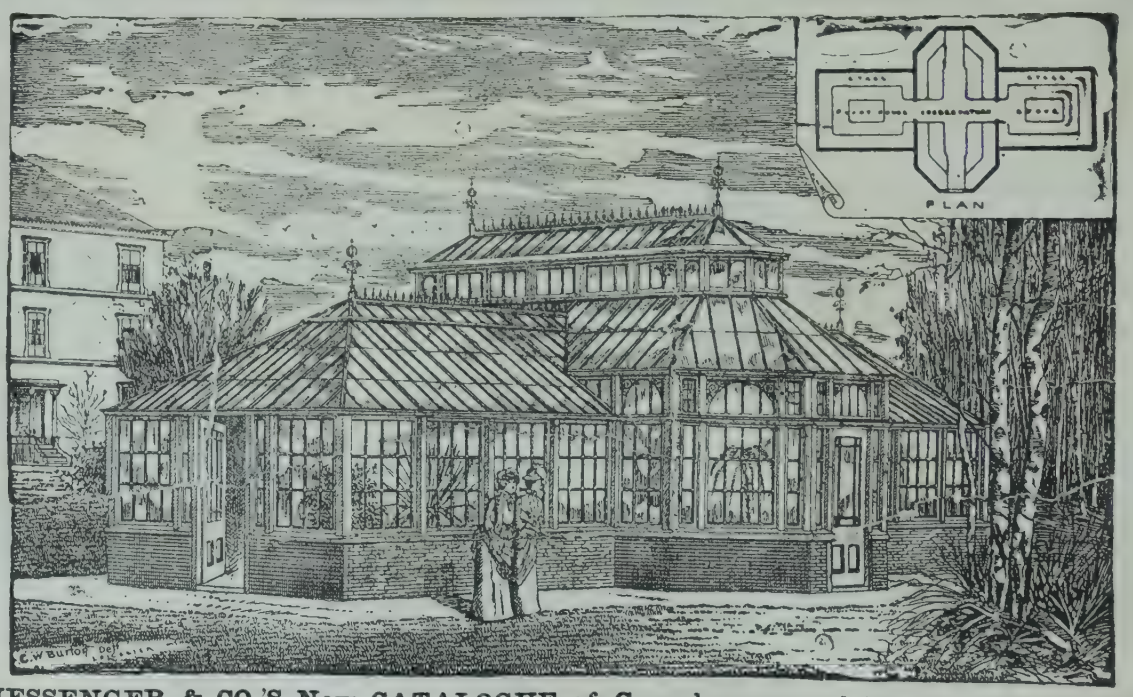
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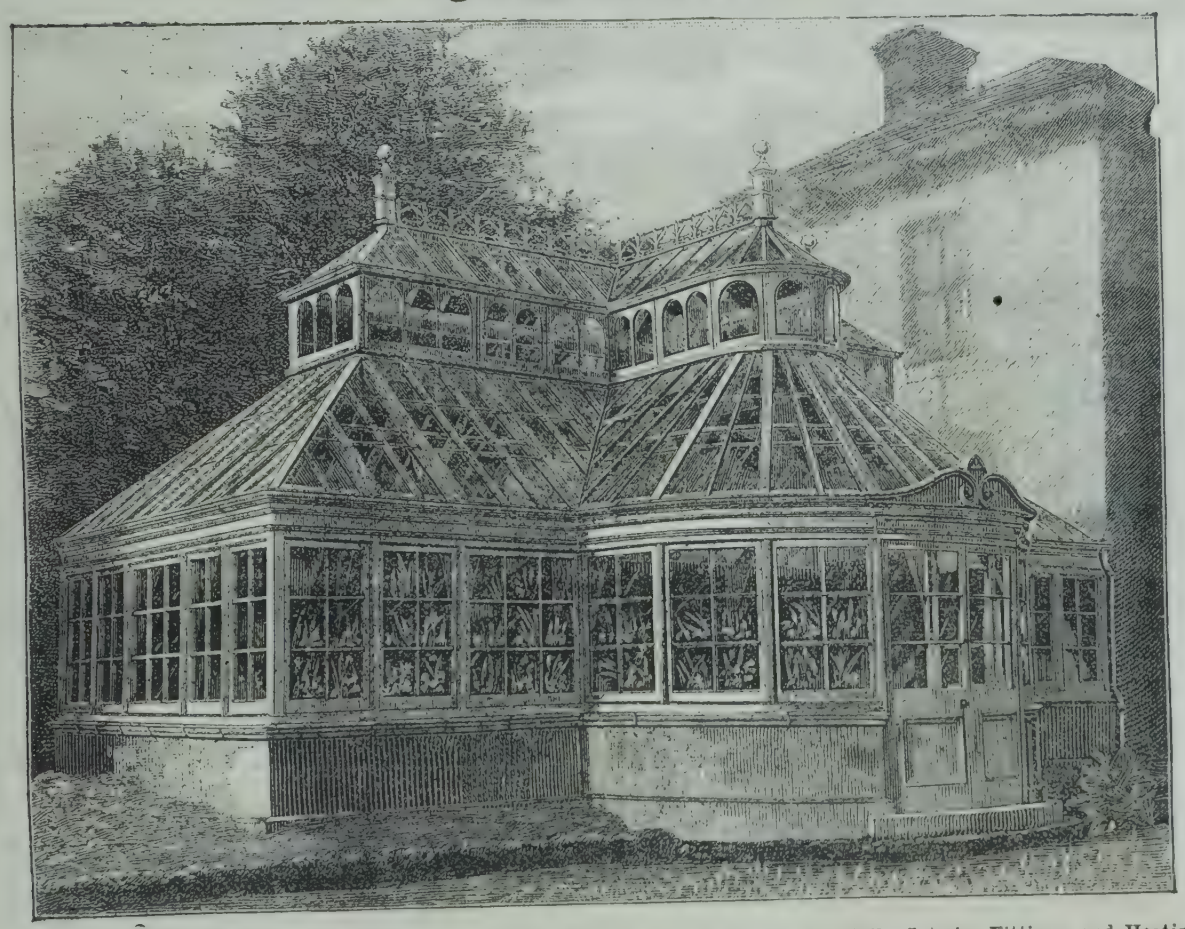
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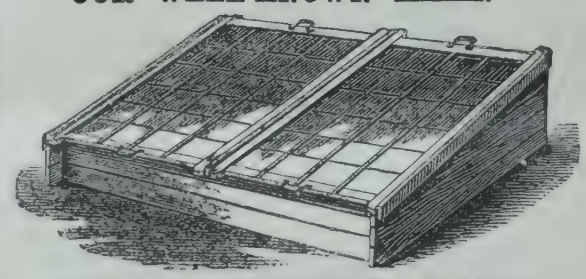


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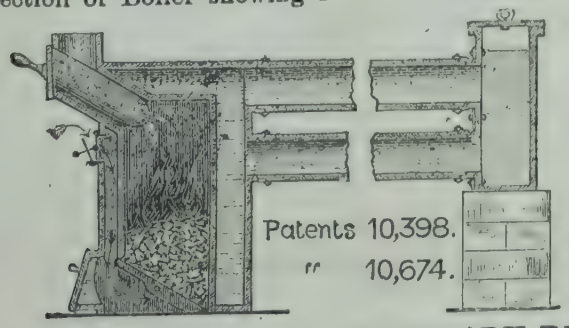
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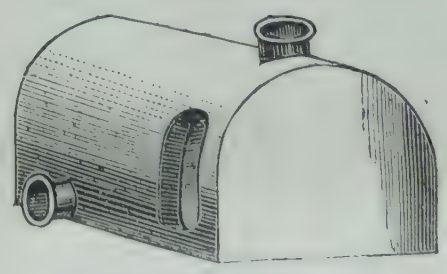
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G. C.
Nov. 3, 1894.

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GARDENER (Under), where five or six are kept.—Age 24; can be well recommended by last and previous employers, used to Houses and general work; understands Bees. Abstainer.—W. LEECH, Long Stratton, Norfolk.

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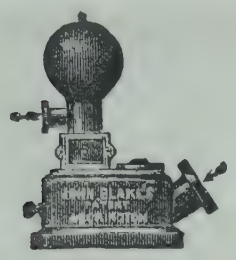


Fig. A.

This Ram raises a portion of the same water that works it.



This View represents Fig. A. Ram forcing up a part of the same water that works it, which is supplied from a spring. Special Rams of A. make can be supplied to force to a height of 800 feet.

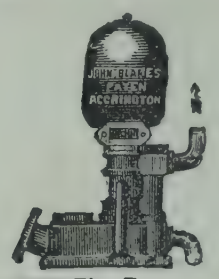


Fig. B.

This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

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The Most Hon. the Marquess of Downshire.
The Most Hon. the Marquess of Abergavenny.
The Most Hon. the Marquess of Londonderry.
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The Right Hon. the Earl of Devon.
The Right Hon. the Earl of Gainsborough.
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

CHRYSANTHEMUMS. — Ours, the largest and most complete Collection, is now truly splendidly in flower. Our house, 160 feet long by 25 feet wide, is the grandest and most interesting sight in England. We should be much pleased to send our Descriptive and Illustrated CATALOGUE of ours, the best country-grown plants in England, post-free. H. CANNELL AND SONS, Swanley.

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VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5s., post free, 5s. 6d.
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F. MILLER & Co., 267, Fulham Road, London, S.W.

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SUTTON'S LARGE BLUE CROCUS, mixed, 1s. 6d. per 100; 12s. 6d. per 1000.
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SUTTON'S LARGE YELLOW CROCUS, 2s. per 100; 16s. per 1000.

SUTTON'S CROCUSES.—Mr. A. Habbitts, Gardener to G. F. Appach, Esq., says:—"The 4000 Crocuses received from you have turned out quite a success. They were simply splendid, and the individual blooms very fine."

SUTTON'S BULBS, GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE ROYAL SEEDSMEN, READING.

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THE ORCHID-GROWER'S MANUAL.—Seventh Edition: Enlarged and Revised up to the present time, containing 800 pages, and 311 Illustrations, making the most complete, up-to-date work on Orchids yet published. Super-royal 8vo. Price, 25s.; Free by Parcel Post, in the United Kingdom, 25s. 10d.
B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

WHINHAM'S INDUSTRY, the famous Morpeth Gooseberry. Grand 2 and 3-year-old plants, in quantity.—T. MATHESON, Nurseries, Morpeth.

50,000 FERNS.—I offer Gymnogramma, Pteris tremula and P. t. major, fine Stuff, in 48's, at 32s. per 100; Pteris cristata, 60's, ready for 48's, 12s. per 100; Solanums, well berried, £3 10s. per 100; Ficus elastica, £5 per 100, all good Stuff. Packing free for cash on rail.
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PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

Prize Cob Filberts and other Fruit Trees.

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SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
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HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

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12 BEAUTIFUL DWARF ROSES (the choicest exhibition varieties only), 6s., free.
THOMAS COLEMAN, Saffron Walden.

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Catalogue of KELWAY AND SON, Langport, Somerset.

KELSEY'S NORTH AMERICAN PLANT AGENCY.—Lilium superbum, Trillium grandiflorum, £1 per 100. For Adiantum pedatum, Sarracenias, Dionæas, Lewisia rediviva, Helonias bullata, Iris verna, Lilium Grayi, Cypripedium spectabile and C. pubescens, Berberis canadensis, Vaccinium macrocarpum, Cyrilla racemiflora, and other choice hardy things, write to J. WOOD, Woodville, Kirkstall, Leeds.

Important to Mushroom Growers.

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KRELAGE'S AMARYLLIS, and all kinds of DUTCH BULBS and Rare or New Bulbous Plants, true to name, and of the best quality only, at cheap prices. Descriptive Catalogue, illustrated, may be had free, on application to
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2000 BULBS for 21s., 1000 for 11s. 6d., 500 for 6s. 6d., packing free, including Lilium Harrisi, L. candidum, Amaryllis, Arums, Cyclamens, Eucharis, Gladiolus, Spiræa japonica, Freesias, Galanthus Elweiss, Chionodoxa, Anemones, and Narcissus.
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ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

DICKSONS HORTICULTURAL MANURE—An excellent Fertiliser, specially and most carefully prepared, for Vines, Greenhouse Plants, Fruit Trees, Roses, &c. 2 lb. tin, 1s. In bags: 7 lb., 2s 6d.; 14 lb., 3s. 6d.; ¼ cwt., 5s.; ½ cwt., 9s.; 1 cwt., 17s. 6d. Circular, containing full details & List of Testimonials, free on application.—DICKSONS, Chester.

FISH MANURE for VINES and PLANTS.—GEO. HARRIS, Esq. (Head Gardener to His Grace the Duke of Northumberland), Alnwick Castle Gardens, writes:—"I have applied your Manure to Vines and many kinds of plants with excellent effect." In 1 cwt. bags. £3 10s. per ton, 4s. 6d. per cwt. Carriage paid.—THE GREAT GRIMSBY POULTRY GRIT AND MEAL COMPANY, Grimsby.

STOVES, ROBERTS'S (IMPROVED) PATENT. TERRA-COTTA! PORTABLE! FOR COAL!
Pure and ample heat, 24 hours for about 1d., without attention. For Greenhouses, Bedrooms, &c. Greenhouses heated, 24 houses for about 1d. Pamphlets, Drawings, and authenticated testimonials sent. See in use at Patentee's.
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J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W.

SALES BY AUCTION.

Monday Next.

SPECIAL SALE OF 10 000 HARDY PERENNIALS, CARNATIONS, PICOTEES, LILIES, and IRIS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, on MONDAY NEXT, November 12, at 12 o'Clock, hundreds of choice Hardy Perennials in great variety, from one of the largest growers in this country; thousands of Carnations, Picotees, Hollyhocks, Pyrethrums, Pæonies, Phlox, and Delphiniums of the most popular sorts, 10,000 Galanthus Elwesii, Chionodoxas, Anemone fulgens, Scillas, and other Bulbs, a magnificent collection of the finest kinds of Lilies, including Browni, Lowi, Colchicum, testaceum, rubrum, album, and many others; also a grand assortment of Iris germanica, sibirica, Kempferi; Olbiensis, and others.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, November 13, at half-past 12 o'Clock, the following:—

A Splendid IMPORTATION of MEXICAN ORCHIDS, Including Cattleya citrina, Epidendrum nemorale, Lælia majalis, Odontoglossum nebulosum, O. splendens, &c.

CRINUM NOBILE ALBUM,
a magnificent white-flowered species; flowers twice the size of Eucharis amazonica (see Drawing).

HÆMANTHUS KALBREYERII.
Flower-heads immense, flowers vermilion-crimson, filaments scarlet, anthers orange-yellow (see Drawing).

HABENARIA SUSANNÆ,
the most magnificent species of the genus (see Drawing).

ARISÆMA FIMBRIATA,
the cobra-headed Aroid (see Drawing).

BLETIA CATENULATA.
Very handsome, glowing violet-purple flowers.

DENDROBES, from Northern Australia.

AËRIDES, VANDAS, SACCOLABIUMS, ARUNDINAS, &c., from India.

CATTLEYA LABIATA, in flower, and many other choice ORCHIDS.

On view morning of Sale, and Catalogues had.

Wednesday Next.

150 Cases of LILIES direct from Japan, consisting of
8500 LILIUM AURATUM
4800 ,, LONGIFLORUM
320 ,, SPECIOSUM RUBRUM
720 ,, MELPOMENE.

Also English-grown LILIES in great variety, various Hardy BULBS, SPIRÆAS, LILIUM HARRISI, a fine assortment of the beautiful CALOCHORTI, 200 Dwarf ROSES, CYCLAMEN SEEDS, CLIMBERS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, November 14, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

AZALEAS, PALMS, ROSES, & HARDY BULBS.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 15th, at Twelve o'clock—

250 Azaleas indica mollis, Camellias, and other Plants from Belgium, 1000 Dwarf Roses from an English Nursery, Palms and other Decorative Plants, Herbaceous Plants, &c.

On view Morning of Sale, and Catalogues had.

Friday Next.

Most IMPORTANT SALE of
A GRAND RE-INTRODUCTION
of about 400 Plants of
CATTLEYA MAXIMA GIGANTEA.

Messrs. Linden, the Re-introducers of the famous old Cattleya labiata autumnalis, have great pleasure in announcing to their honourable patrons that they have been fortunate enough to re-introduce another long-lost magnificent Cattleya, one of the handsomest and most remarkable Cattleyas known, the CATTLEYA MAXIMA GIGANTEA.

Discovered in 1861 by G. Wallis, when collecting for Mr. J. Linden, only a few plants then reaching Europe alive. It was at one time a well-known feature in the celebrated collection of Mr. Day, about 25 years ago. Since the first introduction, many attempts to re-introduce this grand Orchid have failed.

Our diligent Collector, who was fortunate enough after long research, following the traces left by Mr. Wallis, to secure the plants, confirms that this variety bears as many as twelve large flowers of the brightest colour on one stem. An inspection of the old flower-scapes will prove the truth of his assertion.

☞ The plants are of the most robust appearance, with very stout bulbs, from 1½ to 2 feet high, similar to Lælia elegans in appearance, and have arrived in the best possible condition.

Also
CATASETUM BUNGEROTHI, a number of fine established unflowered plants, with flower-spikes.
Also a quantity of imported Plants of
ODONTOGLOSSUM KRAMERI, O. CIRRHOSUM MAXIMUM, O. EDWARDI, O. HALLI,
CATTLEYA SKINNERI.
And others just to hand in fine condition.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, November 16, at 12,30 o'Clock.

On view Morning of Sale, and Catalogues had.

Ottershaw Nurseries, near Chertsey, Surrey.

About 1 mile from the Chertsey Station.

Highly important FOUR DAYS' SALE of exceptionally well-grown NURSERY STOCK, for which these Nurseries are so famed, by order of Messrs. Fletcher Brothers, in consequence of the decease of the late Mr. William Fletcher, and retirement of his Executrix from the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on MONDAY NEXT, November 12, and three following days, at 12 o'Clock precisely each day, without reserve, 20,000 Evergreens and Conifers, adapted for immediate effective planting, and including 100 lots of fine grown Border Shrubs, and extensive quantities of Cupressus, Retinosporas, Thujas, and Piceas, 10,000 Weymouth and other Pines, 1,500 Gold and Silver, Variegated and Green Hollies, 500 Bushy Portugal Laurels, 3,500 Laurels in variety, 1500 Rhododendrons, 1½ to 5 feet, best named sorts, 2,000 Ponticum Rhododendrons, 1½ to 2½ feet, 500 Kalmias, 5,500 Standard and Dwarf Roses, embracing 1,500 Standards, and 4,000 Dwarfs, all carefully named; 30,000 Manetti Stocks, 10,000 Apple Stocks; 4,000 Standard Ornamental and Forest Trees, 6 to 15 feet, consisting of Limes, Poplars, Elms, Horse Chestnuts, Birch, Planes, Laburnums, Spanish Chestnuts and Mountain Ash; 500 Weeping Elms, with fine heads and good stems; 3500 Copper Beech, 3 to 7 feet, beautifully coloured; large quantities of Flowering and Deciduous Shrubs in variety, 30,000 extra strong Quick, 7000 strong Larch, 2 to 4 feet, Ampelopsis Veitchi, Ivies in pots; 8700 Fruit Trees, cleanly grown and true to name, comprising 3000 Standard and Bush Plums and Cherries, 1500 Farleigh Damsons, 2000 Standard and Bush Apples, 2000 Standard and Bush Pears, 250 Dwarf Trained Peaches, Apricots, Nectarines, and other Stock.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

The Windlesham Nurseries, near Bagshot, Surrey.

GREAT SALE of magnificently grown young NURSERY STOCK, by order of the Executors of the late Mr. Richard Mason, in consequence of the
FREEHOLD and LEASEHOLD NURSERIES HAVING BEEN SOLD.

MESSRS. PROTHEROE AND MORRIS (having disposed of the Freehold and Leasehold Nurseries), will SELL by AUCTION, on the Premises, as above, a few minutes' walk from Bagshot Station, on MONDAY, November 19, and FIVE FOLLOWING DAYS, at 12 o'Clock precisely each day, the extensive assortment of beautifully grown NURSERY STOCK, growing on about 30 acres of Land, and now in excellent condition for transplanting, comprising:—

30,000 Rhododendrons, named hybrids	100,000 Pinus, Abies, and Cedrus
10,000 ,, seedlings	100,000 Hollies, green and variegated
100,000 ,, ponticum	30,000 Laurels of sorts
50,000 Hardy Azaleas and Kalmias	20,000 Privet
20,000 Berberis Andromeda	2 000 Aucubas
5,000 Beech, purple and green	15,000 Yews
2,000 Thorns, standards	2,000 Roses, standard and dwarfs
10,000 Forest Trees, standards and others	10,000 Manetti Stocks, budded
15,000 Fruit Trees	3,000 Standard Briars, budded
250,000 Conifers of sorts	5,000 Flowering Shrubs
Thousands of Border Shrubs.	1,000 Creepers

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; of Messrs. REEP, LANE AND CO., Solicitors, 4, Great St. Thomas Apostle, E.C., and Bagshot; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, November 16, at Half-past Twelve o'Clock.

500 ODONTOGLOSSUM KRAMERE, received direct, in perfect condition.
100 CYPRIPEDIUM SPECTABILE, large masses, from America. And
60 LILIUM BROWNII.

On view morning of Sale, and Catalogues had.

Preliminary Notice of a Great Consignment of

50,000 KENTIA SEEDS.

FORSTERIANA and BELMOREANA.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., at an early date.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, LILIUM CANDIDUM, SNOWDROPS, &c.

On view mornings of Sale, and Catalogues had.

Osborn Nursery, Sunbury, Middlesex.

CLEARANCE SALE of STOCK, the Nursery having been let.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION on the Premises, on THURSDAY, November 29.

Further particulars will appear.

Waltham New Town, Waltham Cross.

TO NURSERYMEN, BUILDERS, and OTHERS.

NOTICE of SALE by AUCTION by

MESSRS. CRAWTER, at the "Four Swans" Hotel, Waltham Cross, on THURSDAY, November 22, 1894, at half-past 7 P.M. precisely, of the BENEFICIAL INTEREST in the CRESCENT ROAD NURSERY, Waltham New Town, held for a term of 21 years, 20 of which are unexpired, direct from the Freeholder at the nominal rent of £4 per annum.

Particulars and conditions of Sale may be obtained of FREDERICK HILL, Esq., Solicitor, 73, Queen Victoria Street E.C.; at the place of Sale; and of Messrs. CRAWTER, Land Agents and Auctioneers, Cheshunt, Herts.

Dutch Bulbs—Dutch Bulbs.—Dutch Bulbs.

SALES NEARLY EVERY DAY,
In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock. First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Wednesday and Thursday Next.

GREAT TWO DAYS' SALE of PLANTS and BULBS.
GRAND IMPORTATIONS FROM HOLLAND.

5000 choice named Standard, Dwarf, and Climbing Roses.
2000 Hybrid RHODODENDRONS, full of buds.
5000 Small, beautifully-grown ORNAMENTAL SHRUBS, comprising Cupressus, Laurels, Retinospora, Aucubas, Box, Green and Variegated Acers, Taxus, Genistas, Magnolias, Hedera, Hortensias, Thujas, Abies, Privet, &c., for pot or border culture.
1000 Black, Red, and White CURRANTS, GOOSEBERRIES, &c.
CLEMATIS and other CLIMBERS.
1000 AZALEA MOLLIS, well furnished with flower-buds.
Standard and Dwarf HYDRANGEAS, a great variety of Flowering TREES; a choice Collection of LILIUMS.
All in the finest possible condition.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY and THURSDAY NEXT, November 14 and 15

On view morning of Sale, and Catalogues had.

Wednesday and Thursday Next.

IMPORTANT TWO DAYS' SALE.
A Specially Fine Collection of HYACINTHS for Glasses, including many of the newest sorts.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY and THURSDAY, NEXT, November 14 and 15.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

3 0 PYRAMID and DWARF TRAINED FRUIT TREES to name, comprising APPLES, PEARS, PEACHES, PLUMS, NECTARINES, CHERRIES, &c., from an English Nursery.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 14.

On view morning of Sale, and Catalogues had.

Wednesday and Thursdry Next

TWO DAYS SALE of PLANTS and BULBS.

Best Berlin LILY OF THE VALLEY crowns, 2000 clumps of ditto, a collection of PALMS, LILIUM HARRISII, L. CANDIDUM, Forcing HYACINTHS and NARCISSUS, 1000 HYACINTHUS CANDICANS, DAFFODILS, Choice NARCISSUS, 7 00 S. African TUBEROSES, LILIUM AURATUM from Japan, Sacred LILIES, FREESIAS, IRIS, ANEMONES, 2000 SPIRÆA JAPONICA, DIELYTRA SPECTABILE, Garden Barrows, and Fern Stands, fine masses of CYPRIPEDIUM SPECTABILE from America, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY and THURSDAY NEXT, November 14 and 15.

On view mornings of Sale, and Catalogues had.

Thursday Next.

A Splendid Collection of choice ENGLISH and AMERICAN BORDER PLANTS, including many Novelties. A great variety of Home-grown LILIUMS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, on THURSDAY NEXT, November 15.

On view morning of Sale, and Catalogues had.

LÆLIA GRANDIS TENEBROSA,

DISCOVERED IN A NEW DISTRICT.

JOHN COWAN & Co.

(LIMITED),

Expect to receive, per steamer *Clyde*, due on Friday, the 9th inst., a large and fine lot of the above, which were discovered in a NEW DISTRICT by the Company's Collector. Some grand varieties may be expected amongst them.

Priced and Descriptive Circular of this and other large and fine importations, post-free, on application to the Company,

THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

FLORIST, NURSERY, and MARKET GARDEN BUSINESS.—Beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling. Piggeries, and Orchards (about 12 acres in all). Rent low; extensive area covered with Glass, and properly heated. Abundant supply of water flowing through premises. Two Railway Stations near. Purchase or Partner.
CLEMENT GARDINER, 14, John Street, Bristol.

FRIDAY NEXT, November 16. **MOST IMPORTANT SALE.**

A GRAND RE-INTRODUCTION of about 400 splendid Plants of

CATTLEYA MAXIMA GIGANTEA.

MESSRS. LINDEN, the re-introducers of the famous old CATTLEYA LABIATA AUTUMNALIS, have great pleasure in announcing to their respective patrons that they have been fortunate enough to re-introduce another long-lost magnificent Orchid, one of the handsomest and most remarkable Cattleyas known, the CATTLEYA MAXIMA GIGANTEA. Discovered in 1864, by G. Wallis, when collecting for Mr. J. Linden, only a few plants reached Europe alive. It was a well-known feature in the celebrated collection of Mr. Day, about twenty-five years ago. Since the first introduction many attempts to re-introduce this grand Orchid have failed, and no other plants have been met with. Our diligent Collector, who was fortunate enough, after long research, in following the traces left by Wallis, to secure the plants, states that this variety bears as many as twelve large flowers of the brightest colour on one stem. An inspection of the old flower scapes will prove the truth of his assertion.

The Plants are of the most robust appearance: thick bulbs from 1½ to 2 feet high, similar to Lælia elegans in appearance, and in the FINEST POSSIBLE CONDITION.

And OTHER FINE ORCHIDS, to be OFFERED by PUBLIC AUCTION, at

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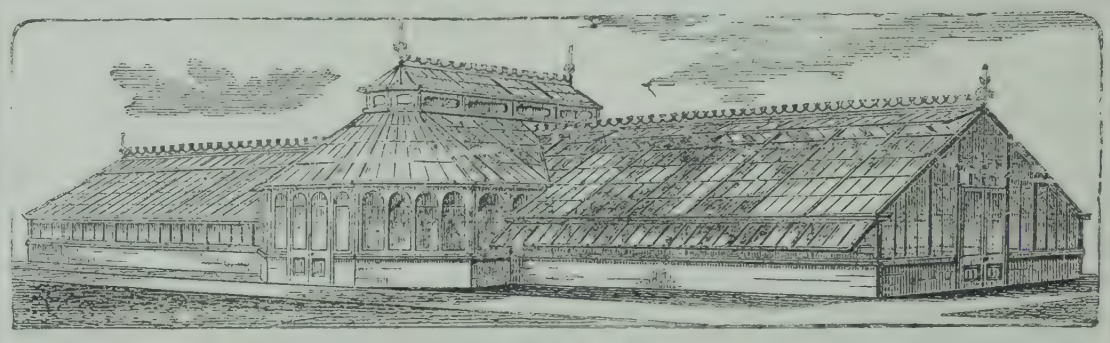
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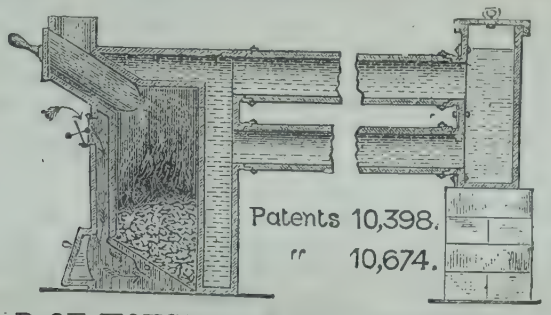
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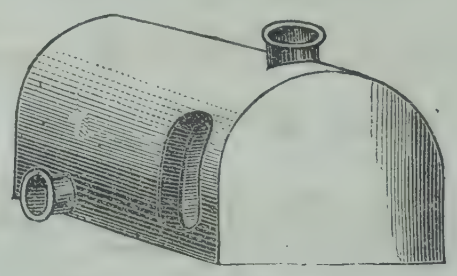
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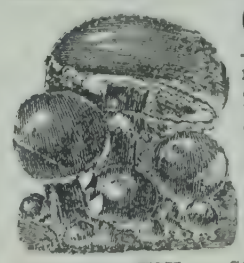
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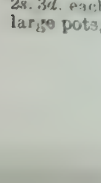
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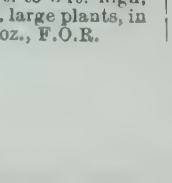
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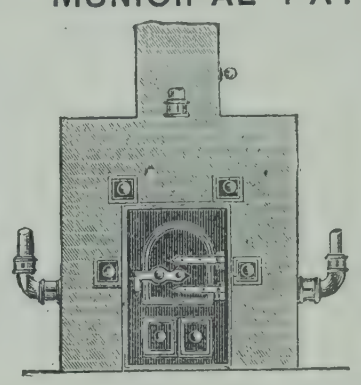
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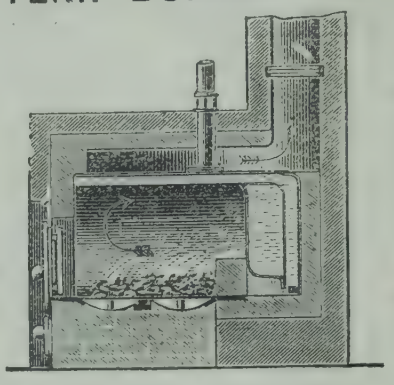
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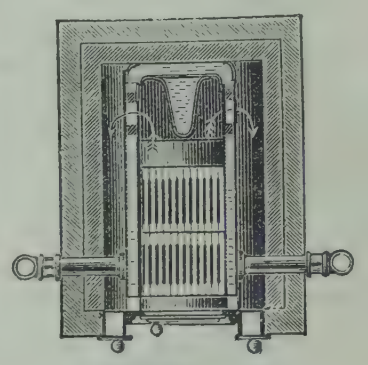
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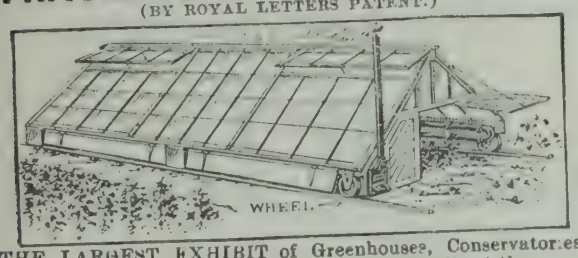
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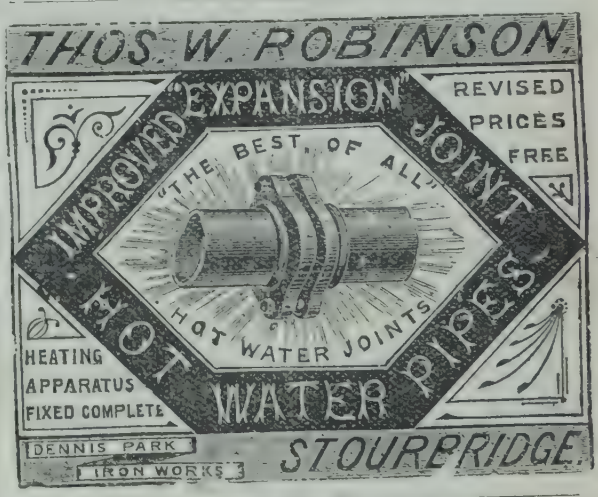
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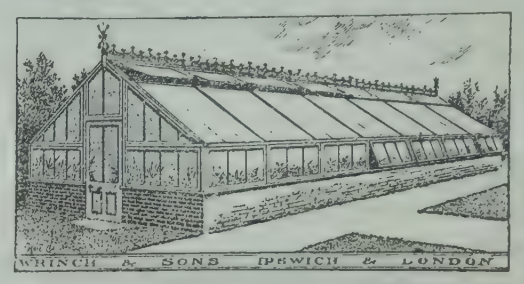
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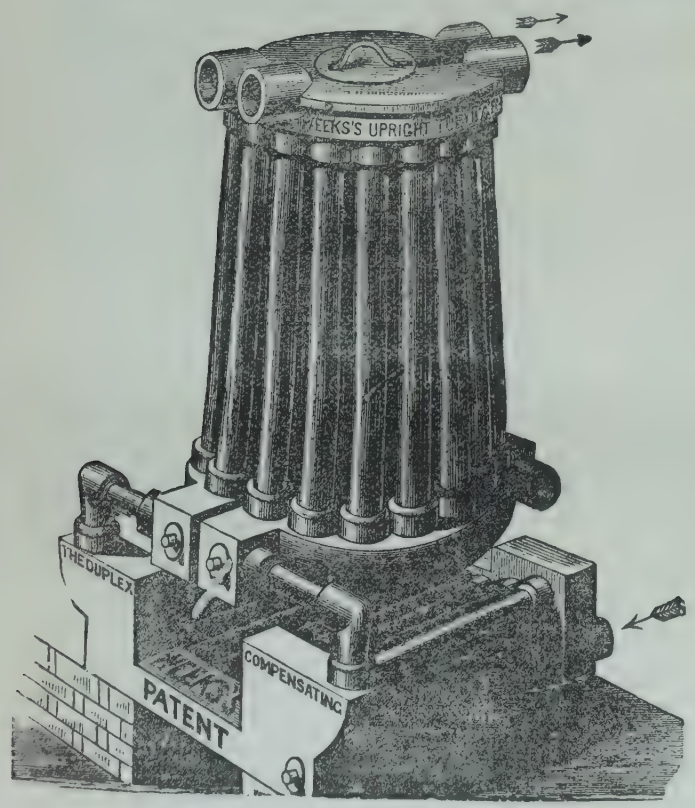
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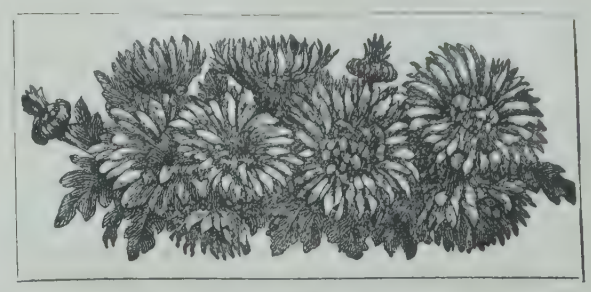
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 10, 1894.

EDWARD LEEDS,

THE RAISER OF THE LEEDS' VARIETIES OF NARCISSUS.

THIS is a brief record of a quiet life, the memory of which survives with the flowers. When spring comes with its Daffodils, every florist wonders who Leeds was, who raised so many beautiful varieties. He led such a retired life, and had such an uneventful history, that few of his contemporaries knew of his botanical pursuits; and he only lived to see a few of his Daffodils in bloom.

Edward Leeds may be considered a "Manchester man," as he was born at Buile Hill, Pendleton, within 4 miles of the Exchange, September 9, 1802. His father, Thomas Leeds, was a citizen of Norwich, and Edward was the eldest son. His mother was a daughter of Joseph Rigby, of Swinton Park, near Manchester. He was educated at John Hathersall's school on Ardwick Green, Manchester, and even in boyhood he was passionately fond of flowers, and spent his pocket-money in plants which he bought in Smithy-door-market, in Old Manchester. Oddly enough, his school nickname was "Bulbous."

Thomas Leeds had a mill at Gerards, near Gee Cross, where he manufactured a superior kind of cotton-thread. It was unfortunately burned down, which caused him to come to Manchester, where he tried to establish a property agency, and not being successful he settled down to share-broking, and with his son Edward took a small office in St. Ann's Churchyard.

Edward Leeds was thus brought up to the business, but it is doubtful if he ever entered the Stock Exchange as a member. He had an outside practice, and dealt largely in mining shares. He was greatly influenced in his early love for gardening by Thomas Glover, a keen naturalist, who continued the pursuit of his natural history hobbies, especially botany and conchology, to an advanced age. I visited him at Southport, March 14, 1885, when he was in his 90th year, and found him busily arranging his collection of shells. In 1828, Mr. Glover lived at Sharston, near Northenden, then quite a country place, and difficult of access from Manchester. He had a large garden and greenhouses, and specially cultivated Camellias, of which he had many varieties. He succeeded in raising a good many seedlings, one of which he sold for 60 guineas, to R. S. Yates, a Manchester florist. It was named the Duke of Lancaster. This, with many other seedlings, was raised from seed obtained by crossing the double Camellia Warratah with pollen from other sorts. Warratah had a very prominent pistil and poor stamens. It was thus easily fructified, and as the petals fell away the seed-pods became very prominent. It was while Mr. Glover was busy with thus obtaining seedling Camellias by artificial crossing, that he became acquainted with

*

Mr. Leeds, who visited him frequently at Sharston, and took a great deal of interest in what was going on. No doubt he was thus led into similar cultural experiments.

Mr. Glover afterwards removed to Smedley Hill, where Leeds frequently visited him. Mr. Glover never knew Dean Herbert. Mr. Leeds was a candidate for the curatorship of the Manchester Botanical Gardens in the year 1828. He was one of the selected in the last lot, but failed to obtain the appointment, which fell to Mr. Mowbray. At this time he was described as a short, stout man, like a pollard Oak, and sociable and pleasant. He went to reside at Longford Bridge, near Stretford, about the year 1835, and lived there for forty-two years, during the whole of which time the garden was cultivated with most loving care. It was a place difficult of access, about four miles from Manchester, reached by the omnibus which then plied from Manchester to Altrincham. The house was a good roomy cottage, with a large square garden of perhaps an acre around it, on rich alluvial soil, near the River Mersey. The place soon became notable to gardeners and botanists, and was the meeting-ground for old Lancashire florists. Tulips, Auriculas, Carnations and Pinks were grown there as hobbies, and the wider cultivation of Alpine plants was pursued with ardour. The Lancashire florists at this time knew all about the improvement of flowers by careful crossing, and Leeds thus gained the knowledge he afterwards carried into effect with the Narcissi.

Leeds was a sportsman, and frequently made long excursions on fishing expeditions in which he was joined for several years by Mr. Glover. They generally went to Teesdale, which was, in those days, a paradise to the botanist. They used to find Gentiana verna in such plenty that the whole valley was blue with it. In these excursions many were the plants collected for the herbarium and also for the garden. During his lifetime Mr. Leeds made a large collection of dried plants. Sir W. Hooker was his correspondent from 1839 to 1858, and they frequently exchanged specimens. Dr. Hooker visited his garden, and ultimately Mr. Leeds gave his herbarium to Kew. When sent away it filled three large cases. Another frequent visitor to Mr. Leeds' garden was Mr. Nuttall, a celebrated American botanist, who published a flora of that country. John Windsor, author of *The Flora of Craven*, an excellent botanist, was also a friend of Mr. Leeds, and a frequent visitor to the Longford garden, which he used to say he would rather see than the Botanical Gardens. Mr. Tyerman, curator of the Liverpool Botanical Gardens, was also a frequent visitor and correspondent. The Rev. Canon Ellacombe, of Bitton, corresponded with Mr. Leeds, but they had no personal acquaintance. From correspondence kindly lent, I find he was then cultivating Artemisia frigida, a rare silvery-foliaged Alpine, Allium sub-hirsutum and A. neapolitum, then new plants to British gardens, Soyera montana which he had grown from seed forwarded from the Pyrenees, Milla uniflora, and some varieties of the Dahlia, probably the Juarezi group. Mr. Ellacombe sent him Stokesia cyanea which he had lost, and several of the rarer Campanulas. General Seager, his brother-in-law, brought him many plants and seeds from the Crimea.

About this time we come upon the true commencement of Narcissus culture in England. The Hon. and Rev. W. Herbert came to Manchester in 1840, and died in 1847. The late R. S. Yates told me that he soon became acquainted with Mr. Leeds, and visited his garden. The influence can thus be thoroughly established, and as Mr. Leeds was ripe for the subject by his early training and pursuits, it at once took hold of his energetic mind.

The *Botanical Register* for August, 1843, contains Dean Herbert's article on the Hybrid Narcissi, which is at the foundation of the matter. The editor says, "For the very curious information conveyed in the following pages, we are indebted to the Hon. and Very Rev. the Dean of Manchester, whose experiments in hybridising plants have now assumed precision and importance which could scarcely have been anticipated. We particularly commend the facts here detailed to the attention of the botanist. . . . . There are six Narcissi drawn in plate 38—four of the Incomparabilis group, one variety of Biflorus, and a white Trumpet Daffodil. They were raised from seeds at Spofforth, Dean Herbert's Rectory in Yorkshire. Eight years previously he had made a collection of Narcissi for the completion of his great work on the Amaryllidaceæ, and up to that time no one had ever known a seed to have been produced by any one of the Narcissi enumerated. They had been cultivated 200 years, and yet their places of abode were unknown to Clusius and Parkinson, and a suspicion arose that they were artificial breeds, which some cultivator had imposed upon the public as mountain plants two centuries ago. Herbert had first published an advertisement stating that suspicion, and requesting seeds, and the the seed of N. odorus being named in the list of the Botanical Garden at Naples, application was made for some, without success. The result was that bulbs of many Narcissi were sent to Spofforth, but no seeds. Herbert at once set to work to solve the riddle by growing the bulbs he had thus obtained, and getting them to produce seed by artificial fertilization. No. 5 had been obtained by pollen from poeticus; No. 3 from incomparabilis, crossed with poeticus, he found also that the pollen from the cross was fertile. Every cross is carefully detailed in this paper, and the rule that governs the subject is carefully set forth by the results of the experiments. It is a most interesting communication, showing how clearly Herbert saw the results which would ultimately follow. He concludes with these remarkable words, "It is desirable to call the attention of the humblest cultivators, of every labourer, indeed, who has a spot of garden, or a ledge, or window, to the infinite variety of Narcissi that may be raised, most easily in pots, at his window, if not too much exposed to sun and wind—offering him a source of harmless and interesting amusement, and perhaps a little profit and celebrity."

At this time, no doubt, Leeds knew Dean Herbert, and it is to this paragraph that we must look for the incentive to his labours, which have proved the truth of the Dean's prevision in so remarkable a manner. Finally, Dean Herbert detailed the process he followed in hybridising the Narcissi:—"The six anthers should be carefully taken out before the flower which is to bear seed blows. This may be done through a slit cut in the tube, and the yellow dust from another sort must be applied to the point of the style." *Wm. Brockbank, Brockhurst, Didsbury*, 1894.

(To be continued.)

New or Noteworthy Plants.

EUCOMIS ROBUSTA, *Baker, n. sp.**

This new species of Eucomis is remarkable for its very robust scape and large flowers. It is nearest to E. regia, Ait (E. clavata, Baker, in *Saund. Ref. Bot.*, t. 238), from which it differs by its narrow, long, ensiform, acute leaves. It has been introduced into cultivation by Messrs. Dammann & Co., of Naples, from the neighbourhood of Kœnigsberg in Natal. The scape and leaves are destitute of purple spots, and the leaves, both of the radical rosette and of the coma that crowns the raceme, are very thick in texture.

Basal leaves ensiform, acute, 2 feet long, 2 inches broad at the middle, narrowed gradually to the base and acute apex, plain green, very thick in texture, channelled down the face, crisped on the margin. Scape very short, plain green, an inch thick. Raceme dense, oblong, 6 to 8 inches long, above 2 inches in diameter, crowded by a "coma" of twenty to thirty oblong-acute, reduced, plain green leaves, crisped on the margin; pedicels ascending, stout, ⅛ to ½ inch long; bracts ovate, acute, plain green, longer than the pedicels. Perianth ⅝ to ¾ inch long; tube campanulate; segments oblong-spatulate, tinged with brown on the back. Filaments lanceolate, not more than half as long as the perianth; anthers small, oblong. Ovary globose; style short. *J. G. Baker.*

* *Eucomis robusta*, Baker, n. sp.—Foliis ensiformibus acutis bipedalibus crassis viridibus immaculatis margine crispis; scapo brevissimo crasso clavato immaculato; racemo denso oblongis foliis reductis multis oblongis acutis coronato; perianthii tubo campanulato, segmentis oblongo-spathulatis viridibus dorso fusco tinctis; filamentis lanceolatis perianthio distincte brevioribus.

EDINBURGH ROYAL BOTANICAL GARDEN.

Mimosa latispinosa.—This Madagascan species is now flowering in the Palm-house at the Royal Botanical Garden, Edinburgh, where it is trained upon the roof of the annexe. The plant, a climber, has slender stems, crowded with short spines. The alternate bipinnate foliage is of a light and graceful character, the leaves being more than 1 foot in length, bearing a large number of pinnæ; the light green leaflets upon these numbering from ten to twelve pairs, are arranged on light-coloured compressed spines. The terminal panicles bear white flowers, which have the fragrance of Hawthorn. Although introduced to this country in 1823, it is still rare in gardens.

Clerodendron nutans.

A good specimen of this free late-flowering species may now be seen in the Palm-house, and although a useful plant for pot-culture, it does not show to the same advantage as when planted out. The plant is carrying more than fifty of its long drooping racemes of flowers, which have a greenish-white calyx, and a white corolla. The foliage is about 6 inches long, and of a dark green colour. During the growing season it should receive frequent stoppings to secure an even growth of flowering shoots.

Musa coccinea.

This highly ornamental species is a good plant of dwarf habit, the bracts, which are very conspicuous, being quite attractive. The leaves are about 1 yard long, and 9 inches broad, and the scarlet bracts are about 8 inches long, and tipped with yellow, lasting a considerable time in perfection. The plant has long been known to cultivation, and is a native of China or Cochin-China. It was figured in the *Botanical Magazine*, t. 1559. *R. L. H.*

Orchid Notes and Gleanings.

AËRIDES SAVAGEANUM, *Reichenbachia*, t. 81.

A native of the Philippine Islands, introduced by Messrs. Sander, and shown by them and others at the Temple Show, May, 1891. It is related to A. Leeanum. Under cultivation it has been found to be a very free grower if placed in the warm house section of Aërides, such as A. quinqevulnerum, A. Lawrenceæ, and A. Sanderianum, or if grown in the warm end of the Dendrobium-house; for an even moderate temperature suits it better than a very high one. It is remarkably vigorous and free-flowering; the flowers present "every imaginable shade of crimson and purple, and in some cases the basal half of the sepal is pure white. It requires, according to Messrs. Sander, abundance of moisture and a clear light, but should be shaded from direct rays of the sun in summer. The temperature of the Orchid houses should be 7° to 10° F. less at night than in the day."

Thunia Brymeriana, *Reichenbachia*, t. 82.

Introduced by Mr. Brymer, and described as the showiest and most beautiful of the genus, while the flowers remain longer in beauty than do any of its congeners. It is stated to be of easy cultivation; if its old stems are cut into lengths of 2 to 3 inches, and a number placed together in ordinary cutting-pots, they will give young plants almost as freely as a Pelargonium, and when its flowers are matured it is not in the least injured by cutting, whatever growths are required for decoration. In the spring the plants should be repotted, each stem being

securely fastened to keep it upright, a turfy-yellow loam mixed with a little chopped sphagnum and sand being a suitable material in which to pot them.

Miltonia spectabilis var. Moreliana, *Reichenbachia*, t. 83.

The Miltonias of this section have the reputation of being difficult to grow, but if properly managed this is not the case. Messrs. Sander recommend a shady but light corner of the intermediate-house, and a temporary staging to bring the plants near the glass. Well-drained shallow pans or baskets suit them best, as they require an abundance of rain-water when growing, but a free drainage must be secured. The pseudobulbs must not be allowed to shrivel for want of sufficient moisture at the roots.

Oncidium Kramerianum, *Reichenbachia*, t. 84.

This differs from O. papilio in having a more terete scape, which does not become flat in the upper half as in O. papilio, in the very prominent nodes at the joints of the flower-spike, the shorter and broader segments of the flower, and in the somewhat different arrangement of the parts of the crest and columns. It requires much the same treatment as Miltonia Roezlii. An even temperature of 60° to 70° F. in a moist house, not too heavily shaded in summer, suits it admirably. It is a native of the Andes of Ecuador and New Granada.



Fig. 72.—Stenoglottis longifolia: colour of the flowers mauve purple.

Cattleya labiata, R. I. Measures' Variety.

It is a very great source of pleasure to an amateur to flower such a marvellously beautiful and distinct form as the superb white variety of autumn-flowering Cattleya labiata found in the collection of R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell. It is also an additional pleasure to possess so fine a specimen of the variety, which has thrown two spikes, one bearing two, and the other four, flowers.

The flowers are pure white, except for a small space at the base of the labellum beneath the column, which is of a primrose-yellow hue, and a faintly-tinted, well-defined veining of pure pink over the front lobe. In the small amount of colour which is in this pretty albino there are two peculiarites—firstly, the presence of scarcely any yellow colour in the tube of the lip, peculiar to the species, and a strongly-marked feature in C. labiata alba; and secondly, that the pink colour is displayed in distinct lines, which follow the veining, and not as a hue suffusing the whole surface, peculiarities which render the plant unique. The history of it is singular, and worth recording. It caught the eye of Mr. H. J. Chapman, the gardener at Cambridge Lodge, when examining an importation of C. labiata at the nursery of Messrs. F. Sander & Co., St. Albans, and the plant was secured for a few shillings. The same instinct, or whatever it might be called, which decided his choice in the matter, prompted him to carefully watch it, in the full belief that it would prove a novel variety—a belief that has not been belied. An offer of 200 guineas has been made for the plant, but it is destined to remain at Camberwell, to bear company with the many remarkable plants already there. *James O'Brien.*

STENOGLOTTIS LONGIFOLIA.

This is a really first-rate greenhouse Orchid, easily cultivated, and free-flowering, whilst its flowers last about three months (Fig. 72). It was introduced five years ago from Natal to Kew, and was first described in these columns (1889, vol. ii., p. 438) by Mr. N. E. Brown, as a variety of S. fimbriata, but was elevated to the rank of a species by Sir Joseph Hooker, in 1891, who figured and described it in the *Botanical Magazine*, t. 7186. Both species are cultivated at Kew, S. fimbriata being a small plant with a rosette of leaves, which are green, banded with dark brown, and a few-flowered scape, 6 inches high. It was introduced in 1870, first flowering that year with Mr. Wilson Saunders. It is a pretty little Orchid, and is not uncommon in some parts of the Cape, where it is usually found clinging to stones in shady, moist places. Its leaves are deciduous. S. longifolia has strap-shaped, undulated, semi-erect leaves, 9 inches long, green, with a tinge of purple near the base, and they are evergreen. The scape is 18 inches high, the upper half being clothed with mauve-purple flowers. The plant at Kew this year bears five fine spikes of flowers, and it has been in bloom about two months, and is quite fresh yet. Apparently it may be increased by means of offsets, which spring from the base as in some of the Disas. *W. W., Kew.*

Plant Notes.

AMPELOPSIS HEDERACEA.

This is useful for intermixing with strong-growing Ivy. We have both of the latter growing very freely together on the castle here, and I notice they have reached the parapet. We afford plenty of manure-water to the Ampelopsis during the season of growth. I wish to say that my employer, Colonel Cooper, suggested planting Ampelopsis hederacea against a Scotch Fir or two in a hardy fernery we have here. I have done so, and the effect is very good; it is a relief and contrast to some Ivy-clad Scotch Firs. *H. M.*

Crataegus pyracantha Lelandii.

This is a desirable shrub, which does well when planted in a good porous soil, and near to a wall with a south aspect. At this season of the year it is covered with its scarlet fruits, and being an evergreen, it is a presentable object after the berries are off. *H. May, Markree Castle, Collooney, Sligo.*

French Marigold, Legion of Honour.

This very pretty distinct variety will be found an acquisition as a summer decorative plant, and when more known will be a popular favourite. It is of dwarf compact habit, growing not more than 12 inches in height, flowers profusely, and remains flowering until frost destroys it. It is a single-flowered variety, with a profusion of medium-sized flowers of a yellow colour, the base of each petal having a bright brownish-crimson spot. Being an annual variety, it is only necessary to obtain seed and sow it in April for planting out at the end of May or early in June. *W. D.*

A HOME-MADE FERTILISER.

Every intelligent gardener knows the value of wood-ashes as a fertiliser, and until a comparatively recent period wood-ashes were really almost the only commercial manure that was procurable in America, artificial manures not having come into use in that country. But it is somewhat remarkable that the value of wood-ashes and the beneficial results of their application to the soil, are generally attributed solely to the potash which they contain. Undoubtedly potash is an indispensable food for plants, and its application to crops is usually marked by conspicuous results. Those gardeners, however, who have had long experience with potash in the form of wood-ashes, and also as potash salts or kainit, find that the latter is not so marked in its effects as the former. The fact is, that as recently remarked by Mr. S. Macon in the *American Agriculturist*, wood-ashes are really a mixed fertiliser, and a complete one so far as the mineral elements of plant-food are concerned. This must be apparent to anyone who considers that they are the whole residue of plants after being burned, except that part which returns to the atmosphere from which it was originally procured.

The nitrogen and the carbon of the trees alone are thus wanting in the ashes, which contain everything else required by plants. Thus it is only reasonable to infer that the benefit derived from a dressing of wood-ashes to any crop, must be due to the other elements as well as to the potash.

Of course, the value of ashes may vary considerably according to their source, though practically this variation is less than would be supposed at first sight. Ashes are richer or poorer in potash and other useful ingredients according to the kinds of plants from which they are obtained, and to the character of the soil upon which the plants grew. Also it is found, that the value of the ash varies according to the parts of the plant that have been burned. The ashes of twigs (faggots for example), would always be worth much more for horticultural purposes than the ashes of heart-wood taken from the middle of an old tree; and in general the smaller and younger the wood burned the better would be the ashes.

Taking what is known of the composition of the ashes from young twigs and that from heart-wood which has fully matured, one would say that the proportion of potash in ashes may vary from 5 to 20 per cent. But a much better criterion of the real composition of ashes is afforded by the experience of potash manufacturers, according to whom a bushel of wood-ashes weighs about 48 lb. on the average, and yields rather more than 4 lb. of potash salts. Professor Storer has investigated this question somewhat in detail, and has found by the analyses of a number of samples of wood-ashes that selected specimens contain 8½ per cent. of real potash, and 2 per cent. of phosphoric acid; or say 4¼ lb. of potash and 1 lb. of phosphoric acid per bushel of ashes. Hence there is enough potash and phosphoric acid to make the bushel of wood-ashes worth from 10*d.* to 12*d.*; and besides that, some 5*d.* to 7*d.* additional may be allowed for the "alkali power" of the ashes. This may be explained as the force of alkalinity which enables wood-ashes to assist in the rotting of weeds, and to ferment peat.

The notion that the ashes of soft woods, such as Pine and Poplar, are worthless, is an error. The soft woods yield comparatively little ashes, and the ashes are so light that they may readily be blown away by the wind; but weight for weight, the ashes from soft woods appear to be as good for horticultural purposes, or nearly so, as those from hard woods.

The percentage composition of wood-ashes commonly used by gardeners is as follows:—

Selected Plant-food Ingredients in Wood Ashes.

Ash of —	Potash.	Lime.	Phosphoric Acid.
	Pr. cent.	Pr. cent.	Per cent.
Beech wood	16·1	56·4	5·3
Oak ,, ...	10·0	73·5	5·5
Elm ,, ...	21·0	47 8	3·3
Apple ,, ...	12 0	71·0	4·6
Fir ,, ...	11·8	50·1	5·8
Poplar ,, ...	14 0	58 4	13·1
Pear ,, ...	4·2	77·2	3 8
Cherry ,, ...	20·8	28 7	7 7
Average of 25 descriptions of Trees	5 5	31·3	1 9

The barks of trees are still more rich in lime than in potash, than is shown in the foregoing table. And as all plants contain lime, this element of the ashes should be taken into account, as well as the other ingredients, for it is known that the production of nitrogenous plant-food goes on most easily in soils that have a considerable proportion of lime in them. Indeed, it may be said that this supply of lime is indispensable to the action of the nitrification-bacteria, which must have lime within reach for its proper development.

Action of Potash on Soil-nitrogen.

An objection is sometimes made to wood-ashes as a manure for horticultural purposes, that the plants to which they are applied grow coarse. This may be due to the nitrogen supplied to the plant by the action of the potash on the humus of the soil. This power of potashes to make the nitrogen of the soil available for plants is undoubtedly a valuable one, and is strikingly shown in clearing wooded localities. For wherever a heap of wood and scrub is burned, it is noticed that vegetation afterwards is apt to be particularly rank and luxuriant precisely where the largest quantities of ashes are lying. This rankness of growth is doubtless to be attributed first to a superabundant supply of nitrogenous food brought into activity by the aid of the ashes, though it is believed that the spots charged with alkali from the ashes are in many cases better supplied with moisture by capillary action than the surrounding portions of ground.

Investigations have proved that commercial potash fertilisers, used as such, are decidedly inferior for plant-growth to wood-ashes. The explanation of this fact seems to be that the sulphate and the chloride of potash are devoid of the alkaline quality which is so marked a peculiarity of carbonate of potash which, as is well known, is the effective agent in wood-ashes.

As an illustration of the value of wood-ashes as a fertiliser, I may mention the following fact which has just been brought to my notice. A gentleman in Nottingham has two Vines, which are very old, and were said to be worn out; they had not produced a satisfactory crop for several years. In 1893 they yielded 20 lb. of Grapes of a very inferior quality. In the autumn of 1893 they were heavily manured with a mixture of wood-ashes and kainit, with the result that in 1894, the present year, the two Vines yielded 120 lb. of Grapes of excellent quality. The potash in the wood-ashes, combined with the potash in the kainit, matured the wood of the Vine, and developed the fruit-buds. It will be of interest to learn what the result of 1895 will be, but I should think a little more potash will have to be applied in the present autumn, to make up for the drain upon this element by the large crop just gathered. *J. J. Willis, Harpenden.*

FORESTRY.

TRANSPLANTING TREES.

The season for this operation is now upon us, and from the present time to the end of March, transplanting may be carried on whenever the absence of frost or snow permits. Probably every planter has his pet views concerning this subject, based upon his own experience of certain soils, situations, and climatic conditions. These views vary little regarding the exact method of carrying out the work, but considerable difference of opinion exists as to the best time or month for its execution. Without wishing to dogmatise upon the subject, I am inclined to the belief that no great importance need be attached to any particular month for planting, but that a great deal depends upon the conditions and circumstances which are likely to affect the transplanted trees.

In the first place, the physiological peculiarities and the roots of the particular species undoubtedly play an important part. The transplanting of evergreens is usually attended with more risk than that of deciduous trees, and those with a naturally taproot habit require more care than plants with plenty of fibrous roots. Evergreens, except perhaps during severe frost, are never independent of the functional activity of their roots. Transpiration proceeds more or less throughout the whole dormant period, and under normal conditions, root absorption makes good the loss so sustained, but when a tree is transplanted in the ordinary manner, a certain number of the rootlets (which alone bear root-hairs), are broken off or destroyed. This means that the supply of moisture or sap to the leaves is reduced in quantity, but so long as sufficient feeding roots to supply the minimum amount required are left intact, the vitality of the plant is not endangered. When, however, the root system is so reduced or injured as to render an adequate supply of moisture to the leaves impossible, the existence of the tree depends principally upon the humidity of the surrounding atmosphere and the temperature of the soil, together with the tree's inherent power of producing fresh feeders. With a humid atmosphere and a warm soil, transpiration is reduced on the one hand, and root-formation favoured on the other, so that the tree has a good chance of repairing the loss its roots have sustained, before any great demand is made upon it. A spell of warm and moist, but not excessively wet, weather at and after planting-time, is consequently very favourable to recovery, and those who advocate the latter end of October or the beginning of November for planting the majority of the kinds of evergreen trees, have good reasons for so doing, when we consider the prevailing type of weather at that season, and the warmth latent in the soil.

The same principles equally apply to the planting of deciduous trees, but as transpiration cannot proceed without leaves, the plants do not feel the want of feeding-roots before growth begins. This is proved by the fact that hardwood, and certain coniferous timber cut in winter, frequently throw out adventitious shoots from the trunk, and even the ordinary buds partly open if the tops are not removed. Transplanted hardwoods usually push out new shoots even when insufficient roots have been preserved, but growth can only proceed so long as the stock of reserve material holds out. Thoroughly-ripened wood in the transplanted tree is therefore an additional advantage, both on account of the reserve material it contains, and the immunity it enjoys from frost injuries.

As a rule, then, hardwoods may be safely transplanted whenever the weather is suitable, but we should never advise planting in the months of December or January, or later than the middle of March. It is during the first-named months that

root-action is most inactive, and broken root surfaces are less likely to become calloused during spells of frosty, snowy, or wet and cold weather, which usually prevails during the months named. In such weather, the return to the normal condition which transplanting interrupts, is retarded, and in recently-stirred soils frost enters to a considerable depth. After the middle of March, again, the roots have little time to start a fresh growth before the increase of warmth excites the buds into activity, by which time the roots are required to carry on growth, and those formed previous to lifting are usually destroyed in the operation. When planting in these months is unavoidable, as when a large area is taken in hand in one season, it is a good plan to lift a sufficient number early in November, and lay or "sleugh" them in on the site of planting operations. They can then be planted in suitable weather without the roots being seriously damaged a second time by lifting and exposure. Of course no advantage would be gained by this method if less than a month elapsed between lifting and replanting, and by laying-in I do not mean packing soil round a bundle of fifty or a hundred, but spreading them out in the trench, so that the soil comes in contact with the roots.

A point which is frequently overlooked is the necessity for bringing the rootlets in close contact with the soil. Unless this be done, the root-hairs cannot take up mineral solutions, and are of little assistance to the plant. This requires special attention when planting large specimen trees with dense masses of fibrous roots. In such cases, the soil round the outside of the ball falls away in lifting, and when replanted the extremities of the roots are often pressed down together instead of being surrounded by soil. A good method of obviating this evil is that of lightly covering the roots with fine soil, and then pouring, from a watering-can with a coarse rose, enough water to convert the soil into a muddy mass, afterwards filling in with the rest of the soil. Sometimes watering is delayed until the late spring or summer, when probably some of the trees are practically dead, although still showing a vestige of green leaf. Dotting at such times frequently does more harm than good by chilling the soil and retarding the process of rooting it is intended to assist.

Generally speaking, the younger the trees are when given their final shift, the more likely are they to succeed. The advantages which are supposed to follow the removal of the tap-root, and the consequent increase in the number of fibrous roots, are, at the best, problematical, so far as the ultimate growth of timber trees is concerned. One of the functions of tree roots is to ensure stability, and Nature consequently gives them a more or less deep anchorage in the soil for this purpose. Although I am by no means convinced that frequent transplanting whilst young permanently alters the character of the root system, yet there are more unlikely theories propounded than that the removal of the primary tap-root may alter the quality of the timber. Gardeners do not usually object to the presence of a tap-root in a Cabbage, and why foresters should see any danger in a similar appendage to a young Oak or Pine, we do not know. Of course, large trees with strong tap-roots are not likely subjects for successful transplanting, but two-year seedlings might just as well be planted out into the plantation at once, as replanted in a nursery, and by so doing the cost of planting might be considerably decreased, and as good results obtained at the same time. *A. C. Forbes.*

Treatment of Plantations without Regular Thinning.

Cutting vistas is less expensive than regular thinning, the poles are removed with greater ease, as there is plenty of room in the vistas and holes, and the trees remaining are less likely to be injured. Your readers may think me presumptuous in cutting a third series of vistas, contrary to the advice of Prof. Marshall Ward, but he has not seen the plantation since 1886, whereas I work in it every year. In the year 1848 my father trusted me to thin a plantation of 6 acres, its first thinning, when I allowed myself fifty trees a day to cut; and one day, coming to a lot of small trees, I cut 100.

I have observed plantations and natural forests in many countries and climates, and claim to have greater practical knowledge than the learned professor has. The old vistas have closed up so much, that the plantation requires to have air let into it, and I am curious to see whether letting air into the field part, where so many trees die annually, will restore it to a healthy and growing state. The new vistas will not remove so many trees as may be supposed, as cuts have been made across their direction, and small and suppressed trees have been removed. *H. R.*

NEW SWEET BRIAR HYBRIDS.

These strong, vigorous hybrids of Lord Penzance's raising, should have plenty of room given them, so that the branches of one bush do not cross and



Fig. 73.—A hybrid sweet briar, in messrs. keynes, williams, and co.'s nursery, salisbury.

spoil the effect of those of another. They are undoubtedly seen to the best advantage planted out singly on a lawn with a few yards space of green sward between them. In this position the long graceful branches have a fine effect when in bloom.

On no account should they be pruned at any time, beyond removing any branches which it may be undesirable to keep. If pruned like ordinary Roses, they produce little or no blossom.

Each bush should have a stout stake 4 to 6 feet long, and to this a few of the leading branches may be tied, to prevent the plant being blown over by the wind, but the branches look best if allowed to hang gracefully and naturally.

They will not thrive under glass, nor can they be successfully propagated, except by budding or by cuttings in the open air. Winter grafting in heat seems to take all vigour out of them.

We made a suggestion in a recent issue that they might prove good subjects for forming hedges in gardens, a use the old-fashioned Sweet Briar is sometimes put to, but Messrs. Keynes, Williams, & Co., nurserymen, Salisbury, tell us that the cutting that a hedge requires would be inimical to their blooming.

The iron stake shown in the middle of our illustration (fig. 73) of one of these plants, is 8 feet above the ground level, thus affording an idea of the great vigour of the plant which overtops it by several feet. We are indebted to the kindness of Messrs. Keynes for the opportunity to figure the plant.

CHRYSANTHEMUMS ABOUT LONDON.

(Continued from p. 540.)

Woodhatch Lodge, Reigate.—The splendidly-kept gardens of T. B. Haywood, Esq., are remarkable for many features, but for none more so than the annual display of Chrysanthemums, which always reflect credit upon this enthusiastic amateur, and his skilful gardener, Mr. C. J. Salter. A visitor who may go down each year finds the collection staged with the usual regard for neatness, and in the Peach-houses, that are generally used for the purpose. Indeed, the standard of quality varies but little also, and the only apparent difference on entering the houses this season is, that we notice some of the new varieties which have been added during the year; and when we look a little closer, and inspect the individual blooms, it becomes evident that the Japanese varieties are not quite equal to the quality of last year, and again, that the incurved flowers, though late, will be better than they then were. Incurved blooms generally this season are being shown better than they were last year.

Immediately upon entering the house, there are capital plants and blooms of Colonel W. B. Smith, some showing the fascinating twisted character of the florets, and others more fully developed. The flowers do not last long, and some growers do not speak too kindly of the variety on this account. Wm. Seward is conspicuous among the group by reason of its colour; and some capital flowers of Jno. Shrimpton are grand. This bloom commends itself to us most when it is just finished, and the reverse is not seen, but only the soft velvety scarlet-crimson. W. H. Lincoln is a little thin; but there will be fine flowers of President Borel, which at present are not quite finished—the rose-coloured florets and yellow reverse will be pretty here. Mrs. Harman Payne is good, but a plant with the finest buds and of the best colour is late, and the flowers will not be fit for exhibition for some days. Viviand Morel, in the crown bud white, on other buds is rosy-pink, notably, in two instances. James Lynch is the name of a good crimson Japanese reflexed variety that Mr. Salter has received privately from Australia; the habit is good, and the plants have four fine medium-sized flowers of capital colour on each of them. Edwin Molyneux and Charles Davis are both of good quality, the latter varying in colour according to the bud that was "taken." W. Tricker is not finished yet, and Viscountess Hambleton is in about the same stage, but both promise to be good. Mrs. Norman Davis and Coronet both require more time. Mr. C. Shrimpton is good, and easily attracts the attention; whilst Louise is represented by a plant with four good but unfinished blooms. Beauty of Castlewood is only just bursting the buds, but Commandant Blusset is better than we had previously seen it. This new Japanese variety is a splendid acquisition in carmine-purple, and the blooms are of large size, deep, and, when well grown, are distinct from every other variety. Avalanche is conspicuous from the unusually large size of one of the blooms, and it may be noticed that King of Crimsons, though known so long, is still included in a first-class collection. Mdlle. Thérèse Rey is capital, and Lord Brooke will be good when the blooms are finished. Alice Seward is a good Japanese of rose-purple, and looked well here.

Prefet Roberts, certificated when shown recently by Mr. Stevens, has the best blooms we have yet

seen of the variety; when finished, it has the appearance of a large silver goblet. Sunflower will be capital, but at present has only a few of the blooms out, and some of the guard-florets have been removed through damp. Condor has run about as high as any of the plants, but its white flowers with bush-rose are very good. The Tribune is not yet out; but W. H. Fowler, one of Mr. Owen's varieties, a yellow reflexed Japanese, marked a little with scarlet, looked admirable. Of Anemone-flowered plants, M. Jules Benedict is a grand one, with good cushion, and a pretty canary-yellow in colour. As we have already said, the incurved flowers will be good, but few of them were finished when these notes were taken.

On looking through the well-managed Orchid-houses there will be seen some pans of Cœlogyne (Pleione) lagenaria, capitally flowered; also many and diverse forms of Dendrobium Phalænopsis Schroderianum, and some blooms of the delicate hybrid Cypripedium T. B. Haywood. The Zonal Pelargoniums are also good.

Chrysanthemums at the Royal Exotic Nursery, Chelsea.

An unusually good display of the Chrysanthemum, chiefly of the Japanese section, is to be seen at the above nursery. It is particularly rich in novelties of 1893, and of the current year, and the cultivation of all leaves little to be desired. We noticed fine blooms of the following:—W. H. Fowler (Owen, 1893); R. C. Kingston, the rosy-purple colour nicely brought out; Golden Gate, a good but rare American variety—it has done better than Golden Wedding; another American is Lilian B. Bird, a distinct purplish-lilac, still scarce—a tall grower; Le Verseau, rich carmine; John Shrimpton was very good; also Colonel B. W. Smith, a very variable flower when side-buds are selected; Mrs. Peter Blair, an incurved Japanese of a pale lilac hue, had many good blooms; also Madame T. Rey, J. C. Schwabe, Wilfrid Marshall, Mdlle. Marie Hoste, the last named having nice blooms on cut-backs; L'Isera, a white of Mr. Davis' raising, quite new; the pure white Princess May, Lord Brooke, and many more. In the absence of fogs and rain, the collection is likely to last in good order for a few weeks longer.

(To be continued.)

The Rosary.

DRESSING ROSES.

Dressing Roses! The simple and uninitiated in the art of Rose exhibiting may ask, what can be the meaning of this? If Roses are dressed, how, and in what way? To one who has lived all his lifetime amongst florists' flowers, the dressing of such subjects is of course a well-known practice; but it is only of late years that one so distasteful in itself, and so destructive of the best interests of the Rose, has been applied to the Queen of flowers. I have been used from early days to see it carried on amongst Carnations, Picotees, and Pinks; the Dahlia and the Chrysanthemum have been subjected to it; but one had fondly hoped the Rose might be spared this humiliation, but alas! it has come upon us, and every year the practice seems to be increasing. The National Rose Society has passed a rule against it, which will have, I think, to be made more stringent, if we are to not only scotch, but kill the monster.

Before proceeding further, let me first disclaim any sympathy with extreme views as the results of the practice. It has been said by some good authorities, "You see what the practice has done in other flowers; people have so dressed the Carnation and Picotee, that they have abandoned the culture of old florist varieties, and taken to border-flowers; they have seen the stands of beautifully-dressed and arranged flowers at exhibitions, and finding they could not grow anything like them (not being adepts in the art of dressing), have flown to the rougher and more showy border varieties." Again, it is said that the dressing of the incurved varieties of Chrysanthemums, which has been carried to such an excess, that half an hour is spent over making up the toilet of each flower exhibited, has led to their comparative neglect, and the more extended favour given to the Japanese varieties. Now, the statements with regard to both of these flowers are, I think, exaggerated. It may be true that in a few instances this has been the case, but the general preference given to the border Carnation and the Japanese Chrysanthemum is due to a different cause—the present taste for the growth of flowers generally being that of decoration both in the garden and for the house. Now the old florist types of Carnation and Picotee, refined and beautiful as they are, do not lend themselves to either of these purposes; they are dear, and ever will be to the true florist who will ever admire the wonderful patience and skill which has brought them to the state of perfection to which they have now attained. But for the general public whether in dressed or undressed state they have but little charm; the more showy and brilliant border flowers are much more to their taste. But let it not be supposed that even these escape the dresser's hands; let anyone examine stands of border Carnations at any of our exhibitions, and it will be found that they too have been manipulated; and as to the Japanese Chrysanthemums and the preference given to them, the same holds good. With a friend I examined the other day the beautifully-arranged table and other decorations at the Chrysanthemum exhibition at the Aquarium, and amongst all of them there was not a single incurved variety passed; small blooms of the Japanese varieties were the only ones to be seen.

But to return to the Rose, which ought to stand on an entirely different footing, and which has really never been considered a florist flower, it seems to be almost as thankless a task to dress it as to paint the Lily; and there is this difference between it and the flowers already mentioned, that whereas they can be and are operated upon at home, the Rose must be manipulated at the place of exhibition, and therefore, it is that on a show day we may see in some quiet corner an anxious exhibitor sitting over his boxes. He has a pencil and a pair of tweezers in his hand; with one he opens out the flower so as to give it a larger appearance, and with the other turns back the outside (sometimes indeed all the petals), so as to alter the character of the flower completely. He takes away, if possible, all bad petals, and generally gives, if not a wash, a brush up to his flowers.

Some two or three years ago this matter, which even then disturbed men's minds, was brought before the committee of the National Rose Society, and a rule was passed against over-dressing. This rule, from its very vagueness is inoperative; in one or two cases stands were disqualified, but at the same time it was well known that others managed with a little more skill to escape detection. I cannot but think that if the rule were made to make all dressing a disqualification, exhibitors, seeing what is the wish and intention of the National Rose Society, would fall in with the regulation. No instrument, pencil, or tweezers should be allowed to be used, and the object should be to have the Rose shown as cut from the tree; moreover, as I have said, dressing is not carried on at home, but at the place of exhibition, and exhibitors, if not influenced by the *morale* of the matter would probably be unwilling to expose themselves to detection. I do not think that the practice now very often adopted of putting a piece of bass round the blooms when carrying them to the place of exhibition, should come under this category. There is another advantage which would be gained at such exhibitions as the Crystal Palace by the adoption of some such rule: owing to the shortness of the time which, arising from the exigencies of the case can be given to judging, there is the greatest possible difficulty in getting the boxes ready by the appointed time; in some cases, at least, this does arise from this very practice, and therefore, if it were disallowed, it would greatly help both exhibitors and judges. In writing these remarks, I have been actuated by desire to uphold honest exhibiting, and also the character of the flower we love, both of which are jeopardised by this unseemly practice. *Wild Rose.*

The Week's Work.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

WINDOW-BOXES, VASES, ETC.—Where plant-boxes are provided for the windows, they should now be cleared of their summer occupants, refilling the boxes with new soil if that which has served hitherto is not in a fairly good condition. For filling them use Dutch bulbs, Stocks, yellow and brown Wallflowers, &c., in addition to the small evergreen or variegated-leaved shrubs, such as Aucubas and Conifers, Euonymus radicans and japonica, New Zealand Veronicas, Skimmias, &c. The soil should be of a porous nature, and the drainage good. Where a good collection of shrubs and Conifers is in the possession of the gardener, very tasteful arrangements may be made in window-boxes—in fact, these may be made to look almost as pleasing as the more showy summer boxes. Some of the most useful Conifers for the purpose are the Cupressus Lawsoniana and its varieties, including albo-lutea and albo-spica; Retinospora plumosa, R. p. aurea, and R. squarrosa; but a difficulty will often be found in obtaining the two latter sufficiently tall for back rows, owing to their bushy habit. For front rows, any small plants of those enumerated will answer admirably, and may be interspersed with Buxus, Phillyreas, Skimmias, and Veronicas, with Ivies as trailers. Where bulbs are used, care should be taken in making the selection, that the varieties planted will afford a succession of bloom—a not difficult matter. Some of the more useful bulbs are Snowdrops, Crocus, Scillas, Hyacinths, Chionodoxas, Tulips, and Narcissus. Another arrangement may consist of Wallflowers and Stocks, either mixed with shrubs or in masses, with an edging of alpine Auriculas, Primroses, or Daisies.

DAHLIAS.—Cut these down to within 4 or 5 inches of the ground, treating them similarly to the Begonias, and before putting them away in their winter quarters, laying them on their side for the present, and make the labels fast on the stems.

LOBELIA CARDINALIS should be lifted carefully, and stored in boxes of light soil. Keep them cool and dryish, but not dust-dry, or they will waste away with a kind of dry-rot.

HINTS IN GENERAL.—The work of clearing the flower-beds should be persevered with when the state of the weather will permit. Before digging the beds, they should have a moderate dressing of rotten manure, well mixed with the soil if they are to be filled with the usual spring flowering bedders. Where the edgings of Pyrethrum parthenifolium aureum are still in good condition, it will suffice to trim them neatly, making them of one uniform width. The transplanting and planting of shrubs and trees may be pushed on with, and all vacant beds should be manured and dug, leaving the soil in a fairly rough state.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

KEEPING GRAPES.—Good attention should now be given to those Grapes which will have to be kept for spring supply. For this purpose, Muscat of Alexandria, Black Alicante, Lady Downes, and West's St. Peter's, in the order named, are the best. The bunches are best if they remain on the Vines till early in January, at which time they should be cut with a long piece of the shoot attached, and placed in bottles of water in a cool room, where by preference there is no other fruit. By deferring cutting till January, the stalks do not shrivel so quickly as when they are removed earlier; especially is this true of Muscat of Alexandria. The footstalks of the bunches of this Grape are tender, and do not want handling much after they are cut; and when the fruit is perfectly ripe, not nearly so much water is absorbed as by bunches of Black Alicante. It is the best late-ripening Grape, the berries continuing to acquire colour so long as there are leaves on the Vine. The bunches of Muscats should be carefully examined on alternate days for decaying berries; and in removing these, the sound berries should be carefully preserved from injury from the point of the scissors, and the stalks should not be twisted. A pointed bit of stick may be used in extracting the decayed or mouldy berries, it being less injurious to the appearance of the berries than the tips of the fingers. November is the worst month in the year for the Grapes, owing to fogs and dampness. The bunches of Black Hamburgh Grapes, if still on

the Vines, will require careful attention, if they must be kept till Christmas, the skin of well-ripened berries being very tender, and quickly affected by damp. Still, they may be kept in good condition till January by means of good ventilation, and by not allowing condensed moisture to drip on to them from the glass. The temperature of a vinery in which Grapes are hanging should not fall below 42°, and air should be afforded by the top ventilators at all times except during severe frost. Keep the temperature at 50 to 55° during the day, with abundance of air. The heating apparatus may be used on alternate days. In the Grape-room the bottles in which the Grapes are placed will require filling twice a week, taking care not to spill the water about the floor in doing so. A large pan is useful to stand the bottles in when filling them, and all moisture should be dried up on completing the job. Plenty of ventilation by means of doors and windows, with fire-heat frequently, are required to keep the Grapes in good condition. In moist districts, if the Grapes must hang on the Vines till the New Year, outside borders should be protected with shutters or tarpaulin.

THE EARLY VINERY, if the Vines were pruned, and everything made ready for a start, may now be closed, but no fire-heat will be needed for a fortnight, although the gentle warmth afforded by a bed of leaves and stable-litter placed in the middle of the house will be useful in exciting the Vines. This bed ought to be made on a thick wooden platform. The temperature may be kept at about 55° till the buds break, then an increase of 5° to 10° may be given by fire-heat. The tops of the rods may be lowered to the middle of the house to afford the buds on the lower half a chance of starting simultaneously with the others. Damp the Vines daily with tepid water, and cover the border if outwith a bed of dry litter 18 inches thick; and see that all drains and water-spouts are in perfect order.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CATTLEYA LABIATA.—The beautiful autumn-flowering varieties of Cattleya labiata are great favourites, and for cut bloom they are admirable. Of the few species of Orchids which bloom at the present season, the labiatas are undoubtedly the best; and now that so many of the plants are in or passing out of flower, the importance of removing the spikes and flower-sheaths from the plants may be urged upon cultivators. This removal should take place at the same time that the blooms are taken, as if delayed, moisture accumulates at the base of the sheath, the leaves become spotted and fall off, and the new pseudobulbs frequently decay, and maybe the plant is also lost. To preserve plants thus affected, the decaying parts should be cut off without delay. If decay comes from excess of water at the roots, the health of the plant is injured, and in any case a drier atmosphere should be afforded as the best means of arresting decay. Healthy plants after flowering may be placed in the coolest and best-ventilated part of the Cattleya-house, and be kept there during their long period of rest. During the winter, water at the root is only necessary at long intervals of time, sufficient being applied to keep the pseudobulbs plump, the object being to induce free growth of the roots, and yet to prevent premature growth. As regards repotting, those plants which require a larger pot should have their needs attended to so soon as the new roots are observed to be pushing from the base of the current season's growth; but if they are past that stage, repotting had better be postponed till there is a return of activity. The earlier-flowering C. l. var. Gaskelliana, although its roots are growing and extending, should not be disturbed by repotting it at this season, but in the spring when the new breaks will appear.

OTHER SPECIES OF CATTLEYA.—Among those that require some special kind of attention in the autumn is C. Lawrenceana, a species that is late in starting to grow, and owing to lack of sunlight and natural heat, makes comparatively slow progress. It is important that each plant should be so placed as to be exposed to all the sunlight possible, large specimens being elevated till their leaves are within a few inches of the roof-glass, and small plants suspended by wire from the roof. The warmest part of the Cattleya-house is the best place for them, as the young breaks are apt to decay if much water is afforded the plants at this season—a good deal of discretion must be used in affording it. When full development has taken place, but very little will be needed to keep the pseudobulbs plump; an increased quantity being applied when the flower-sheaths show. When the flowers are fully expanded, the quantity of water may be again gradually curtailed till no more is required than will prevent shrivelling. Plants of C. Percivalliana having completed the growth of their pseudobulbs, should be kept moderately dry at the root, over-dryness causing either abortive flowering or deformed flowers. This species should also be well raised up to the light at all seasons. A very desirable Cattleya now in flower is C. Bowringiana, whose blooms, though small, are richly coloured, and like the autumn-flowering C. labiata, it is a very free-flowering species, whose large spikes have a pleasing appearance by artificial light. It is a plant of easy culture. In a few weeks from the present time quantities of new roots will be seen pushing from the base of the pseudobulbs now flowering, and then is the best time to repot any of the plants that may require more space or fresh materials. Another nice autumn-flowering Orchid is Lælia Perrinii, but which many persons have discarded because its blooms are short-lived; when the plant has passed out of flower, a long rest, with but little root-moisture, should be afforded it.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

MAKING PLANTATIONS OF RASPBERRIES.—Ordinary garden land, if prepared as advised in a former Calendar, will now be settled and in a fit state for planting. Advantage should be taken to get the setting out of the Raspberry plants finished before colder weather sets in, autumn-planted Raspberries doing better the first season than spring-planted. However, where the land is of a stiff nature, it will be better to lay it up as roughly as possible, and the planting performed from the middle of January to the middle of the next month. Where Raspberry canes are to be secured to wire fences, the rows should be not less than 6 feet apart, the canes being planted 18 inches apart, two canes being laid in from each stool. Where stakes are used, I consider that these form the best kind of support for being readily removable. A new plantation can be formed when the old ones are worn out without incurring expense. For this method of securing the fruiting canes, the plant should stand 6 feet apart from row to row, and 4 feet apart in the row, stakes being placed midway between the plants in the rows; if the plants stand triangularwise, they will have the greater amount of space for the development of the young canes. Tie loosely the young canes to the stakes for the present. Before frosts occur mulch the land with stable dung, &c.

SMALL FRUIT: FRUIT BUSHES.—Where the Currant and Gooseberry quarter is adjacent to a farmyard, the stables, or other places which afford a harbour for sparrows, the pruning of the bushes should be speedily completed, and the buds made distasteful to the sparrow and birds generally, by syringing them with a whitewash made from freshly-slaked lime and fresh soot. It will be necessary before using this wash, to pass it through a sieve, with a very fine mesh. Unlike the bullfinch, which does not usually begin to destroy the buds till early in the new year, the sparrow is suspected from the end of the month of October, and delay in pruning and dressing will result in the loss of a large number of the buds, the Red and White Currants being the first kinds attacked. In pruning the bushes of these fruits, a few young shoots should be left each year for taking the places of old or cankered branches. Experience only can teach the pruner how to prune Gooseberries to the best advantage, as the different varieties should be differently pruned; but some of the old branches should be cut out of all of them, or they become so crowded that the gathering of the fruit in the middle of the bush becomes a matter of difficulty. Upright growers, like Whitesmith, Champagne, &c., after pruning back to the best-placed young shoots, should have the side-shoots spurred-in to 1 inch or less in length. The Red Warrington and others of a more or less pendulous habit may be pruned-back to well-placed young shoots if the bushes are sufficiently large, shortening these slightly to a bud on the upper side of the shoot. Cuttings of Gooseberries and Currants may be made and put in on a border. Cuttings should be made from straight, well-ripened, firm shoots at least 12 inches long, and which have been taken off close to the old wood, but avoiding the actual base of the shoot, as that part is full of dormant buds. Leave four buds near the top of the cutting to furnish shoots, and cut out the rest, buds left underground causing suckers to push up. The cuttings should have the upper part dipped in warm fresh lime-wash, to protect the buds from the birds. Place the cuttings 6 inches apart in rows 1 foot apart, and let the base of the cuttings be 6 inches below the surface of the soil. Make the ground firm, and apply a mulch of decayed tree-leaves of some kind before frosts occur.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

MIGNONETTE.—Shift any young plants now growing in 3-inch pots into 5-inch ones, using a rich friable loam in which mortar-rubbish and charcoal are freely incorporated with a small quantity of sand, and passing it all through a ½-inch sieve. In potting, press the fresh soil somewhat firmly about the old ball, so that a stout robust growth may be fostered, instead of a weak, lanky one; and employ small sticks as directed in a previous calendar. Let the pots stand near the glass roof in a cool greenhouse.

PERPETUAL OR TREE CARNATIONS.—These plants should now be supplying numbers of flowers for cuttings, and beyond tying up straggling shoots, and keeping the plants free from aphis, little more can be done. Air should be afforded liberally, and the pots stood upon some such materials as shingle, gravel, coal-ashes, &c., a very slight heat being afforded in the pipes in cold weather. Young plants to flower later should be pushed on rapidly, but maintaining strong growth by carefully affording farmyard manure-water once a week, and by way of change some other kind of manure. Syringing these Carnations overhead may still be practised twice daily, but should frost set in, then once a day will suffice, and this only in the early forenoon, when a bright day is anticipated. Attend to the necessary sticking of the plants, and the removal of all decayed leaves.

THE FORCING HOUSE.—A succession of flowering plants should be kept up by the introduction at intervals, and as occasion demands, of the various subjects usually in demand at this season, such as Indian Azaleas, which force readily when the growth has been well ripened, and the buds are in consequence rather forward. A forcing-house should be kept at a brisk heat with a humid atmosphere, otherwise disappointment may be expected. Crowns of Lily of the Valley should be placed in a propagating case or some such place, where they can be readily covered over, treating them like Seakale crowns, till the flower-spike is about ⅔ inch long, when a gradual inuring to the light should take place. It is well, if the flowers be not wanted immediately, to transfer the boxes of crowns, &c., to some cooler place, where the flowers will last in nice condition much longer than would otherwise be the case.

CANNAS.—These plants will now be sufficiently ripened to admit of water being withheld altogether from the roots, and the pots containing them may be laid on their sides on a shelf in a cool greenhouse where they will not be reached by frost.

FUCHSIAS.—Water may also be withheld in the case of plants which flowered in the early part of the summer, and the growth is now mature. The same kind of quarters as that recommended for the Cannas will suit these plants.

THE KITCHEN GARDEN

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

DIGGING AND TRENCHING.—The recent heavy rains have thoroughly moistened the soil, but digging may not be done on any soil that is in a pasty condition, heavy land needing great care in this respect. Unless the subsoil is of good quality, bastard-trenching is best, the subsoil being broken up with a digging-fork, but left at the bottom. During the progress of the work, partly rotten dung, tree leaves, and garden refuse, may be shovelled into the trenches of a regular thickness, covering this with a good thick layer of the upper crust, skimmed off with the spade. Always dig the top-soil in thin spits, and do not break them up, the frost penetrating the soil to a greater extent if the clods are rough and whole. As far as possible, manure should be applied to heavy soils at this season, but on light ones it is best withheld till the spring, except on plots intended for Onions, Carrots, and other deep-rooting plants.

GLOBE ARTICHOKES.—Having forked into the soil a dressing of rotten manure, it will now be necessary to protect the plants from frost, by surrounding each plant with a small mound of stable-litter or tree leaves, not unduly pressing against the plants, and excluding all light and air from them, or decay of the heart-leaves will result.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, Nov. 13 — Royal Horticultural Society's Committees at the Drill Hall, James Street, Westminster.

WEDNESDAY, Nov. 14—East Anglia Horticultural Club.

SHOWS.

SUNDAY, Nov. 11 — Royal Agricultural and Botanical Society of Ghent, Belgium (two days).

TUESDAY, Nov. 13 — Kingston and Surbiton. West of England, at Plymouth (two days). Southampton (two days). Farnham (two days). Kidderminster.

WEDNESDAY, Nov. 14 — York Florists (three days). Windsor, Eton, and District. Hertford Horticultural. Hull and East Riding (two days). Birmingham (two days). South Shields (two days). Rugby (two days). Bristol (two days).

THURSDAY, Nov. 15 — Edinburgh (three days). Winchester (two days). Birkenhead. Bolton (two days). Chesterfield (two days). Bradford (two days).

FRIDAY, Nov. 16—Sheffield (two days).

SALES.

MONDAY, Nov. 12 — Important Unreserved Sale of Nursery Stock, at the Ottershaw Nurseries, near Chertsey, by order of Messrs. Fletcher Bros., by Protheroe & Morris (four days). Special Sale of 10,000 Hardy Perennials, Carnations, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.

TUESDAY, Nov. 13 — Dutch Bulbs, at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, Nov. 14 — Japanese Lilies, Roses, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.

THURSDAY, Nov. 15 — Continental Plants, Roses, Palms, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, Nov. 16 — Orchids, from Messrs. Linden, Brussels, at Protheroe & Morris' Rooms. Dutch Bulbs, at Protheroe & Morris' Rooms.

SATURDAY, Nov. 17 — Dutch Bulbs, at Protheroe and Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42°.4.

"False Crosses" in Strawberries.

It is a common experience among hybridisers that, although every care be taken to prevent the access of a flower's own pollen, yet the resulting seedlings show little or nothing of a crossed origin, but resemble almost entirely one or other of their parents. As an illustration, we may refer to the experiments made by Mr. Grieve and others to cross the Zonal Pelargonium with the wild Geranium pratense. The seedlings so raised that we have seen, have been almost identical with the last-named plant, though there has sometimes been a mere trace of variation. In connection with this subject M. A. Millardet has published a *Note sur l'Hybridation sans croisement, ou fausse hybridation* in *Les Mémoires de la Société des Sciences physiques et naturelles de Bordeaux*, t. iv. (4e Série). He proposes these terms to indicate the result when the progeny of cross-fertilisation resembles almost, if not entirely, one or other of the parents. He finds this to be the rule in Strawberries, among which crosses and hybrids resemble most often the maternal type, as the following examples show:—

Fraisier des quatre saisons blanc, à coulants × *Chili velu.*—This gave four hybrids, one exactly resembled the mother, excepting in the fruits being red; the three others reproduced completely the paternal type.

Black Hautbois × *Globe.*—This gave fifteen hybrids; of which fourteen reproduced the maternal characters, one only resembled the father.

Black Hautbois × *Chili velu.*—Eight hybrids were obtained, all reproduced the maternal type.

Black Hautbois × *Gaillon rouge.*—Ten hybrids resulted, all being exactly like the mother. The seed of one of these hybrids gave two plants at the second generation, one of which—the sole example met with—reproduced the paternal characters.

These will be sufficient to show the general character of the experiments.

Although, as we have said, earlier experimenters have met with somewhat similar results with other flowers, it was suspected that accidental pollination had supervened, or even that parthenogenesis had taken place. But, as the author says, this is the first time to his knowledge that this fact is established in a positive manner. He alludes to the experiences of Herbert and Parkman, and adds, "but if one had sometimes recorded the entire reproduction of the maternal characters in hybridisation, that of the paternal had escaped all observation." Referring to Mr. F. Parkman's paper on "The Hybridisation of Lilies" (*Gardeners' Chronicle*, January 5, 1878), his results seem to have been quite as pronounced as M. Millardet's, as far as the reproduction in the hybrids of the maternal characters is concerned; for he also found that very many seedlings resembled the mothers. It is not always that all the offspring of a seed-vessel resembles the mother, for while the majority may do so, one or more may be true hybrids. Thus, Mr. Parkman describes the production of a fine hybrid Lilium speciosum × auratum (figured in *Florist and Pomologist*, March, 1876); while of fifty seedlings from the same pod, forty-nine resembled speciosum. Similarly, Mr. P. N. Don, describing two hybrids in the *Gardeners' Journal*, 1847, p. 615, speaking of Begonias, he says:—"The two following varieties (B. prolifera and B. hybrida) were raised from seed of B. manicata × B. coccinea. A fact worthy of notice is, that from one seed-pod the species manicata (the maternal type), and the two hybrids were all raised in great numbers—a proof that the pollen did not effect a change in the whole of the seeds, which is not easily accounted for, as the whole of the male flowers were taken off B. manicata before the time of crossing, and continually removed as they appeared, until the pod began to swell, and no others were in the house at the time."

M. Millardet gives no instance of this kind. In one case only, quoted above, did a plant of the second generation revert to the paternal type. Making a summary of his results, we find that of forty-four of these so-called "false hybrids," or "hybrids without crossing," thirty-eight reproduced the maternal characters, and six the paternal. Of eight other cases, the offspring were all after the maternal type in both first and second generations.

Of Mr. Veitch's hybrid Rhododendrons among East-Indian species, studied by Mr. Henslow, when a composite hybrid was crossed by a true species, the latter mostly overpowered the maternal form completely in the offspring; thus, when Hippolyta, a hybrid containing four species, and one of them twice was crossed with R. multicolor var. Curtisii, the result was similar to the male parent. Similarly, Monarch, a large-flowered hybrid, containing five species, and one of them twice, was crossed with the small-blossoming R. malayanum, and the result was R. malayanum.

M. Millardet refers to Naudin's experiments, in one of which he crossed Datura Stramonium by D. ceratocaula, and obtained two fertile plants only differing from the mother in size. Their seeds also produced D. Stramonium. On the other hand, D. lævis × Stramonium gave 40 plants, which only differed from the male parent in size and a diminution of the spines on a certain number of fruits. Of four individuals resulting from their seeds, which had fertilised one another, three resembled the father, one the mother.

The author concludes his paper by discussing the question how far the localisation of the parental characters can be traced in the cellular structure of the hybrid. He shows how in Vine crosses the different forms of the stomata reveal separately their origins respectively; while intermediate forms are mixed with them, very much the same results were found by Mr. M. Macfarlane in other plants (see *Gardeners' Chronicle*, 1893, March 28).

Mr. Henslow has, we believe, endeavoured to trace similar combinations of microscopic differences in several of Mr. Veitch's hybrid Rhododendrons referred to above, but, with rare exceptions, they gave only negative results.

Waterfall at Stephen's Green.—The artificial rockwork depicted in the illustration (fig. 74) affords an excellent and characteristic bit of the handiwork of the veteran Mr. Pulham, Broxbourne, Herts. His work, when dealing with artificial materials, which is usually massive in appearance, has a close resemblance to natural sandstone, in its imitation of cleavage, stratification, and colour; and, what is of more consequence to the gardener, the materials of which it consists are of such a nature that most plants succeed on it, provided the soil in which they are to grow is suited to the plants' needs. The photograph from which our engraving was taken was kindly sent us by Mr. W. Sheppard, who has done much in laying-out recently public gardens and parks in the Irish metropolis. (See *ante*, p. 100, July 28 last.)

Royal Horticultural Society.—At the next meeting of this Society, which takes place in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday next, the 13th inst., special prizes are offered for Chrysanthemums, and a large show of these flowers is anticipated. At 3 P.M., a lecture on "Chrysanthemums" will be given by Mr. C. E. Shea, F.R.H.S.

Linnean Society.—At the meeting of this society on Thursday, November 1, Mr. C. B. Clarke, F.R.S., President, in the chair, Messrs. Arthur P. Green and F. Lewis were elected Fellows. Mr. Alexander White was admitted. Messrs. H. & J. Groves exhibited an undescribed Chara from Westmeath, and made remarks upon its peculiar mode of growth. Mr. J. O. Tepper exhibited photographs of a new and remarkable Fungus from South Australia, which explained the formation of the peculiar stone-like nodules occasionally found when clearing scrub-land. These were found to be due to the agglutinating nature of the mycelium of this fungus, the grains being permanently cemented by lime and ferruginous oxides. The Rev. G. Henslow made some remarks on a peculiar mode of propagation of Oxalis cernua, observed in Malta, and exhibited some views taken during his sojourn there.

Mr. Miller Christy exhibited a long piece of leaden pipe which had been gnawed through its entire length by rats, in a manner which showed that the object was not, as generally supposed, to get access to water. Mr. E. M. Holmes exhibited some curious plants from Japan. On behalf of Mr. A. W. Waters, a paper was then read "On Mediterranean and New Zealand Retipora, and on a Fenestrate Bryozoan;" and on behalf of Dr. J. Müller, a paper on "Lichens in the Kew Herbarium."

—— On the occasion of the meeting to be held on the evening of November 15, 1894, at 8 o'clock, papers to be read are:—1, A Revision of the British Copepoda, belonging to the two Genera, Bradya and Ectinosoma, by Thos. Scott, F.L.S.; and 2, Recent Observations on the plant yielding Bhang (Cannabis sativa), by Dr. D. Prain, F.L.S.

Lindley Library.—The subscriptions received or promised up to the present, amount to about £70, too small a sum to warrant the printing of the catalogue. Among recent subscribers we note the Bentham Trustees £5 5*s*; W. P. Burkenshaw, Esq., 10*s*.; Captain Pakenham Mahon, £1; W. E. Gumbleton, Esq., £1 1*s*.; W. M. Appleton, Esq., 5*s*.; and trust that we may speedily be able to announce further contributions.

Royal Horticultural Society of Ireland.—At the annual Chrysanthemum and Fruit Show, to be held at Ball's Bridge, Dublin, on November 14 and 15, the Council have decided to allot space for the display of horticultural appliances and sundries. The ample space available at the Ball's Bridge premises enables the Society to bring before horticulturists and the public generally many of the appliances which modern progress has provided. No charge will be made for space, but early application must be made to the secretary, at the office of the Society, 15, Lower Sackville Street,



Fig. 74.—WATERFALL, STEPHEN'S GREEN, DUBLIN. (see p. 568)

Official Catalogue of the National Chrysanthemum Society.—We have received the new official catalogue of the National Chrysanthemum Society, which forms the second supplement to the centenary edition of the hitherto standard list of Chrysanthemums cultivated in this country. This supplement has been mainly called for by the large number of new varieties which have been sent out since the publication of the first supplement in 1892, and the changes in the positions occupied by the leading show varieties; and it will supersede all previous lists so far as judges and exhibitors of Chrysanthemums are concerned. The compilers remark that all the varieties included in the two previous supplemental lists are incorporated in an alphabetical list to be found at the end of the present one, together with the novelties of last season, and such of those for the current year as were exhibited in promising form at the Floral Committee meetings of the National Chrysanthemum Society this season. The novelties of 1894 being very numerous, and as yet untested for the most part, are not included. The hope is expressed of the publication of an entirely new revision of the Society's list, and its re-issue in one volume. The names of Messrs. W. Herbert Fowler, E. C. Jukes, H. J. Jones, A. Taylor, C. Harman Payne, are a sufficient guarantee for the thoroughness and intelligence with which the present issue has been prepared. We note the preponderance of French names given to the flowers, which of itself points to the almost uncontested superiority of Frenchmen in the raising of new flowers, and the overwhelming number of the so-called Japanese varieties. In a new edition, we should be glad to see the colours of all varieties mentioned, and the section to which they belong indicated in the usual manner, as by so doing the list would be more valuable for purpose of reference than it at present is.

Stowmarket Horticultural Class.—The East Suffolk County Council Technical Instruction Committee have appointed Charles Berry, Gardener, Goldrood, Ipswich, to give a course of ten

lectures upon "How to Cultivate the Cottage Garden and Allotment," the first of which he gave on Friday evening, November 2, at the Working Men's Room, Stowmarket, the subject treated being "The Apple." The lecture was illustrated by diagrams, and was attentively listened to throughout. We understand that Mr. Berry's services are very much appreciated.

North of Scotland Root, Fruit, and Vegetable Association.—The twenty-fourth annual exhibition of this Association was held at Inverurie, N.B., on Saturday, the 3rd inst. There was a decrease all over, but principally in fruit and Potatos, of about 100 entries as compared with 1893, when the entries numbered 735, as against 630 on Saturday last. But looking to the character of the season as affecting the fruit crop, and the deficiency that exists in both the Turnip and the Potato crops, it was surprising to find not only such a large exhibition of those products, but that the quality was of such a high standard.

Is the Tomato a "Fruit" or a "Vegetable"?—We and our colleagues of the Press are often called on to give an opinion on this subject in reference to disputed interpretation of flower-show schedules. For our own parts, we say that while the Tomato is botanically a fruit, its use in gardening is almost entirely that of a "vegetable," and hence it should, for garden purposes, be so classed. Latterly, however, the introduction of dessert-Tomatos has introduced a fresh source of confusion; but the case is so exceptional, that we do not think it need invalidate our statement. The following extract from Bailey's *Annals of Horticulture* (U.S.) for 1893 shows that an American judge takes the same view as ourselves, and lays down the law accordingly:—"There being no evidence," says the judge, "that the words 'fruits' and 'vegetables' have acquired any special meaning in trade or commerce, they must receive their ordinary meaning. . . . . Botanically speaking, Tomatos are the fruit of the Vine, just as are Cucumbers, Squashes, Beans, and Peas. [! !] But in the common language of the people, whether sellers or consumers of provisions, all these are vegetables, which are grown in kitchen gardens, and which, whether eaten cooked or raw, are, like Potatos, Carrots, Parsnips, Turnips, Beets, Cauliflower, Cabbage, Celery, and Lettuce, usually served at dinner in, with, or after the soup, fish, or meats which constitute the principal parts of the repast, and not, like fruits generally, as dessert. The attempt to class Tomatos as fruit is not unlike a recent attempt to class Beans as seeds, of which Mr. Justice Bradley, speaking for this court, said:—'We do not see why they should be classed as seeds any more than Walnuts should be so classified. Both are seeds in the language of botany or natural history, but not in commerce or in common parlance. On the other hand, in speaking generally of provisions, Beans may well be included under the term 'vegetables.' As an article of food on our tables, whether baked or boiled, or forming the basis of soup, they are used as a vegetable, as well when ripe as when green. This is the principal use to which they are put.'" It is very amusing to see the use of the word "Vine" in this connection. On this side of the Atlantic, we should never say that Tomatos or Vegetable Marrows grew on Vines! Our American cousins use the word vine in a very broad sense to include all herbaceous stems that are more or less trailing or climbing.

Horticultural Travelling Structures at the Antwerp Exhibition.—It may be of interest for our readers to learn that the new travelling hot-houses, which run on wheels and rails, and which were recently noticed in these pages, have been awarded the only prize medal given to British horticultural buildings.

Dahlias.—Messrs. Dobbie & Co., of Rothesay, send us a photograph of their Dahlia grounds, which show how extensive are their collections, and how well cultivated. The single Dahlias in the view before us are particularly well represented.

South Birmingham Gardeners' Association.—On November 1, Mr. Q. Read, the Assistant Gardening Instructor for the county of Worcestershire, delivered a lecture on "The Eucharis," before the members of the above society, Mr. G. Fawdry presiding. It was an excellent and comprehensive lecture on an interesting plant, and a profitable discussion followed its reading.

Ayrshire Gardeners' Mutual Improvement Association.—The first fortnightly meeting of the fourth session of the Association was held in the Carrick Street Hall, Ayr, on Thursday evening, November 1, Mr. MacConnochie, Doonside Gardens, in the chair. An interesting paper was read by Mr. A. H. Scott, Cambusdoon Gardens, entitled "Horticulturists, Past and Present: Advantages, and Disadvantages." The Chairman intimated that the next meeting would take place on Thursday evening, November 15, when the subject for discussion would be, "Canker; its Cause and Cure." A vote of thanks to Mr. MacConnochie for presiding brought the meeting to a close.

Notes on this Season's Crop of Vegetable and Flower Seeds at Erfurt.—At the end of June continuous rainfall began, accompanied with cold days and nights, which were not without a detrimental influence upon the crops. Cauliflowers, which were doing well until then, became sickly, and the crop was below average. Cabbage-Lettuces, with the exception of the earlier sorts, all sickened, owing to the rainfall; and Cucumbers, which stood it very well, ultimately became unhealthy, and will give but a small seed crop, with the exception of the Japanese climbing Cucumber, which has again done very well. Rampion, Peas, white and red Cabbage, Kohl Rabi, Borecole, garden Turnips, and Beetroots, small early Radishes, Spanish Radishes and Onions, as well as large-rooted Chicory and Parsley, and large-rooted Carrots, yielded a good crop, whilst short-rooted Carrots and Celery gave only an average crop. Runner Kidney Beans are fuller of fruit than they have been for several years, but they need for ripening, dry weather, as do also the Leeks. Early Dwarf Kidney Beans yielded only a small crop. All summer-flowering plants (annuals) stood exceedingly well, but the crop might have been better. The seed crop of Wallflowers is good, but that of China Asters bad. Pinks and Pansies gave a good crop. Phloxes and other annuals were much spoilt by the rain. Speaking generally, the crop of 1894 was better than that of 1893, as will be proved by the much lower prices asked for seed. Amongst the Erfurt novelties of this year a frame Cucumber is prominent, which is the most fertile of all, and besides this a very long enduring; it is named "Ideal Gurke." Amongst the annuals, a Wallflower, "Excelsior," reaching over 2 feet (70 cm.) in height. Terra cotta-coloured China Aster, a new salmon-coloured Pink, as also a Tea-Rose-smelling Begonia, are remarkable. *U. D.*

Notices of Books.

"Flora of Mount Desert Island." *

Messrs. E. L. Rand and J. H. Redfield, utilising the labours of their predecessors, and drawing largely on their own resources, have compiled a catalogue of the plants growing on Mount Desert and the adjoining islands, prefacing it with some interesting remarks on the distribution of plants, and illustrating it with an excellent map. Mr. W. M. Davis has also contributed a chapter on the geological features of the island. The plants enumerated number 680 species of flowering plants and 606 Cryptogams.

Mount Desert Island, lies about 110 miles east of Portland, on the coast of Maine, and less than half that distance from Rockland, on the western shore of Penobscott Bay. Its area is about 100 square miles, its greatest length about 15, its greatest breadth rather less. A range of granite hills runs from west to east across the island, varying in elevation from 600 to 1500 feet. The general character of its flora is strongly northern and even arctic—essentially Canadian. In drawing up their list, it is a happiness to find that the authors have followed the nomenclature of the sixth edition of *Gray's Manual*, and have not been led away by the specious purism of some of their compatriots. With relation to this matter, we find the following passage, which may interest some of our readers:—"The worst of the whole matter is, that the horticulturists are dealing sensibly with facts as they find them, while the botanists are driving with theories to annihilate facts. It is hard enough, as anybody of experience knows, to make a horticulturist adopt a change in nomenclature made necessary for scientific reasons; but how impossible it would be to force upon him a change made merely to carry out a theory or a system of questionable expediency. What can be gained by intensifying this distinction between botanical and horticultural nomenclature, especially now that the horticulturists have refused to follow the Rochester code on the practical ground that it does not recognise the well-established principles of property, right, custom, usage, and the salutary maxim *quieta non movere*."

This excessive purism in nomenclature appears to us very much of a waste of energy. The neo-nomenclaturists would surely benefit science much more if they devoted their energies to the discrimination of the plants they write about, and to the discussion of the many problems connected with them. It is like wrangling over the titles on the backs of books, while the contents of the volume are not looked at. It seems to us more practically useful to adopt the plan followed by the great law-givers and monographers, and to relegate all questions as to history and synonymy to the paragraphs devoted to those subjects. Our authors even make some concession. For instance, they write Coptis trifolia (L.) Salisbury, but Linnæus' name for the plant was Helleborus trifolius, and, so we are told, that the (L.) in parenthesis applies merely to the specific, and not to the generic name. The plan adopted by our authors does not tell us to what genus Linnæus assigned the plant. Surely it would be much simpler and more accurate to write Coptis trifolia, Salisbury, and where necessary to add *syn.* Helleborus trifolius, Linn. There is no reason to encumber the adopted name with details of history or synonymy, better set forth elsewhere. The remarks already made will indicate the general nature of the Flora. The list is well got up, and very interesting from the point of view of botanical geography.

* Cambridge, Mass.: John Wilson & Son, 8vo, pp. 286.

Amateurs' Handbook on Gardening.

As is not well explained by its title, this small manual contains articles by experts on several of the various kinds of garden flowers, in the cultivation of which amateurs interest themselves, and thus supply information not readily accessible in small gardening works. The different articles may be taken to be as good of their kind as is possible within the limits of an octavo volume of 194 pages. We note as contributors to its pages, Messrs. J. Douglas, J. Laing, J. Hudson, R. Parker, and the Rev. H. H. D'Ombrain. The useful information imparted by these writers would be more readily available if a proper index were supplied in the next edition, in place of the present synopsis of the contents of the book. Messrs. Blake & Mackenzie, Liverpool, publish the book at 2*s.* 6*d.* nett.

Curious Fern Prothallus.

This prothallus, which is abnormally large, so that its peculiarities are quite distinct to unaided vision, has originated in a sowing of Athyrium f.-f. plumosum, Druery, in which most of the prothalli produced have failed to yield plants, and ultimately perished. A portion of this has turned brown, but after remaining dormant for several months, it was observed to be producing two very distinct horns, upon each of which an incipient bud or bulbil speedily made its appearance, as depicted (fig. 75). At

present (September 22) these bulbils are as large as Mustard seeds, and evidently commencing to develop fronds. From their position, which is far removed from the usual sites of archegonia, of which, moreover, no signs preceded the appearance of the bulbils, they are undoubtedly asexual or apogamous, but showing that phenomenon in, I believe, a much distincter form than hitherto.

Until the plants show their parentage, their origin cannot with certainty be determined, but it is worthy of remark that the presumed parent (Athyrium f.-f. p., Druery) bears bulbils seated in the sori, and, as recently observed, produces a small percentage of very large spores, at least four times the normal size, of those associated with them. This is not mentioned as necessarily bearing upon the phenomenon described, but merely recorded in connection with it *pro tem.*

NURSERY NOTES.

CHRYSANTHEMUMS AND FRUIT TREES AT NOTTINGHAM.

Established upwards of a century ago, the firm of Messrs. J. R. Pearson & Sons, Chilwell, near Nottingham, has long sustained a wide reputation for the culture of Pelargoniums, Chrysanthemums, fruit trees, and general nursery stock, and particularly in the midland counties, the firm has acquired a very large business, later developments having been largely in the fruit department, where the number of trees raised for sale has become larger year by year. In these days of rapid locomotion a Londoner has but little difficulty in visiting a nursery a hundred and twenty miles distant and returning to town the same day, and so, after visiting many of the collections of Chrysanthemums around town, we travelled by express train from St. Pancras to Nottingham on a bright morning about a week ago, primarily in the hope that a few notes taken in the nurseries at Chilwell would prove of considerable interest to many of the readers of this journal, and also to satisfy ourselves as to what is being done by this energetic firm at home. Arriving at Beeston station about three miles out of Nottingham, we were met by Mr. A. H. Pearson, who drove us through the village of Beeston, past the premises of the horticultural engineers, Messrs. Foster & Pearson, to the original home of the nurseries, where all the glass is erected, the fruit-grounds being three-quarters of a mile or more further along in the smaller village of Chilwell. Of the glass department, Mr. C. E. Pearson is the manager, and in his company we proceeded to see at once this department of the business. Most of the houses are thoroughly well built, and are useful for large plants, or for fruit-growing, but are much larger than the usual nursery houses, and rather higher in some instances than such plants as occupy them at the present time require. It is interesting to compare with the modern erections, a very old house that was built when the late Mr. Pearson was quite a boy, as showing the more intelligent knowledge we have now regarding the requirements of plants, resulting in a much less quantity of rafter wood being employed, and in the substitution of large panes of glass in the place of the minute system of glazing then prevalent. These old houses, however, were undoubtedly built to stand a very long time. Orchids though grown for sale in some little quantity, are more used for the supply of cut blooms than anything else, and they would be of little use for such a purpose unless they were well grown. A good-sized collection of Cœlogyne cristata and its varieties leave nothing to be desired in this respect, the finished pseudobulbs being exceptionally large and good, and young flower-sheaths have appeared among them in profusion. As illustrating the strength of the bulbs, it is stated that in some instances last season the spikes produced nine blooms of good character. Cypripediums, Selenipediums, Cymbidium eburneum are all prized for the quantity of bloom they afford; and some plants of Dendrobium Phalænopsis Schroderianum in flower are equally happy, whilst D. nobile had made remarkably strong bulbs. The large span vinery, with a good crop of Grapes still hanging, has a pretty appearance, due in no small measure to two trellises in the shape of a ridge on either side of the house, and covered with Adiantums in pots, where they do very well indeed.

This is not the best time to see the display of Zonal Pelargoniums, the chief show of these being made during the summer months, owing to the less favourable climatic conditions of Nottinghamshire thwarting any effort to keep such displays in the heart of the winter as are familiar in the South. Two varieties, however, deserve mention, and one of these is Enid, a first-rate scarlet seedling of the less dazzling type; the flowers are very large, and of good shape. Gertrude Pearson is the other one, and is as fine a pink variety as any yet introduced. But the principal interest in the houses at the present is the collection of Chrysanthemums, which, it is rather surprising to say, appear to be little later than the collections nearer home. A large show is made each year in an extensive span-house, which this season was opened to visitors on the 1st inst. for a period of about three weeks. The plants are so arranged that the whole display can be seen at once, the centre of the house being filled

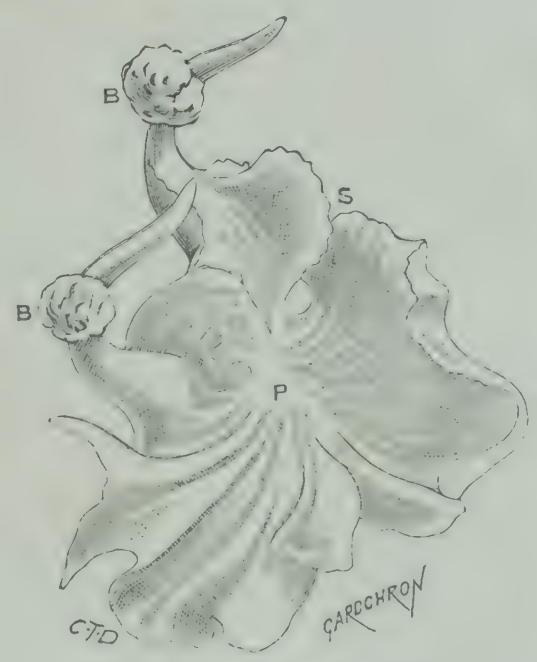


Fig. 75.—A curious fern prothallus.
P, Prothallus B B, Bulbils; S, Sinus. (Magn. 6 diameters)
(See p. 570.)

with dwarf-habited plants, over which are easily seen the sloping banks round the sides, and from which a path separates the centre group. A very good selection of the new varieties, together with all those of older birth worth keeping, are to be seen in the collection, and the number of visitors to the show is usually large, many of them coming a long distance.

In passing some good flowers of The Tribune, Mr. Pearson volunteered a word of praise for this clear and good lemon-yellow Japanese, and said that the blooms lasted with him as long as five weeks last season. He is right in thinking that such a quality is worth considering when certificates are granted to any new variety. Miss Maud Pearson, one of Spaulding's new seedlings from America, is a very pretty flower of pink and white, and in build resembles Viviand Morel, but is not so full. It is a pity that it gives signs of failing in a like manner to Golden Wedding. Commandant Blusset (Calvat) is here, and it may be described as one of the most distinct of new purple Japanese varieties with silver reverse. W. W. Coles is still a very popular flower with Mr. Pearson, and it is well done here. The new and handsome white Japanese Souvenir d'une Petite Amie was next noticed; and some first-rate blooms in size and colour of Chas. Shrimpton, but these are not quite developed. The new Excelsior, and Madame A. Chatin are looking well, the latter a very pure white, with large incurving florets. Some splendid blooms of Calvat's M. Chas. Molin are perfect in colour; the outer part of the flower is a red-orange and the centre bright yellow. Sarah Hill is an American incurved Japanese, of good quality; the bloom is yellow and the florets are wide and good. Another yellow variety, but rather thin, is Wilfrid Marshall, a new one sent out by Mr. H. J. Jones last spring; and Mrs. Dr. Ward is a hairy rose-coloured Japanese sent out by the same grower. Princess May, a white Japanese, from Mr. Godfrey, is opening well, and promises to be a nice full bloom. Duke of York, and the popular Louise are also in bloom. Dorothy Shea, G. C. Childs, and Vice-President Calvert, are fine, and of good colour; and Mrs. Alpheus Hardy will be represented by a bloom or two of fair quality. Charles Blick, a yellow Japanese of Mr. Owen's, is opening bloom, but it may not be very large. The incurved flowers were not developed at the time of our visit; but the Princess appeared to be coming fairly good, and the Queen section also. A very fine bloom of M. R. Bahuant was just past, and there were some good blooms of Madame Darrier. Pompons and singles are grown in less quantity than the Japanese, and the various forms between these and incurved and reflexed flowers which at present command by far the greatest share of popularity. One large orchard-house was filled with plants of Boule de Neige and Madame Page, the latter an ugly grower, but being valuable as well as the former for supplying a quantity of cut blooms at a late date.

The Fruit Grounds.—Although some of the land is occupied with ordinary stock of a nursery, and includes a quantity of evergreen subjects, the demand for fruit trees has necessitated further and further encroachments, and this specialty is being encouraged more and more by Mr. A. H. Pearson, the manager of this department. Many varieties in fruit trees are less fitted for the conditions in the Midland Counties than for those further south, and whilst the stock of trees includes all first-rate kinds, an effort is made to ascertain the best for the Midland district, and to keep of such a large stock. Newton Wonder Apple, which was sent out by the firm several years since, has proved to be one of the best varieties for the Midlands, and it is popular both north and south. It is a kitchen fruit, ripe about October, and is said to keep for twelve months; the tree is a good grower, and crops freely. We noticed a large stock of the variety in the grounds, and under different methods of training. All the fruit was gathered, but the trees throughout the nursery still retained their foliage, and the quality and style of training and cultivation could be readily noted. The ground where the fruit trees are planted is in the valley of the Trent, where a better loam is obtained than could be got near the nurseries already noticed. The subsoil is clay, and the situation is well exposed to the sun and the elements, which should tend to the production of trees that will not disappoint when removed to another site. We were impressed by the quality of the trained trees of all kinds, which show that great care is extended to them. During the first year a tree is trained on the spot where it grows, but instead of following the same system another year, they are all lifted and planted on a site selected for the purpose, and with two objects, viz., that the roots being moved this and every other year, until they are sold, may become more fibrous; and also as the trees are planted regularly in rows, the training can be done better than when they are running in miscellaneous directions in the midst of a lot of other shaped trees.

It seems worthy of remark that until ten days ago Mr. Pearson says that the ground was so dry that the lifting of trees was only effected with difficulty, and that until that time the rainfall for this last season was not so much as that of 1893. Without doubt, 1894 has been a poor fruit year, in the midlands especially, where the rainfall has been so low, for in addition to the cold weather,

and absence of sun, the fruit suffered from drought. Under these circumstances it is surprising to observe that the effect on the growth of the young trees has not been more marked, for taking the stock *en masse* it presents a very satisfactory appearance, in regard to the last completed growth, and in other respects it leaves nothing to be desired. Apples on the Paradise, as maidens, or of one, two, or more years old, abound in quantity, and in round numbers may be put at 70,000. It is satisfactory to learn that no stocks used in the nursery have originated from the seeds obtained from cyder presses, which must, if used, produce variable stocks in regard to habit and constitution. Domino is grown largely as a north-country Apple; it is in the way of a Keswick Codlin. Gascoigne's Seedling is another of the special kinds cultivated largely, but as the fruit of all varieties was gathered, our notes are concerned principally with the trees. A point of Mr. A. H. Pearson's deserving a word is the effort made to get satisfactory bases to these young trees before they get away too far, generally here they branch away and form a good base quite near to the ground. Pears are grown on the same lines as the Apples, and the same care is to be seen in the training. In regard to Plums, it is unusual to see them trained for a wall in the horizontal method, which Mr. Pearson maintains is a very satisfactory way of dealing with them. The Plum is a strong grower, and sometimes it is difficult to keep them below moderately-sized walls, and it is said that trained as the Pear, and fruited on spurs, the result is satisfactory. Rivers' Prolific, Victoria, and others are grown largely for walls, and many of them are on a low single-brick wall that encloses about 15 acres, representing the original fruit nursery. The wall is only about 4 feet high, and has been built with recesses here and there to give stability, but it is invaluable in a fruit tree nursery. Damsons are grown in fair quantity, and a stock here of the old Shropshire variety is still more popular with north country growers than the variety Farleigh. Gooseberries, finely trained in the gridiron fashion, and Currants also, figure in the nursery, beside Peaches, Nectarines, and other things. Our available time, however, was subject to the fact that we had to return to Beeston station, *en route* for the metropolis, and food for reflection during the journey was amply provided by what we had seen of "Pearsons of Chilwell."

Orchids at Messrs. F. Sander & Co.'s, St. Albans.

In the early days of this month we found a gorgeous display of flowers on clean, well-grown plants, in almost every house. The Cattleyas are especially fine, and by far the greater part of the display is made by the immense numbers of Cattleya labiata imported by the firm, and by their other great introduction, Dendrobium Phalænopsis Schroderianum, a typical Orchid for all sorts of cultivators—amateur or trade, large or small. The numerous and graceful sprays of flowers of the species form a telling feature, not only in the St. Albans nursery, but wherever it is grown in quantity.

For the Sanderian form of Cattleya labiata, it is not claimed that it is identical with the original autumn-flowering variety of C. labiata, although it bears an affinity to that plant in its time of flowering, but it is greatly superior to it in the size and colour of its flowers, and especially of the lip. Several of the long houses are furnished with the blooms of this fine Cattleya from end to end, and present a fine sight. Out of such a very large quantity, it seems pardonable to select a few of the best, and distinguish them by name, and of these we note C. labiata Sanderæ, of a glowing crimson over the whole flower; C. l. lilacina and C. l. illuminata, of very unusual and pretty tint; C. l. Madouxiana, C. l. splendens, and C. l. colossa, three immense-flowered varieties, and very richly coloured; and C. l. Hardyana, C. l. Albanensis, and C. l. Mundyana, all of which are very beautiful and distinct. Cattleya Bowringiana for showiness comes next, a number of plants being furnished with perfect bouquets of rose-purple flowers. Cattleya O'Brieniana, too, one of the prettiest of light-coloured Cattleyas introduced by Messrs. Sander of late years, is a welcome addition to the show, its flowers, which in size and form somewhat resemble those of C. Walkeriana nobilior, being very striking. It is unfortunately a very rare species, and unlikely to be so well represented in gardens as it deserves to be. Other species and varieties which make a display of flowers in the large intermediate houses are Lælia tenebrosa, some very dark forms; and L. purpurata alba.

Among hybrids the more remarkable were a new Cattleya obtained between C. Harrisoniæ and C. Hardyana, a fine acquisition, with large and delicately tinted rose-pink flowers, and evidently a free flowerer, for the plants bears six blooms; Lælio-Cattleya × Broomfieldiensis, the perfection of the hybridists' skill, and the handsome L.-C. × Vedasta, and L.-C. Gravesiæ.

In many places it is reported that the varieties of Lælia anceps are not blooming well this year, owing to the dull season, but at St. Albans there is little evidence of any falling off in this respect, the plants being liberally furnished with flower-spikes, the specimens of L. anceps Schroderæ, L. a. Sanderiana, L. a. Stella, L. a. Hollidayana, L. a. Hillii, and L. a. "Baroness Schroder," being among the best, and equally promising are L. Gouldiana, L. autumnalis atrorubens, and L. a. alba.

In the Cypripedium-houses is to be found almost endless variety in the ever-increasing number of hybrids. Among the most striking we noted C. × Morganiæ and its better variety "Burfordiense;" C. × Harrisianum superbum, C. × œnanthum superbum, C. × Adonis, C. × Ashburtoniæ expansum, C. × Pollettianum, C. × Lowengrenianum, C. × Haniachianum, C. × Lemoinierianum, C. × nitidissimum, C. × Leeanum giganteum, C. × Arthurianum, and some still handsomer new unnamed kinds; and among the species a great variety in C. Chamberlainianum, C. Spicerianum, the Sanderian strain of C. insigne, which yield the yellow forms; C. tonsum, C. Schlimii, and the very singular C. Sargentianum, illustrated in the *Gardeners' Chronicle*, June 23, p. 781.

A glance through other houses, in each of which there was a fine show of flowers, revealed a well-bloomed white Dendrobium album in more or less quantity; the pretty D. bursigerum of the D. secundum section, D. Phalænopsis and D. bigibbum, in quantity; D. sulcatum and the pretty and fragrant D. palpebræ; the very handsome D. cruentum, with its ivory flowers and blood-red lip; the stately D. veratrifolium, D. Augusta Victoriæ, D. superbiens, and many other species of Dendrobium.

In one house a fine lot of Calanthes in flower were noted; and amongst them several C. masuca, C. Victoria Regina, C. Cooksoni, and the sky-blue C. Laucheana. With these were numbers of Catasetums embracing many species, in bloom, being the large white C. pileatum; C. Christyanum, resembling some kind of insect; the helmeted C. semiapertum, and other species; several bright rose-pink Phalænopsis Sanderiana; the white P. amabilis, Angræcum superbum, A. Scottianum, and A. Sanderianum, one of the handsomest of white wreath-like Angræcum; Cœlogyne elata, C. barbata with seven spikes, and the new C. Sanderæ; Masdevallia Henriettæ, M. Gariana, and other Masdevallias and Restrepias, &c.

In a sheltered house kept moist and warm, the Zygopetalums of the Bollea and Pescatorea sections, and plants requiring similar treatment, such as Phaius tuberculosus are grown with success, and it is said that scarcely a day in the year finds the house without some plants in bloom. For a long time Pescatorea Klabochorum with its rich crimson tipped flowers have been in bloom and are still showy. So also that most beautiful of all the species with its white and violet flowers—P. Selmanni; and P. Dayana, P. Rœzlii, and others are about to flower. With them are a few pretty, pale yellow Chondrorhynchas, one with a deeply-fringed lip being specially attractive.

The New Plants.

Few nurseries can point to such a remarkable development during the last two years as that noted in the new plant department at St. Albans. New houses have been built for them and also for the crossing and raising of new Orchids; and new Nepenthes, Aroids, Palms, Ferns, and other foliage and flowering plants seem to have been produced by magic, and most of them of great merit. The completion of two more new houses caused the staff to be as busy as bees making haste to appropriate the fresh accommodation so much needed. One of the handsomest and most useful new plants at present in flower is Eucharis Stevensii, a very pretty thing, useful for all the purposes of cut flowers.

In the Orchid seeding houses we remarked well-advanced seed-capsules of many strange crosses, in which Lælia monophylla, Broughtonia sanguinea, Lælia Digbyana, Cattleya aurea, and other likely things have been used, and which will give some welcome novelties if their raising be successful. And if not, as Mr. J. Godseff, the clever manager at St. Albans says, "we must try again"—words which speak volumes for future successes.

Home Correspondence.

Specimen plants of Mignonette.—Amidst the wealth of flowering plants which we find in gardens to-day, it is no matter for surprise if some, however deliciously perfumed, should be now neglected as pet specimens, because their flowers are unattractive or inconspicuous. Mr. Hudson, of Gunnersbury House, almost alone grows as pot specimens the sweetly-perfumed Cape Pelargoniums, and fine plants he has too. No wonder, in spite of their lack of floriferousness, they are much admired. A few evenings since at Richmond, Mr. A. Chancellor, so long the energetic secretary of the Horticultural Society of that Surrey town, referring to his old love for Mignonette, at a meeting of the corporation allotment holders, offered to give prizes for the best specimen plants of it at the next allotments exhibition. It is late now to commence sending specimens of that description, as seed should be sown at the end of August thinly in small pots, and be raised in a frame, then finally thinned out to the strongest one only, and thus be grown on steadily all the winter. In that way the spring sees the foundation of a fine plant laid, and with some pinching the proper pyramidal form is soon fashioned. I believe it is in this way Mr. Molyneux starts the formation of his fine standard plants. A good stock of the Giant White, because it is not only a strong grower, but is a very free-branching and blooming strain, is perhaps the best. If seed be sown early in the spring in warmth under glass in the way advised, it will still be possible to secure neat, strong specimens, but not such plants as autumn-sown seed gives. There is no art in having Mignonette plants thickly stood in pots. Those anyone can produce, but really fine pyramidal specimens are handsome and interesting. To get them, however, will severely tax the cultural skill of allotment holders. *A. D.*

The Black Currant Mite.—I was much amused on reading "A. D.'s" remarks on p. 540 of last week's issue of the *Gardeners' Chronicle* on the above subject. What a world we live in! To find that a person of his calibre should never have seen the "Currant-bud mite." One would have thought that with so wide a range of entomological science as your correspondent possesses, that he would have been conversant with most of the insect pests that gardeners have to contend with. It is not to poor or badly-cultivated gardens that its ravages are confined, or to old or neglected bushes, for I have seen hundreds of bushes in some places where Black Currants are grown largely attacked with them. It wants no glasses to enable a person to distinguish its presence, not even a pair of spectacles, unless the person wearing them be very near-sighted, for the fruit-buds are usually more than double their ordinary size; they are also of a different colour, as they lose that freshness in appearance when badly attacked. Mr. Farr made a careful examination of some shoots that were taken him, and found some scores in a single bud. Your correspondent must be in error when he says they are unknown to myriads of gardeners, for I hope that the fraternity in general consists of men who are

not devoid of one of the first attributes of a good gardener, viz., powers of observation. I trust that most of us know what a mite is, though we may not be able to discern the difference between a maggot and a caterpillar. We who wish for information on all subjects bearing on our calling are thankful to those who are able, even in the smallest degree, to help us, and are not such pyrrhonists as your correspondent appears to be. It is well for those who have never been troubled with the Currant-mite, though those who never have should make themselves acquainted with its habits. *H. C. Prinsep.*

—— Your very sensible foot-note to your correspondent, "A. D.," in last week's *Gardeners' Chronicle*, will be appreciated by those who have had experience of the Currant mite. I must say, in the case of "A. D.," ignorance is bliss. I have experienced its ravages, and the difficulty of effecting a cure. I have attended carefully to picking, and have repeatedly applied the Board of Agriculture's directions in spraying with their recommended mixture. I cut down a good few bushes two years ago, burnt all that I could; carefully looked over the growths in spring, and sprayed the ground; and even under good cultivation I cannot say I have in any way succeeded in getting rid of this scourge, and I think there is no way of doing so but by a thorough clearance. My plants are not the only ones in this county which are infested, as it is in many other localities, and I believe it is spreading fast. Should "A. D." experience a visitation of the mite, he will find it anything but a bogey to annihilate. *B., Perthshire.*

UNSEASONABLE FLOWERING OF HOTEIA JAPONICA.—Is it not very unusual to have plants of Hoteia (Spiræa) japonica in full bloom and foliage, one or two with nearly thirty spikes on each at this season? All of these plants bloomed splendidly in the spring, and have since been standing outdoors in the same pots they were then growing in. They have been housed about three weeks, and the foliage is beautifully green and fresh. Would it not be a great acquisition if we could always command them at this time of the year. I have never observed this plant to bloom in like manner. *F. G. Brown, Myton House, Warwick.*

NOTES ON PEARS.—I must apologise for trespassing with additional remarks to those already advanced upon this subject. My excuse is, that we seldom get in our low situation so good a crop as we did this year to take notes from. To prevent confusion, I will confine myself to trees upon walls, which this year escaped injury from frost at the critical season, the result being that we had a plentiful crop, so abundant that it was expedient to thin some varieties, although this was not done with the free hand the case required. It may be observed that there is an appreciable difference not only in the size, but also in the flavour of fruits of the same variety from trees that are heavily or lightly cropped, the other conditions being identical. On the whole, however, our Pears are deficient in their usual degree of flavour. The low summer temperature is evidently responsible for the deterioration, and possibly it has had more effect upon heavy soils like ours than upon that which is comparatively light. With regard to size, taking the varieties collectively, they are not up to the average, although some are very large, and most of them are clean, and handsome. Amongst early sorts, Jargonelle, Williams' Bon Chrétien, Clapp's Favourite, and Beurré d'Amanlis were not highly-flavoured; the last two, however, were large, and clean. Louise Bonne of Jersey was remarkable for its heavy crop, but it was deficient in size and flavour, as were also Beurré Hardy and Beurré Superfin. The following kinds, Doyenné de Merode, Pitmaston Duchesse, Flemish Beauty, Beurré de Capiaumont, and Marie Louise d'Uccle were alike free bearers, their fruit being both large and handsome; nevertheless, from want of good flavour, they are only fit for stewing. Flemish beauty is generally improved by being gathered early, and I note that Mr. Bunyard recommends this practice for Pitmaston Duchess; but this was of no avail here in the case of Flemish Beauty this season. Triomphe de Vienne, Beurré Bosc, Vicar of Winkfield, General Todtleben, and Hacon's Incomparable, may be this year classed together as light bearers; this, however, assisted them to swell their fruits to a very large size. The two last-named are invariably shy croppers here, but it may be mentioned that Hacon's is on the Pear stock, and I have seen it noted that it crops freely when worked upon the Quince. Lately I saw a good crop of moderately-sized clean fruit upon a large standard tree of Beurré Bosc in a Monmouth villa garden, and was told by its owner that it is usually highly-flavoured. A wall is generally considered essential in order to get this variety satisfactory. We get fine fruits of it from cordons on an east wall. There was also in the same place a standard Easter Beurré carrying a good crop of fair-sized fruits, which were unfortunately disfigured by Cladosporium. Here this variety is worthless unless favourably situated upon walls, and even these young trees produce better fruits than those do that are old. I will now group some mid-season Pears which possess the richest flavour with us this year; they are Marie Louise, Doyenné du Comice, Beurré d'Anjou, Durondeau, and Comte de Lamy. Of later sorts, which it is too early to speak of respecting flavour, but which have yielded crops more or less deserving of note, I may include Marie Benoist, very fine; Winter Nelis, Olivier de Serres, Beurré Diel, Bergamotte d'Esperen, Ne Plus Meuris, Easter Beurré, Beurré Rance, and Glou Morceau. The three last-named are more or less affected by fungus, Beurré Rance being badly spotted and cracked. *Thomas Coomber, Hendre Gardens.*

"DISQUALIFIED."—This is [not] a gratifying word to meet the eye of an exhibitor when entering a show after the judges have made their awards. Such was my case at Kent County Chrysanthemum Show on Wednesday, October 31, and again at Battersea on Friday, November 2. In the first case, the judges had awarded 2nd prize in the large open class, which contained also the two premier blooms (Japanese and incurved) in the show. I was disqualified for using 7-inch boards. Now, I will not make any comment upon this, but will ask anyone who saw them if those blooms could have been seen to advantage on a 6-inch board, for most of them were 8 inch blooms? The judges would not disqualify them, but the committee did. Regulation 8 says:—"Exhibitors are requested to have their stands made in accordance with the metropolitan plan," &c. What does this mean? If anyone can unriddle this for me I shall be much obliged. Then, again, at Battersea, this discomforting word was very prominent. In this case, it was the judges who disqualified them. This Society is affiliated with the National Chrysanthemum Society; and as the regulations say the boards must be 24 inches long and 18 inches wide, I wrote to the Secretary, and his reply was as under:—"You may exhibit under exactly the same conditions as prevail in the National Chrysanthemum Society." This I did. My blooms were far superior to any others in the class, and could not have been crowded on to a small board. I should really be very glad to know from good authority what I had better do under the circumstances. *W. Wells, Earlswood Nurseries, Redhill.*

FICTION, FRUIT, AND FACT.—I immensely enjoyed the manner in which Mr. Blackmore turned upon his pursuers and rent them, in last week's *Gardeners' Chronicle*, but nevertheless, I must take up the cudgels a little on behalf of our trade which otherwise—that is, unless the matter is taken up by abler hands—would rest under the serious imputation of "booming" a trade, which is known to be a losing one, for personal gain. Mr. Blackmore compares the sellers of fruit-trees to racing tipsters, &c., and challenges us fairly to try our own prescriptions; now I can at least quote one instance to show that we are a little more sincere than the class to which we are likened, for the last time I was at Sawbridgeworth I found that Mr. Rivers was planting up all his spare ground with permanent trees for fruiting, and at the time of my visit a small army of men and women was sorting and packing Plums for market. Some innocents may think this was simply the outcome of experiment, or that a large sum of money is being wasted in decoy ducks, but I do not think those who know the astute proprietor personally will credit him with embarking rashly in a losing game. As regards the past, I could show from our own books that fruit-growing even in the midlands, where we are certainly not favoured as regards climate, has paid, and more than that has paid remarkably well, though that was before foreign competition was so serious a consideration as at present. I know men whose financial position might be envied by many of us, who have made all they have out of fruit-growing, though too shrewd to draw attention and consequent competition upon themselves. Being now out of fruit-growing, I cannot speak so confidently as to present profits, but I do know that all through the fruit-growing districts there is a keen demand for farms with a fair proportion of orchards on them, while purely agricultural land can scarcely be let at any price; also that the men engaged in fruit-growing generally have a comfortable appearance about them (however they may groan about market returns), which does not look as if the game were played out. The fact is, I believe that fruit-growing so far from being a decayed industry is still in its infancy, that we shall even yet drive the foreigner out of our markets; and still further, that it will pay us to do it. *Chas. E. Pearson, Chilwell Nurseries, Notts.*

—— I am delighted with Mr. Blackmore's letter in last week's *Gardeners' Chronicle*, p. 541, his case in reference to sales of Pears, &c., is exactly what I have recently experienced. I grow Marie Louise on walls, Beurré Bosc, Beurré Hardy, and a host of others from walls of which we can boast of a length of nearly half a mile, as well as a splendid lot of pyramids on a soil well suited to Pears and Apples, so much so that a speck or crack is not to be seen. Yet for all their good qualities I have sold many bushels at 1*s.* per bushel, and then when delivered, was told "do not send any more as the market is glutted." So many bushels—yes, quite twenty of a morning—were scraped together from under the trees and laid in heaps to rot, it did not pay to gather them. Before we engage, or incite others to engage, in fruit-growing for profit, we ought to put our own experience and facts in the scale so that the enterprising public may see where their money is going. I would not in the least discourage fruit-growing, but fruit-farming is another matter altogether. When we can utilise our fruit as the Americans do, then I say, go ahead. This applies to vegetables as well, Scarlet Runners 1*s.* per bushel, now 4*d.* per pound, such is my experience from September to this date. What we want is the "coming man," of enterprise to utilise as well as grow, so that when a good crop favours us we shall be able to deal with it. I knew by Mr. Blackmore's letter he has great experience and discernment, and strange as it may seem, before the *Gardeners' Chronicle* came into my hands, I was then reading his *Perly Cross*, where he speaks of the Camellias, and I could but reflect, how observant Mr. Blackmore has been, and this point is the keynote, viz., observation, without which, success is never gained. Were all amateurs as keen as he, much disappointment would be spared. Yet, for all this, to plod on, with a great determination to master a few important points such as suitable soil, locality, and the proper selection of varieties, will end in a reasonable success, and give great delight to anyone who loves his garden, such a one I am sure is Mr. Blackmore. *Charles Ilott.*

—— In reply to the letters of Mr. Blackmore on fruit-growing, which he calls a "fatal fad," which appeared in your columns a short time ago, and now again in your current issue of November 3, I will ask you to publish this, which shows the matter in another light. Mr. Blackmore shows himself as a fruit-grower; so do I. Has he ever done it for a living? If not, his testimony is useless. I am engaged in growing fruit for a livelihood, my operations being all in the open ground, as Mr. Blackmore so much desires to see as stated; but as he treats of work under glass as well, I made it my business to visit a branch establishment of the Channel Islands Fruit Company, and there met Mr. Peak, the managing-director, in company with another principal shareholder. They very courteously showed me round the glasshouses and premises, and answered all my questions. One of the chief (and a very plain one it was) was this—"Are you satisfied with your undertaking?" The immediate answer was—"Yes." And as a proof of which, they quickly showed me a new erection of glass, 280 feet long, and spoke very highly of the crop taken out of it this year. Another point they pressed upon me was, that they had this year grown three crops of Melons in one house. They said, although the prices of the immediate present did not return much profit, yet they should be satisfied if all the remainder of the crop of Grapes was sold for 1*s.* per pound. The first prices of the year were 15*s.* per pound, gradually sinking as supplies came in. When anyone can see establishments such as these, and others like them, continually growing through all such depressions as Mr. Blackmore speaks of, it shows the "fad" is not fatal to prosperity. This is for the indoor operations; and as to the outdoors, "my books" are also open, and at the service of anyone menaced with symptoms of the "fatal" fear. They are carefully made up to the end of 1893, and show a compound-interest for money invested from the commencement of the business in 1885. This is sufficient to tempt me to plant as much new orchard again this year as I can. I have an account of a Gooseberry patch I visited this year; the value of

the produce was £126 per acre, and it is of considerable size. It is young, and bids fair to yield this for a good many years to come. I have one Pear-tree that yielded me 25 bushels of Pears last year, the fruit of which I made into perry, and it is valued at £10 wholesale. This tree yielded me this year about 15 bushels, and the liquor will be worth £6. It may also be seen that such firms as that at Totnes, with several others, do very well with vintage operations. There are many thousands of acres in the country now barren, which under fruit would yield handsome returns, even if only for vintage purposes. Sixpence per bushel for Apples or Pears is a paying price, and would find a living for a rural population, and vastly increase the value of landlords' property. *B. Wells, F.R.H.S., The Fruit Nurseries, Crawley.*

SOCIETIES.

NATIONAL CHRYSANTHEMUM.

CHRYSANTHEMUMS at the annual show of the National Society, held on November 6, 7, and 8, in the Royal Aquarium, Westminster, were a surprise to many who had anticipated that the quality of blooms generally would be weak. It is no exaggeration to say that the exhibition, on the whole, was well up to the average in regard to quality; there were some weak stands, but these were far outbalanced by first-rate exhibits. Japanese blooms that secured a 1st prize in any class were of no mean quality, whilst those successful in the more contested and open classes were as good as could be wished. Incurved blooms, as we expected, were much superior to those exhibited last year, and were good, though hardly equal to exhibits of this section that were familiar several seasons ago, when they were more popular. Had the show been a week later, incurved blooms would have been better. Pompons, Anemone-flowered and singles, were shown in about the usual manner, and the trained plants do not call for any special remark. A wonderful show was made by competitors in the classes for artistic arrangements calculated to illustrate the value of Chrysanthemums for decoration, and the bulk of these were tastefully and effectively executed. The arrangement of the classes was again anything but satisfactory, and the poor light that reached some of the exhibits was very prejudicial to the colour of the flowers. Had the weather on the opening day been less bright, things would have been worse in this particular.

CUT BLOOMS.

A Societies' Competition.

The First Class is one in which Chrysanthemum and Horticultural Societies are invited to exhibit, and the blooms staged may be furnished by as many of the members of such societies as is convenient to the society. A collection has to contain forty-eight blooms, including twenty-four incurved distinct, and twenty-four Japanese distinct. The Challenge Trophy and 1st prize was won on this occasion by the Bromley Chrysanthemum Society, Kent, and the blooms were from about half a dozen members of that society. The general quality of the exhibit was good, and among the Japanese were fine examples of Mdlle. Thérèse Rey, G. C. Schwabe, Viviand Morel, Boule d'Or, M. Panckoucke, Col. W. B. Smith, Sunflower, Kentish Yellow, Marie Hoste, Gloire du Rocher, and Miss Muriel Scott, the last-named was a specially pretty bloom. Several of the incurved flowers were not quite finished, particularly a bloom of Jardin des Plantes, but there were fairly good flowers of Baron Hirsch, Princess of Wales, Mrs. Heale, Guernsey Nugget, and Miss Violet Tomlin. The 2nd prize was taken by the Havant Society, who staged, amongst others, noteworthy blooms of Col. W. B. Smith, International, Sir E. Smith, Princess May, G. C. Schwabe. Incurved were rather small, but some of them were pretty, such as White Empress, Alf. Salter, Lord Alcester, Golden Empress, &c. The St. Neot's Amateur and Cottage Horticultural Society, Huntingdonshire, as 3rd, and the blooms in this collection were all from Mr. J. Myers, Hinchingbrook Gardens, Huntingdon.

Open Classes.

Incurved Blooms.—As we have already stated, the quality of incurved blooms was better than we saw them last year, and the collection of thirty-six distinct blooms, staged by Mr. W. Mease, gr. to A. Tate, Esq., Downside, Leatherhead, for the Holmes Memorial Cup and £10, as very satisfactory. We will append the whole of the varieties shown, as they will be a guide to the thirty-six best in this section:—Golden Empress, Robert Petfield, Mrs. Robinson King, Miss V. Tomlin, Miss M. A. Haggas, Mrs. Mitchel, Princess of Wales, Robert Cannell, Lady Hardinge, Mons. R. Bahuant, Jeanne d'Arc (good) Lord Wolseley, Lord Alcester, Madame Darrier, Mrs. N. Davis, Jno. Lambert (good), Mrs. S. Coleman, Princess Teck (good, but too loose), Noel Pragnell or the Striped Empress (very good), Camille Flammarion, Brookleigh Gem, C. B. Whitnal, Empress Eugénie, Baron Hirsch, Jno. Doughty, Ami Hoste, Mrs. Wm. Shipton, A. Salter (good), Mrs. Heale, Prince Alfred, Empress of India (very good), Jno. Salter, J. Kearn, Queen of England (good), Lucy Kendal, and Lady Dorothy. The 2nd prize collection came from Mr. W. H. Lees, gr. to F. A. Bevan, Esq., Trent Park, New Barnet, and it included good blooms of Queen of England, Golden Empress, Princess Teck, Jno. Lambert, Miss V. Tomlin, Mrs. Dixon, Mrs. Heale, and Madame Darrier. Mr. J. Myers, gr. to the Earl of Sandwich, Hinchingbrook, Huntingdon, was 3rd.

In the class for twenty-four blooms distinct, the best collection was staged by Mr. G. King, gr. to M. Jenks, Esq., Canons Park, Edgware, Middlesex. The quality was a little below that in the larger class, and the blooms were a little flat. The best were Jeanne d'Arc, Barbara, and Miss V. Tomlin; 2nd, Mr. Thos. Robinson, gr. to W. Lawrence, Esq., Elsfield House, Hollingbourne, near Maidstone; and Messrs. Hobday & Son, Cambridge, were 3rd.

The best twelve blooms among seventeen or eighteen competitors were from Mr. W. Higgs, gr. to J. B. Hankey, Esq., Fetcham Park, Leatherhead, and a very good lot was staged. The following were especially so: Jno. Doughty, Prince Alfred, Miss M. A. Haggas, Baron Hirsch, Golden Empress, and Alfred Salter. Mr. B. Calvert, gr. to Col. Archer Houblon, Hollingbury Place, Bishop's Stortford, was a close 2nd; and Mr. H. A. Page, gr. to F. Crisp, Esq., White House, New Southgate, N., was 3rd. The 4th prize went to Mr. A. Jones, gr. to Miss Weyburn, Hadley Manor, Barnet, and an extra one was awarded to a stand from Mr. A. Sturt, gr. to N. L. Cohen, Esq., Englefield Green, Surrey. Mr. W. Collins, gr. to J. W. Carlile, Esq., Ponsbourne Park, Hertford, had the best in the class for six blooms of one variety, and showed Queen of England. Several of the blooms were good, but others rather flat. 2nd, Mr. B. Calvert with Miss M. A. Haggas, and 3rd, Mr. A. Jones with Golden Empress. The best six incurved blooms distinct of varieties put into commerce in this country during 1892 or 1893, were staged by Mr. Robert Petfield, gr. to A. J. Thornhill, Esq., Huntingdon, and the varieties were Madame Darrier, Baron Hirsch, Brookleigh Gem, Sir Titus, Mr. G. Eyerman, and Robert Petfield. The three first-named are the best and are now pretty well-known. Robert Petfield is also fair. 2nd, Mr. J. Agate, Havant, with Robert Petfield, Lucy Kendal, Mr. F. Murray (rather poor as shown), Mr. J. Kearn, a white (rather flat bloom as shown), and Sir Titus.

Japanese blooms.—The competition in these classes was invariably good, and the quality of the blooms in most cases excellent. It was a magnificent collection of forty-eight varieties, that was staged by Mr. W. H. Lees in the competition for the Holmes Memorial Cup and £10, and well staged also.

The varieties were Mrs. C. H. Payne, Florence Davis, W. Tricker, W. H. Lincoln (very good), M. Ad. Sirocid, Madame Calvat, Mrs. E. W. Clarke, Mdlle. Marie Hoste, Jno. Shrimpton, Madame Ad. Chatin (good, but not quite finished), Mrs. E. Wheeler, M. Panckoucke, Commandant Blusset, Mdlle. Thérèse Rey, Madame Octavie Mirabeau, Sunflower, M. Bernard, Henri Jacotot Fils, Duke of York, Stanstead White, Amos Perry, Primrose League, Mrs. Dr. Ward, Pearl Beauty, Chas. Davis, Madame J. Bayley, Beauté Toulousiene, Viscountess Hambledon (capital), Beauty of Castlewood, Niveum (fine), Edwin Molyneux (grand colour), Cecil Wray, Mrs. E. S. Whittle, Mrs. W. H. Lees, Col. W. B. Smith, Souvenir d'une Petite Amie, Etoile de Lyon, M. E. A. Carrière, G. C. Childs, Madame Carnot, Mrs. F. Jameson, Puritan, Miss Dorothy Shea (capital), Madame Chas. Capitant, Mrs. E. S. Trafford, Viviand Morel (extra deep), H. L. Sunderbruch, a capital broad-petalled yellow, and Avalanche. The collection which followed was put up by Mr. Mease, and though the blooms were smaller, the collection was a first-rate 2nd; his best flowers were Niveum, Viviand Morel, Excelsior, Eda Prass, Sunflower, Miss Dorothy Shea, Mdlle. T. Rey, and International; W. H. Fowler, Esq., Claremont, Taunton, was 3rd, with a satisfactory lot; and Mr. W. Wells, Earlswood Nursery, Redhill, Surrey, 4th.

For a collection of twenty-four blooms, distinct, a Silver Cup was offered by Major A. Collis-Browne, in addition to the first money-prize. The quality of the exhibits was excellent, and the 1st prize was awarded to a collection from Mr. W. H. Lees, his best blooms being Viviand Morel, Madame Carnot, Souvenir d'une Petite Amie, Primrose League, W. H. Lincoln, Mdlle. T. Rey, Chas. Davis, and Sunflower. A very good lot from Mr. Wm. Allan, gr. to Lord Suffield, Gunton Park, near Norwich, was 2nd, and included were fine specimens of Viviand Morel, C. Shrimpton, Duke of York, Mdlle. Thérèse Rey, Val d'Andorre, and Sunflower. Mr. W. Higgs was 3rd; and Mr. W. Collins was 4th.

A Silver Cup, presented by Mr. H. Jones, Ryecroft Nursery, Lewisham, formed an additional reward to the winner of the 1st prize for twelve blooms, distinct, which fell to Mr. W. Messenger, gr. to C. H. Berners, Esq., Woolverstone Park, Ipswich, who staged a very grand lot; this included a most superb bloom of Viviand Morel, also good Mdlle. T. Rey, Florence Davis, Sunflower, W. H. Lincoln, Etoile de Lyon, and Chas. Shrimpton. Mr. A. Sturt was a good 2nd, especially in his M. Benard, Amos Perry, and Chas. Davis. Mr. B. Calvert was 3rd; and Mr. A. J. Driver was 4th.

The best six blooms of any white Japanese variety were of Avalanche, shown by Mr. Sandford, gr. to W. Wright Ingle, Esq., Woodhouse, North Finchley. Mr. R. Jones, gr. to C. A. Smith Hyland, Esq., Barford Hill, Warwick, was 3rd with Mdlle. T. Rey; and Mr. Collins' stand of the same variety was Commended.

Mr. Sandford was also successful in the class for any other variety excepting white, with large, finely-coloured Chas. Davis; Mr. W. Mease was 2nd, with Sunflower; and Mr. Chas. Cox, gr. to Jno. Trotter, Esq., Brickendon Grange, Hertford, 3rd, with Edwin Molyneux. There were seventeen exhibitors.

Six Japanese incurved were best from Mr. A. J. Driver, gr. to Mrs. Davies, Bridgend House, Stonehaven, who had Stanstead White, Waban, Robt. Owen, E. Molyneux, Thunberg, and Lord Brooke; 2nd, Mr. B. Calvert, who had good Louis Bœhmer, Enfant des deux Mondes, and William Tricker; Mr. Thos. H. Lodge, gr. to the Rev. J. Menet, Hockerill, Bishop's Stortford, was 3rd.

Hairy-petalled Varieties.—The 1st prize for six Japanese blooms, hairy-petalled varieties, distinct, was taken by Mr. Philip Plumb, gr. to G. J. Beer, Esq., Langley Park, Watford, Herts; he had Hairy Wonder (figured in the *Gardeners' Chronicle* last week), Mrs. Trelease (a rose-coloured variety), Louis Bœhmer, Mrs. A. Hardy, W. A. Manda (yellow), and Enfant des deux Mondes.

Anemone, Japanese.—Mr. Skeggs was the winner of the 1st prize for twelve blooms, distinct, and showed very good blooms of varieties similar to those included in the class for large-flowered and Japanese Anemones; 2nd, Mr. R. C. Notcut, Broughton Road Nurseries, Ipswich, an excellent 2nd; and Mr. Jno. Milner was 3rd.

Reflexed Blooms, large flowered.—Mr. Collins, with a good average collection, was 1st for twelve large-flowered reflexed blooms, the best of which were Golden Christine, Cullingfordi, Cloth of Gold, White Christine, and Pink Christine; Mr. Chas. Cox was a very near 2nd indeed; and Mr. A. Felgate, gr. to Her Grace the Dowager Duchess of Wellington, Burhill, Walton-on-Thames, was 3rd.

Anemone Blooms, large-flowered.—Mr. Skeggs, gr. to A. Moseley, Esq., West Lodge, Barnet, Herts, was 1st for twenty-four distinct large-flowered Anemone blooms, Japanese included. It was a very fine collection, and as these varieties deserve more extended favour, we append the names of all those in the 1st stand, Queen Elizabeth, Duchess of Westminster, Glück, Nelson, Mrs. J. Benedict, Cincinnati, Mrs. Linan, Miss Margaret, Marie Laglaize, Jeanne Marty, Delaware, Jno. Bunyan, M. Dupanloup, W. W. Astor, Empress, Madame Nathaniel Brun, M. Charles Leboscqz, Souvenir de Dorothée Souille, M. Panckoucke, Madame Lawson, Gladys Spaulding, Mdlle. Gabriel, Sabine, and Grand Alveole. The 2nd prize was taken by Mr. Jno. Miller, gr. to Mr. W. A. Higgs, Willenhall Park, Barnet, who had also a nice lot. 3rd, Mr. A. Iver, gr. to E. E. Jakes, Esq., Hadley Lodge, Barnet. The

last-named exhibitor was 1st for twelve blooms of large Anemone-flowered with Japanese excluded, and the stand included good blooms, Delaware, Lumière d'Argent, Cincinnati, Grand Alveole, and Thorpe Junior; Mr. W. Skeggs, gr. to A. Moseley, Esq., West Lodge, Barnet, was 2nd; and Mr. Chas. Brown, 3rd.

Anemone Pompons.—The best twelve blooms of these were from Mr. J. Myers, gr. to the Earl of Sandwich, and amongst a very pretty collection the following were the most attractive, Francis Boyce, Magenta King, Madame Chalounge Pearle, Marguerite de Coi, and Madame Montels; Mr. W. Aldridge, gr. to G. Lacy, Esq., Springfield Gardens, Palmer's Green, N., 2nd; and Mr. Charles Brown, gr. to R. Henty, Esq., Langley House, Abbots Bromley, Herts, 3rd.

Pompons.—In the competition for the best twelve distinct varieties, three blooms of each, excluding Anemone Pompons, Mr. T. Caryer, gr. to A. G. Meissener, Esq., Weybridge, was most successful. The prettiest of a nice collection were Rubra perfecta, W. Westlake, President, Charles Dickens, and Scapin; 2nd, Mr. T. L. Turk, gr. to W. F. Boney, Esq., Cholmeley Lodge, Highgate, with another good lot; 3rd, Mr. C. Brown. In the following class for a like number of flowers, but as grown without disbudding, the 1st place was taken by Mr. Brown; 2nd, Mr. T. L. Turk.

Single-flowered varieties.—Mr. J. Agate, Havant, had a very fine stand in the class for twelve single varieties in sprays of three blooms each. The best were Golden Star, Purity, Snow Wreath, Jane, Miss M. Wilde, and Mrs. D. N. Crane; Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was 2nd, and included Earlswood Terra-cotta, Emily Wells, and Nora, three very pretty varieties; 3rd, Mr. G. Carpenter, gr. to Major Collis-Browne, Broad Oaks, Byfleet.

Amateurs' Classes.

The first class, devoted to amateurs only, was one for twenty-four blooms of Japanese, in not fewer than eighteen varieties, for which the 1st prize was 30*s.*, and in addition, a nickel-silver tea-service, presented by Mr. J. A. Restall, jeweller, 2, St. Martin's Place, Broad Street, Birmingham.

Mr. Jno. Horril, The Workhouse, Havant, was 1st with a collection, reflecting highest credit on the amateur who exhibited them. The best blooms were Miss Dorothy Shea, Condor, Viviand Morel, Stanstead White, Mdlle. T. Rey, Golden Wreath, and J. S. Dibbin. There was a very spirited competition, and the 2nd place was secured by Mr. H. Love, Melville Terrace, Sandown, Isle of Wight, with smaller but good blooms; 3rd, Mr. Alfred Holmes, Fort Grange, Gosport.

The best twelve incurved blooms were also staged by Mr. A. Holmes, and the varieties included good Princess Teck, Mrs. Heale, Refulgens, Lucy Kendal, and Miss M. A. Haggas.

Mr. Fred Durrant, 4, New Road, Ware, was the exhibitor of the best six incurved blooms, of which Jeanne d'Arc and Prince Alfred were very good; Mr. Holmes was 2nd; and C. E. Wilkins, Esq., Wellington, Swanley, Kent, 3rd.

The best twelve Japanese blooms were staged by Mr. H. Love, who had a stand of medium-sized neat blooms of good quality, and who was followed by Mr. Arthur Stammers Knowles, Maldon, Essex, and Mr. Jas. Stredwick, Silverhill Street, St. Leonard's-on-Sea.

G. E. Piddington. Esq., Leigh, Essex, staged the best six Japanese, having Charles Davis, Colonel W. B. Smith, Mrs. Harman Payne, Viviand Morel, Mr. A. G. Hubbuck, and Beauty of Exmouth, all good; 2nd, Mr. H Lee, 3, Toronto Place, Moreland Road, Gosport; 3rd, Mr. Geo. Peck, St. James Street, King's Lynn.

The best six Japanese blooms of any one variety were from Mr. H. Love, who had good blooms of Sunflower; 2nd, Mr. Jas. Stredwick, with Avalanche; and 3rd, Mr. W. Batten, Old Basing, Basingstoke, Hants, with the same variety.

Amateur and Single-handed Gardener's Classes.

Mr. T. L. Turk was the exhibitor of the best collection of twelve incurved blooms, distinct, with a very creditable lot of flower. He was followed by Mr. E. Tickner, and Mr. S. J. Cook, gr. to J. H. Hartridge, Esq., Holmwood, Hendon, N.W.; and the best six incurved were shown by the winner in the last class also, being followed by Mr. W. C. Pagram, gr. to A. F. Hobhouse, Esq., Weybridge; and Mr. W. Jones, gr. to W. Hooper, Esq., Glena Mount, Sutton, Surrey.

Capital blooms were shown by Edwin Smith, Esq., Ingleside, Chatham, in the class for twelve Japanese, distinct; especially good were Lord Brooke, Mrs. E. W. Clarke, Viviand Morel, W. H. Lincoln, and Chas. Davis. Mr. E. T. Tickner, gr. to J. Watney, Esq., was 2nd; and C. W. Richardson, Esq, Fairgrieve House, Sawbridgeworth, 3rd.

Metropolitan Classes.

These are limited to growers within the area of the county of London. The first class here was for twelve incurved blooms, the best coming from Mr. Brigham, Stoke Newington, who was also 1st in the class for six blooms.

For Twelve Japanese, Mr. W. Davis, gr. to W. F. Darnell, Esq., Stamford Hill, was 1st with medium-sized but good blooms; Mr. Brigham was 2nd. With six Japanese, Mr. Beech, gr. to L. Seligman, Esq, South Kensington, was best; 2nd, Mr. Davis.

Amateurs' Special Prizes.

In the class for twelve incurved flowers, the 1st prize being a small boiler, given by Messrs. J. Deard & Son, Harlow, in addition to the money prizes offered by Mr. H. J. Jones, the only competitor was Mr. J. Horrel, Havant, who had the prize. The 1st position was taken by Mr. Yeoman of Hounslow, for twelve Japanese; Mr. Amies, of Ashford, Kent, coming 2nd. For six Japanese, Mr. A. A. Botwright, of Kensington, was 1st, and Mr. R. E. Wilson, from the same locality, 2nd.

Plants.

Trained Chrysanthemums were shown in very fine form, and were much admired by those who like these huge formal specimens. With six remarkable plants, large flowered, averaging 6 feet across, a veteran grower, Mr. D. Donald, gr. to J. G. Barclay, Esq., Leyton, was an easy 1st; he had densely-flowered Chinaman, W. Tricker, Florence Piercey, Margot, and White and Pink Christine. Mr. Easey, gr. to C. Mills, Esq., Highbury New Park, was 2nd.

With four trained plants, Mr. Davey, gr. to C. C. Paine, Esq., Stamford Hill, was 1st, having good plants of Margot, Col. W. B. Smith, Dr. Sharpe, and Elaine.

Mr. Davey also had the best six standards of similar varieties, very good specimens; Mr. Easey coming 2nd. With four trained standards, Mr. Donald was an easy 1st, having grand plants of Bertha Rendatler, Stanstead Surprise, Chinaman, and Margot. The same grower was the only exhibitor of six trained Pompons, wonderful plants of Dupont de Léon, William Kennedy, Antonius, Sœur Melanie, and Blanch Douglas.

Mr. W. Wells, Earlswood, was the only exhibitor of six singles untrained, and well-flowered were Rose Pink, Foxhunter, Bertha Jenks, &c.

Table Decorations, Vases, &c.

The whole of these very beautiful, as well as remarkable, arrangements were found up in the gallery, where it is feared few of the general public saw them, yet it is doubtful whether any features of this fine show possessed greater beauty or were so attractive.

The finest product, without doubt, was found in the competition for the President's piece of plate and other prizes, and was in the form of tables 18 feet by 6 feet, standing against a wall, so that one face only was needed to be filled in the most artistic way by the competitors, of whom there were three. The 1st place was taken by Mr. H. J. Jones, of Lewisham, with what must be truthfully described as the most beautiful, as well as the finest of any similar arrangement ever seen.

At the back hung soft green drapery, then came some very lofty vases, holding clusters of flowers. Dwarfer ones fronted these similarly dressed, and in front were many flowers set singly in a bed of Ferns and foliage. The whole was dressed with Ferns, Crotons, and Asparagus, whilst varied coloured foliage draped and beautified the vases. The blooms used were chiefly Japanese in various colours. Mr. N. Davis, of Camberwell, who was placed 2nd, had a somewhat similar arrangement, but with dwarfer stands, and his table was less effectively draped and dressed, still, it was a striking group. Mr. Godfrey, of Exmouth, was 3rd, but his table was lacking in tastefulness.

The next in attractiveness, though losing something by being perhaps too elaborate, was the competition for a table of bouquets, wreaths, sprays, buttonholes, &c. These tables could be faced all ways Here Mr. J. R. Chard, of Brunswick Nursery, Stoke Newington, was 1st, his table having a draping of yellow muslin; at the corners were an anchor, a harp, wreath, and a collar or chaplet; yellow, bronze, and deep chesnut-coloured flowers, being freely used; also fine vases, superbly dressed with flowers and drooping foliage; whilst bouquets, sprays, &c., were plentiful, the whole presenting a combination such as is rarely seen at any show. Without any doubt, both Mr. Jones and Mr. Chard in their respective classes surpassed themselves. Messrs. Perkins & Sons, Coventry, were 2nd, having also a diverse but still beautiful table, one that perhaps only Mr. Chard could have excelled. A looking-glass fixed in the centre of the table, literally framed in flowers, bouquets, and foliage, was an effective feature.

Still in the same category was a class for twenty-four Japanese blooms, set up singly in vases, and on large stems, the whole being in a case of Ferns and foliage. Here D. M. Hayler, gr. to W. Hannaford, Esq., Hendon, was 1st; Mr. Howe, gr. to H. Tate, Esq., Streatham Hill, 2nd; and Mr. W. Davis 3rd. There was much similarity in the setting-up, the better flowers giving the 1st place to Mr. Hayler.

Mr. John Wills, of South Kensington, offered prizes for three vases of Chrysanthemums, each to contain twelve blooms, arranged for effect. Mr. J. R. Chard was the winner of the 1st prize, having tall glass stands set into wire supports, the flowers being dressed with foliage; Mr. F. N. Seale, Sevenoaks, was 2nd.

Mr. D. B. Crane, Highgate, had the best-dressed three epergnes, pleasingly dressed with soft yellow and dark bronzy flowers, and good foliage. Mr. Seale was again 2nd.

Mr. A. Merridew, Camberwell, had the best pair of vases dressed with flowers of Pompon Chrysanthemums; 2nd, Mr. Turk, Highgate.

Mr. W. Howe was a good 1st with one vase of six Japanese flowers, using the beautiful flowers with good effect. In the next vase shown by Mr. L. T. Cook, Holmwood, Hendon, Viviand Morel was the flower employed.

In a similar class for amateurs, the same variety won the 1st prize for Mr. A. Jones, of Hornsey.

Bouquets were numerous, the best pair coming from Mr. Newell, gr. to Mr. E. Saunders, Wimbledon, his flowers being of pink colour in one case, and golden and bronze in the other.

Mr. W. Smith, of Romford, had the best basket of berries and coloured foliage.

Special Classes.

These were for prizes offered chiefly by trade growers for varieties specially sent out by them, but the response was poor, some not even getting an entry. Mr. J. Agate, of Havant, was the only competitor for Mr. H. J. Jones' selected flowers; and for Messrs. Cutbush & Sons' class, Mr. Sandford, gr. to G. W. Wright, Esq., Finchley, was placed 1st. In four other cases there seemed to be no competition.

Fruit and Vegetables.

These were not so plentiful as usual, the Grape classes being the best filled. There were six lots of three bunches of whites, all Muscat of Alexandria, the best really fine bunches coming from Mr. J. Bury, gr. to C. Baver, Esq, Forest Hill; Mr. W. Harman, gr. to the Earl of Denbigh, Lutterworth, was 2nd, with smaller but still handsome bunches; Mr. Simmonds, gr. to W. Cunard, Esq., Orleans House, Twickenham being 3rd.

Black Grapes were represented by nine lots, all but one being Black Alicante. The exception was three large clusters of Gros Guillaume, rough and unfinished. The best Alicantes, not large, but finely finished, came from Mr. Griffin, Combe Bank, Kingston-on-Thames; Mr. J. Bury being 2nd; and Mr. Elliott, gr. to T. H. Graham, Esq., West Molesey, 3rd. Mr. Bury had the finest Gros Colmar Grapes, though not fully coloured. Mr. W. Chuck, gr. to T. Thelluson, Esq., Doncaster, coming 2nd; and Mr. W. J. Empson, gr. to W. Wingfield, Ampthill, Beds, 3rd.

Apples were remarkably scarce, only two half-dozens of dishes being staged in each class. With dessert varieties, Mr. Potter, gr. to Sir Mark Collett, Sevenoaks, was 1st, having very fine Cox's Orange, Ribston, Blenheim, and King of the Pippins, Mother Apple, and Baumann's Red Reinette. Mr. R. Dean, Ealing, was 2nd.

In the cooking class, some fine fruit of Warner's King, Gloria Mundi, Peasgood's Nonsuch, Lane's Prince Albert, Emperor Alexander, and Gascoigne's Scarlet Seedling, came from Mr. Axell, gr. to G. H. Dean, Esq., Sittingbourne, who was 1st; and Mr. R. Dean was 2nd.

The finest six dishes of Pears came from Mr. W. Allan, Gunton Park, Norwich, whose Marie Louise d'Uccle, Durondeau, Doyenné du Comice, Pitmaston Duchess, Emile d'Heyst, and Marie Louise were excellent; Mr. Potter, who was 2nd, had fine Beurrés Baltet and Bachelier; Mr. H. Liney was 3rd.

The show of vegetables was remarkably limited in size; Mr. C. Ross, gr., Welford Park, Newbury, was the only exhibitor of twelve dishes of Potatos, and Mr. C. J. Waite, the Gardens, Glenhurst, Esher, had the best six dishes; Mr. Moss being 2nd.

In the class for nine sorts of vegetables, prizes offered by Messrs. Cannell & Sons, Swanley, Mr. R. Lye, of Sydmonton Court, Newbury, was the only exhibitor, having good samples.

There were four competitors in a corresponding class for prizes offered by Messrs. Sutton & Sons, Reading, Mr. Waite here taking 1st place. Mr. T. Wilkins, gr. to Lady Theodora Guest, Inwood House, Dorset, coming 2nd, Mr. R. Lye 3rd, and Mr. Haines, Coleshill, Wilts, 4th.

MISCELLANEOUS EXHIBITS.

These were, as usual, an important part of the exhibition, for they were responsible in large degree for the display made. Mr. W. J. Godfrey, Exmouth Nurseries, Devon, had a good display of novelties, including some unnamed seedlings of much promise. M. Grayer was a large pink Japanese, and Miss Dorothy Shea, Louise, Sarah Hill, and others, were well exhibited. Messrs. B. S. Williams & Sons, Victoria and Paradise Nurseries, Upper Holloway, London, N., had a miscellaneous collection of plants, including Cannas, Crotons, Ericas, Cyclamens, Cattleyas, Odontoglossums, &c.; and another miscellaneous collection of plants was staged by Messrs. Wm. Cutbush & Sons, Highgate Nurseries, London, N., including a few Orchids, also a small collection of fruit. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, exhibited a collection of new Chrysanthemums; and Chrysanthemum blooms were also shown by Mr. Thos. S. Ware, Hale Farm Nursery, near Tottenham. Messrs. Clibran & Son, Altrincham Nurseries, near Manchester, had cut blooms of Chrysanthemums, including a number of flowers of W. Firkins, a yellow sport from Bouquet de Dame. Mr. W. Young, Holmesdale Nurseries, Stevenage, Herts, had cut blooms of Chrysanthemums; and Mr. A. Merridew, The Gardens, Camberwell House, Camberwell, some plants of Cypripedium insigne in flower, a few Ferns, &c. Mr. James Pike, Acton, W., again exhibited the Carnation Uriah Pike.

The grandest display of all was that put up by Messrs. H. Cannell & Sons, Swanley, Kent, which included a fine lot of Chrysanthemum blooms. John Machar is expected to make a splendid yellow Japanese incurved, and Globe d'Or promises to make a good incurved. Zonal Pelargoniums were also exhibited in quantity and great variety, set up in sprays according to the well-known Swanley system. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, had a small group of plants of Chrysanthemums, including Ethel Amsden, the green sport from Viviand Morel.

A good number of Chrysanthemum blooms of new varieties was also staged by Mr. Robert Owen, nurseryman, Maidenhead; Ernest Fierens, a white Japanese, and Owen's Perfection, looked promising varieties.

Messrs. Sutton & Sons, Reading, showed a remarkably attractive collection of Potatos, their fine varieties standing out with marked effect. And Mr. Empson showed some grand samples of Carrots, including Bedfordshire Champion, Sutton's Intermediate, &c.

There was also shown a fine collection of Apples and Pears from Messrs. J. Cheal & Sons, Crawley, a richly-coloured lot of twenty-five dishes. Mère de Ménage Apple, from Mr. C. Holden, Rhyl; and a good collection of Apples and Pears staged by Messrs. Cutbush & Sons, Highgate.

Horticultural sundries were well represented. Mr. Jos. Arnold exhibited a lot of Bedfordshire peat; another stand was devoted to the display of "Pure Ichthemic Guano;" Mr. George, Putney, had another table devoted to the exhibition of his specialties; and Messrs. Iles & Co., Berkshire Pottery Stores, Warner Road, Camberwell, London, S.E., had a collection of artistic garden pottery.

HIGHGATE AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 1, 2.—A capital show was this, the hall in which it was held being crowded to overflowing; the Japanese varieties were very fine, but some of the incurved flowers were wanting a little longer for full development. The special prize offered by W. Reynolds, Esq., for thirty-six blooms distinct, eighteen incurved, and eighteen Japanese, brought out some fine flowers. Here, Mr. J. Burch, gr. to J. Smith, Esq., Mill Hill, gained premier honours, his principal flowers of Japanese being Primrose League, C. Shrimpton, Mrs. C. H. Payne, Princess Victoria, Vivand Morel, and Louise; incurved, Golden Empress of India, Hero of Stoke Newington, Lady Dorothy, Baron Hirsch, Miss Haggas, and John Lambert. A very good 2nd was Mr. E. Rowbottom, gr. to H. R. Williams, Esq., Hornsey, the latter exhibitor taking the chief award in the open class for twenty-four Japanese, extremely fine were G. C. Schwabe, C. Shrimpton, Avalanche, Prefect Robert, Miss A. Hartshorn, Etoile de Lyon, Louise, and Sunflower; 2nd, also a fine lot, Mr. J. Sandford, gr. to G. Wright-Ingle, Esq, Finchley, who gained the chief position for twelve Anemones, fine were blooms of Marguerite, Solleville, Sabin, and Glück; 2nd, Mr. S. J. Cook. A very effective class was that for twelve bunches of cut blooms, set up with Ferns, Grasses, and other foliage. Mr. E. Rowbottom was well to the front here, followed by Mr. Cook, gr. to J. H. Hartridge, Esq, Hendon. In the section open to single-handed gardeners and amateurs for twelve incurved blooms, the 1st prize was well won by Mr. J. L. Turk, gr. to T. Boncy, Esq., Highgate, who had good blooms of Violet Tomlin, Golden Beverley, &c.; 2nd, Mr. G. Amos. Mr. Turk secured the premier place for twelve Japanese, in this stand were good flowers of Mrs. Falconer Jamieson, Amos Perry, and Prefect Roberts; 2nd, Mr. J. Brooks, jun. For six Japanese, Mr. Turk was again well to the front; 2nd, Mr. Kent. The special prize offered by H. R. Williams, Esq., for twelve incurved and twelve Japanese secured some good exhibits. 1st, Mr. J. Brooks, gr. to W. Reynolds, Esq., amongst Japanese were fine flowers of Excelsior, Viviand Morel, Mdlle. Marie Hoste, and Avalanche; incurved, Empress of India, Baron Hirsch, and Madame Darier; 2nd, Mr. J. L. Turk. The same gentleman's prizes for twelve incurved (six varieties) were well contested for, the principal prize-takers being Messrs. J. H. Walker, H. A. Page, and J. Sandford. Mr. J. McKerchar's prize for six Japanese brought out some fine flowers, the prize-takers being Messrs. J. Sandford and J. Brooks. Beautiful were the flowers staged in the class set apart for twelve varieties of Pompons, three blooms of each, Messrs. Turk and Burch taking the chief prizes. In the class for a tastefully-arranged basket of Chrysanthemums, a beautiful exhibit, gaining the first place, was sent by W. D. B. Crane, Archway Road, Highgate; 2nd, W. Matthews. Mr. Crane was also fortunate in securing the chief honours for a dinner-table decoration. In button-hole bouquets, Mr. Eason was the most successful competitor, whilst in epergnes and bouquets the chief prizes were secured by Messrs. Sedgwick and Tubbs. Specimen plants were well shown, Mr. Eason gaining the first place for six trained Pompons, Sœur Melanie, fine. Extremely fine plants gained Mr. Brooks the premier position for six trained specimens of large flowering kinds, Mr. Eason closely following; Mr. Sedgwick sent the best three. The President's prize for a group of Chrysanthemums was won with well-flowered examples by Mr. J. Brooks. In the smaller group the prizes were obtained by Messrs. Sedgwick and Edwards. Fruit was pretty well shown, the prizes for three bunches of Black Grapes going to Messrs. Tubbs, Page, and Brooks; whilst those offered for White Grapes went to Messrs. Walker, Turk, and Tubbs. Apples and Pears were successfully shown by Messrs. A. Page, H. A. Page, Turk, Sandford, Hayler, and Gregory. Tomatos gained the prizes to Messrs. A. Page, H. A. Page, and Brooks. The chief prize-winners in the Vegetable Classes were Messrs. Sedgwick, Tomlin, Bullimore, and Edwards. Amongst non-competitive exhibits may be mentioned a good miscellaneous collection of fruit from Messrs. W. Hunt & Son, Highgate, and plants for the general decoration of the hall from Messrs. W. Cutbush & Son, and Messrs. B. S. Williams & Co. Mr. W. E. Boyce, the Hon. Secretary, deserves much credit for the general arrangements.

THE PEOPLE'S PALACE HORTICULTURAL.

NOVEMBER 1, 2, 3.—A very attractive exhibition of Chrysanthemums took place in the Queen's Hall on the above date, and the quality of some of the blooms grown in the East End came as a surprise to many of the visitors. The majority of the competitive plants and flowers came from the Victoria Park, Stepney, Bow, and surrounding districts, the group of Japanese and incurved shown by Mr. T. Smith was highly creditable; Mr. G. Heathcote being a close 2nd. In the class for a smaller group, Mr. C. J. Froud was a good 1st. Incurved varieties were praiseworthy as cut blooms, but outshone by the Japanese, which are better developed in the East End than the older type. Colour was wanting in some of the Japanese, but substance and fulness characterised them. The most favoured spot is the Sewardstone Road; the gardens in the houses at one side of the road back on to the canal, and beyond that is Victoria Park. Groups and collections of plants other than Chrysanthemums were invited, and they included considerable variety; the two leading subjects, and shown in very fine character, were Ficus elastica and Aspidistra lurida and its variegated form. This is an admirable town plant, and the highest award in the miscellaneous class was awarded to two large variegated specimens from Mr. C. Balls. Ferns, Fern-cases, Aralia Sieboldi, Dracænas of the green type, Begonia rex, &c., were also staged. Vegetables and fruits were invited, and some very creditable drawings of plants and flowers came from children. On the previous Saturday, greenhouses and window-boxes were inspected, a day being occupied in visiting them, many were of a homely character, but it was remarkable what excellent plants were grown in them, and as many as fifteen prizes were awarded. The judges recommended that for the future the greenhouse competition should be grouped into districts, some of them being much more favourable to plant growth than others. The exhibition was made quite extensive by the addition of valuable groups of plants from the Messrs. de Rothschild, Gunnersbury Park, Acton; F. A. Bevan, Esq., Trent Park, Barnet; S. B. Boulton, Esq., Copped Hall, Totteridge; Messrs. W. Cutbush & Sons, nurserymen, Highgate; Mr. Holmes, Frampton Park Nursery, Hackney; A. F. Hills, Esq., Woodford Green; Chrysanthemum blooms from C. E. Shea, Esq., Foots Cray; Sir E. Saunders, Fairlawn, Wimbledon, a charmingly-arranged basket of Chrysanthemums; the Duchess of Wellington, Strathfieldsaye; Mr. H. J. Jones, Ryecroft Nursery, Lewisham, and others; and table decorations, each one filling a table, from Miss Lilian Hudson, The Gardens, Gunnersbury House, Acton; and Mr. J. R. Chard, Stoke Newington. The exhibition was opened by Lord Iveagh, one of the Vice-presidents. It is intended to hold an exhibition of spring-flowering bulbs in March next.

CRYSTAL PALACE.

NOVEMBER 2.—The show of Chrysanthemums held annually under the auspices of the Crystal Palace Company, is usually one of the first of the season, and calculations are sometimes made from the exhibits here as to the quality of the blooms that may be expected at the later shows. On the occasion under notice, all sections excepting that of the incurved, were represented in about average quantity, and of not more than average quality. Incurved flowers were weakest, there being but few really first-class blooms staged, owing primarily to the fact that the show was much too early for this section, and growers had to stage the first flowers with but few to select from.

Mr. N. Molyneux, gr. to J. Carpenter Garnier, Esq., Rooksbury Park, Wickham, Hants, secured the first prize in the leading open class, and staged a collection of forty-eight blooms, twenty-four incurved and twenty-four Japanese. The incurved blooms were weak, but there was a capital Baron Hirsch, and a bloom of Madame Darrier was pretty. Japanese flowers were much better, and may be described as satisfactory. Col. W. B. Smith was about the best, and the new M. Panckoucke was exhibited well. This will become one of the most popular of the yellows. International was large, and served well for the back row, but the variety is open to the objection of being a trifle rough. Souvenir d'une Petite Amie, President Borel, G. W. Childs, Madame Charles Molin, and Louise were new ones included in this stand. The last-named was a fairly good bloom, but was too pale. The 2nd place was taken by Mr. W. H. Lees, gr. to F. A. Bevan, Esq., Trent Park, New Barnet. Duke of York, Madame Charles Capitant, Primrose League (lacking colour), and Commandant Blusset were included among the Japanese. The last-named is a good deep flower, and of distinct colour. M. E. A. Carrière is a pretty white flower, with good florets slightly incurving. The incurved blooms were only ordinary. Mr. C. J. Salter, gr. to T. B. Haywood, Esq., Woodhatch Lodge, Hayward's Heath, Reigate, was 3rd; and again the Japanese blooms were the best.

The 1st prize for eighteen incurved varieties was won by Mr. Thos. Robinson, gr. to W. Lawrence, Esq., Elsfield House, Hollingbourne. The blooms were rather weak. The prettiest were Madame Maute, a rich yellow; White Venus, Miss M. A. Haggas, and Madame Darrier. Mr. Jupp, gr. to G. Boulton, Esq., Torfield, Upperton, Eastbourne, was 2nd; and Mr. Lees 3rd.

The class for twelve incurved, contained larger and better flowers. Mr. W. Collins, gr. to J. W. Carlile, Esq., Ponsbourne Park, Hertford, was 1st, the best of his blooms being John Doughty, Queen of England, Mrs. Heale, and Baron Hirsch; 2nd, A. Jones, gr. to Miss Wyburn, Hadley Manor, Barnet.

The best six incurved blooms of one variety were some Jeanne d'Arc from Mr. W. Japp, fairly good, but a little ragged; Mr. E. Mills, gr. to F. Lloyd, Esq., Coombe House, Croydon, was 2nd, with Baron Hirsch, shown past their best; and Mr. W. E. Tidy, Brockhampton Nurseries, was 3rd, with Jeanne d'Arc.

The best collection of eighteen Japanese blooms came from Mr. W. Collins, and they were an even good lot; the best were President Borel, Princess May, Chas. Davis, and G. W. Childs—this last-named was well up in colour. 2nd, Mr. W. H. Lees, with much smaller blooms, but of capital colour. 3rd, Mr. Geo. Elphick.

There was very spirited competition in the class for twelve Japanese, about sixteen stands being staged. Mr. J. Smith, gr. to W. R. Inglis, Esq., Craigendown, Reigate Hill, who was 1st, had some capital blooms, especially Duke of York, Viviand Morel, Mdlle. Marie Hoste, Princess May, Sunflower, Mdlle. Thé èse Rey, and Chas. Davis. 2nd, Mr. E. Tickner, gr. to J. Watney, Esq., Shermanbury House, Reigate; Chas. Shrimpton and Mrs. A. G. Ramsay were the best. 3rd, Mr. W. Slowgrove, gr. to Mrs. Crawford, Sutton, Reigate.

Out of fourteen competitors for six blooms of one variety of Japanese, the 1st prize was won by Mr. Slowgrove, who had good blooms of G. C. Schwabe; 2nd, Mr. G. Stur, gr. to A. Morden, Esq., The Stone House, Reigate, who had moderately good flowers of Mdlle. Marie Hoste; Mr. Geo. Elphick, gr. to Major Hardman, Hurstwood, Hayward's Heath, was 3rd, with Viviand Morel.

Mr. C. J. Salter won for eighteen reflexed and Japanese reflexed, and of a nice lot, the old Val d'Andorre, Charles Davis, Jno. Shrimpton, and James Lynch, were pretty; Mr. W. Japp was 2nd.

For eighteen Anemone and Japanese Anemone-flowered, distinct, the 1st prize was taken by Mr. J. Justice, gr. to Sir R. Temple, Kempsey, Worcester, and the best varieties as seen here were M. Panckoucke, Fleur de Marie, Delaware, and Sabine; Mr. C. J. Salter, who was 2nd, had a nice collection also; 3rd, Mr. Walter Janks, gr. to W. M. Grant, Esq., Fairlawn, Cobham, Surrey.

The best twelve Pompons were from Mr. Salter, and his best were Nellie Ramford, Mdlle. Elsie Dordan, Black Douglas, and Eynsford Gem; 2nd, Mr. J. Knapp, gr. to F. W. Amsden, Esq., of Chichester Road, Croydon.

Mr. Salter was again 1st for twelve Pompon Anemones, with a very pretty collection; 2nd, Mr. H. Harris, gr. to Mr. Eversfield, Horsham; and 3rd, Mr. J. Knapp.

The best Japanese Anemone-flowered, were from Mr. R. C. Notcut, Broughton Road Nurseries, Ipswich, Madame R. Owen, Mr. Charles Leboscqz, and Nelson, were remarked; 2nd, Mr. Justice; 3rd, Mr. James Milner, gr. to Mr. W. A. Higgs, Willenhall Park, Barnet.

There was but one entry in the class for singles, and that was from Mr. G. Carpenter, gr. to Major Collis-Browne, Broad Oaks, Byfleet, Surrey. The collection was pretty and good.

There was no entry in a class for a group of incurved-flowered plants arranged for effect, but in a similar class for a group of Japanese-flowered plants in 100 square feet, the 1st prize was given for a very nice, uncommonly-arranged group from Mr. W. Wells, Earlswood Nurseries, Redhill. The group had an irregular surface, and was composed of good, well-grown plants placed thinly together. W. H. Lincoln was very fine, and helped well in the group, as did Mdlle. Thé ése Rey. Plants in flower of the new green Ethel Amsden were freely used, and the group was edged with a nice border of Ferns. Messrs. J. Carter & Co., High Holborn, were 2nd, and Messrs. J. Mobsby & Son, 147, Moffat Road, Thornton Heath, were 3rd.

A group to be shown by amateurs in a space of 50 square feet, and including any kinds, was won by Mr. H. Baker, gr. to C. J. W. Rabbits, Esq., Westwood House, Sydenham. The plants were staged too closely, but there were good medium-sized blooms on the plants. 2nd, Mr. C. Trinn, gr. to G. W. Bird, Esq., The Manor House, West Wickham, Kent; 3rd, Mr. T. W. Wilks, gr. to C. Ralph, Esq., Cranbrook Villa, Fox Lane, Upper Norwood.

Mr. W. Wesker had a 2nd prize for four trained specimens of incurved varieties distinct, grown in pots not exceeding 12 inches, and a 2nd prize for a like number of Japanese varieties, also for Pompon varieties. Mr. G. H. Cooper, florist, Sydenham Road, Croydon, was 1st for twelve standard-trained Chrysanthemums, including Japanese, incurved, and Pompon varieties, four plants of each; and Mr. J. Carpenter, gr. to — Pursord, Esq., Broadstairs, Lower Tooting, 3rd.

Mr. D. Aspland, florist, Crystal Palace, won a class for cut Chrysanthemum blooms, arranged for effect, on a space of 60 square feet, with a light and exceedingly tasteful arrangement. Mr. Wells 3rd.

Miscellaneous.—H. B. Ironside, Esq, sent blooms of seedling varieties raised by himself, including Miss Florence Lunn, a violet-purple reflexed Japanese, and others of some merit. Mr. C. J. Salter showed blooms of Jas. Lynch, and of Clara Jeal, a white Japanese reflexed. Mr. Robt. Owen, Maidenhead, showed Japanese Queen of Buffs, some blooms of E. G. Hills, and others. Messrs. Jno. Laing & Sons, Forest Hill, London, S.E., had a group of miscellaneous stove and greenhouse plants, also Chrysanthemums and cut blooms of same. Messrs. H. Cannell & Sons, Swanley, Kent, exhibited seedling Chrysanthemums, about 2 feet high, bearing blooms; also cut flowers of Globe d'Or, Amy Chantler, John Machar, &c. Messrs. W. Miles & Co., Church Road, Hove, had a table filled with Solanums and Primulas.

HAVANT.

November 2, 3.—The eleventh exhibition of Chrysanthemums in this town was held in the Town Hall on the above dates. Cut blooms made an excellent display. For thirty-six Japanese, not fewer than twenty-four varieties, Mr. J. Agate, nurseryman, Havant, easily won the 1st prize with blooms of good quality, if not of exceptionally large size; 2nd, Mr. Parrott, gr. to Mr. Kincaid Smith, Wood End, Chichester. The best twenty-four Japanese were those shown by Mr. Steptoe, gr. to G. A. Gale, Esq., Horndean; Mr. F. Suter, gr. (who took the 2nd prize) to — Lascelles, Esq., Funtington, being a serious competitor. The best twelve blooms, distinct, brought numerous entries, Mr. Agate winning the 1st prize with good blooms of choice varieties; 2nd, Mr. Steptoe.

Incurved varieties were really well shown by Messrs. Suter and Steptoe in the class for twenty-four blooms, and Mr. Parrot won the chief prize for twelve blooms. Mr. Steptoe staged the best Anemone-flowered cut blooms, and Mr. Agate Pompons and single-flowered kinds. Mr. Woodfine, gr. to Major Boyd, Emsworth, had the finest lot of reflexed varieties. Mrs. C. Stubbs showed capital dinner-table decorations with Chrysanthemum blooms, and Mr. Holmes was the most successful exhibitor of Chrysanthemums amongst amateurs; the groups of Chrysanthemums being put up by Messrs. Agate and White.

ST. NEOT'S.

November 5.—This exhibition of Chrysanthemums, to which a considerable amount of interest attaches, from the fact of the St. Neot's Society being the holders, with three wins to their credit, of the Trophy presented by the National Chrysanthemum to affiliated societies, was held one day in advance of the National. Those able to form an opinion pronounced it the best show yet held. The Trophy will not most certainly be surrendered without determined effort to retain it on the morrow.

The class for thirty-six blooms, eighteen each of Japanese and incurved, brought out two strong exhibits, the 1st prize, which carries with it the Silver Challenge Cup, value 10 guineas, being awarded to Mr. Myers, gr. to the Earl of Sandwich, Hinchingbrooke, who has now won it twice, but has to accomplish this once more before it becomes his absolutely. Both sections were strongly represented, the finest of the Japanese being Viviand Morel, Charles Davis, Sunflower, Colonel Chase (extra), Avalanche, Mrs. E. W. Clarke, Viscountess Hambledon, Violetta, Van der Heede (very distinct), and Princess May; the newer varieties being very strong. The finest incurved were of the Queen and Princess types, Golden Empress, Robert Parker, John Lambert, Empress of India, Lucy Kendall, Violet Tomlin, and Robert Petfield, being extra good. Mr. Petfield, gr. to A. J. Thornhill, Esq., Deddington, whose father (recently deceased) won the cup last year, was placed 2nd; better success may attend his efforts another year; the finest flowers were Etoile de Lyon, Viviand Morel, White Louis Bœhmer, Waban, Avalanche, White Empress, John Doughty, and Baron Hirsch.

Mr. Myers was 1st also for twelve incurved blooms, with a finer set than in his cup exhibit, the Queen family being strongly *en evidence*. Mr. Petfield followed with smaller flowers but neat. Mr. Myers won again with twelve Japanese, having similar varieties to those in his cup stand. Once more Mr. Petfield was 2nd, his stand lacking colour.

Mr. Allis, gr. to Major Shuttleworth, Old Warden Park, Beds, had the best half-dozen of one variety of Japanese in Avalanche, pure in colour; Mr. Myers being 2nd with large Etoile de Lyon, but 1st with one variety of incurved, with Lord Alcester, very fine; and Mr. Petfield 2nd with Baron Hirsch.

A fine stand of Anemone, large-flowered, was shown by Mr. Myers, in which John Bunyan, Cincinnati and Delaware were the best blooms, and of Pompons, in which Perle des Beautés, Cendrillon, and Elise Dordan, were the best.

Specimen plants were unusually fine, and the competition keen between the 1st and 2nd, for four trained plants, the premier award going to Mr. Stone, gr. to R. A. Cochrane, Esq., The Downs, his plants being one mass of bloom. The best were Stanstead Surprise, Mrs. Cochrane, and Madame B. Rendatler.

Mr. Park, gr. to A. C. Sweeting, Esq., Huntingdon, had the finest group; good culture, with extra-fine blooms of the Japanese, combined with a tasteful but informal arrangement, placing him well in advance.

The amateurs classes were well-filled, the group-class being particularly good. Decorative exhibits were also noteworthy features. Fruits and vegetables also added to the attractiveness of the show.

BRIGHTON AND SUSSEX NEW HORTICULTURAL.

November 6, 7.—Excellent as the meetings of this Society have been, they were surpassed by that held on the above dates. The groups were a special feature, and plants were of a well-finished kind. The keenest competition was in the classes for groups and cut flowers of Japanese varieties; but throughout the prizes called forth many competitors, who were much closer together than usual.

Groups and Plants.—For the best semi-circular group measuring 14 feet by 8 feet, the competition resulted in Mr. Head, the Drive Nursery, Brighton, being 1st, with remarkably good flowers, in conjunction, tastefully arranged; 2nd, Mr. J. Hill, gr. to Marriage Wallis, Esq., Withdean, with an equally good arrangement, but weaker flowers.

For a smaller group, Mr. Fairs, gr. to R. Clowes, Esq., Hassocks, won with a very bright lot of good flowers, well arranged; and 2nd, Mr. J. Thorpe, West Hill Road, Brighton, with one of the best-finished arrangements in the show.

A class for twelve plants, arranged with Ferns, was strongly contested, the 1st and 2nd prizes going to Mr. G. Miles, Victoria Nursery, Dyke Road, Brighton, and Mr. Turner, gr. to Sir Greville Smythe, Wick Hall, Hove, respectively.

In a small group, for amateurs only, Mr. W. J. Austen, Hove, had some splendid examples, but was closely run by Mr. A. E. Coleman, the prizes going as named.

Mr. Thorpe, West Hill Road, was 1st for a specimen plant in this division. Mr. E. Meachin was 1st for four standards, and 2nd for a single ditto, being beaten in this class by Mr. Hill, gr. to Marriage Wallis, Esq., who was 2nd for four standards.

For four pyramids, Mr. Hill was 1st; and Mr. A. Scutt, gr. to Mrs. Jenkins, Burgess Hill, 2nd. Mr. Hill beat Mr. Meachin for a specimen pyramid. Mr. Scutt was 1st for four dwarfs, and Mr. Hill for a specimen dwarf. The plants were well grown, and trained in a less formal manner than usual. Primulas, Cyclamens, and table plants were also well represented.

Cut Flowers.—A class for thirty-six Japanese varieties was very well contested, all stands being considerably beyond average good quality, and their merits difficult to decide. Mr. Martin

Standing, gr. to Mrs. Joad, Worthing, was 1st for a very even lot, a few of the best being Princess May, G. W. Childs, Avalanche, Mrs. F. Jameson, Sunflower, Mrs. E. W. Clarke, and Val d'Andorre; Mr. W. Neville, gr. to Mr. Flight, Twyford, Hants, was 2nd, good examples of W. H. Lincoln, Louise, Thomas Hewitt, Wilfred Marshall, and Amos Perry, being present in his stand; and Mr. Wells, of Earlswood Nursery, was a close 3rd. In this exhibit we noticed Mdlle. T. Rey, W. H. Lincoln, Vice President Calvat, and William Seward, as being particularly good.

For twenty-four Japanese, Mr. Standing was again 1st; Mr. J. Hopkins, gr. to Mrs. Thornton, High Cross, Framfield, making a good 2nd. Twenty-four incurved: 1st, Mr. A. Payne, gr. to Mrs. Ernold Smith, The Oaks, Emsworth, Jeanne d'Arc, John Lambert, Baron Hirsch, White Empress, Mrs. A. Haggas, Mrs. S. Coleman, and Golden Empress being the best; Mr. J. R. Heasman, gr. to Mrs. Oxley, Turner's Hill, was 2nd; and Mr. M. Standing, gr. to Mrs. Joad, Worthing, 3rd. The competition being particularly close as regards the winners.

Mr. Horscroft, gr. to T. Potter, Esq., Ardingly, and Mr. Elphick, gr. to Major Hardman, Hayward's Heath, were 1st and 2nd for twelve Japanese blooms, in a strong lot, White Louis Bœhmer and G. C. Schwabe being very good in the winning stand.

For twelve incurved, Mr. F. Suter, gr. to T. Lascelles, Esq, Chichester, was a capital 1st, Mr. Horscroft following. The 1st for Anemones went to Mr. Heasman. In a class for six Japanese, Mr. Emery was a good 1st, against sixteen competitors.

Six blooms, of any one variety, were very strongly contested, Mr. Martin standing winner with Avalanche among the whites, Mr. Horscroft with Sunflower among yellows, and Mr. Hopkins, Framfield, with Viviand Morel, in a class for any variety. A stand of Col. W. B. Smith, from Mr. Baker, gr. to F. H. Baxendale, Esq., Framfield, deserves special notice, although not finding favour with the judges.

Miscellaneous.—Grapes were well shown by Mr. J. Bury, gr. to C. Bayer, Esq., Forest Hill; Mr. Stringer, gr. to W. A. Bevan, Esq., Coombe Court, Kingston-on-Thames; Mr. Heasman, gr. to Mrs. Oxley, Fen Place, Turner's Hill; and Mr. T. Fairs, gr. to R. Clowes, Esq., Hassocks.

Dessert Pears by Mr. G. F. Bunney, Lewes Road, Brighton; and Mr. J. Spottiswood, Queen's Park, Brighton; while for one dish, Mr. W. Bishop, Byworth, Petworth; and Mr. H. Head, Shoreham.

Apples, which were not numerous, were well shown by Mr. J. Hill, gr. to M. Wallis, Esq.,; and Mr. G. Storell, gr. to H. Young, Esq., Withdean. Non-competitive exhibits came from the local nurserymen in some considerable quantity.

EXMOUTH CHRYSANTHEMUM SHOW.

November 7.—The ninth annual exhibition of the Exmouth Gardeners' Mutual Improvement Association was held on the above date, when the entries were so numerous as to tax the capacity of the Volunteer Drill Hall, in which this show is always held. Being the first Chrysanthemum show in the neighbourhood for the season, a good many gardeners from surrounding places turned up to see how matters stood, and the general verdict was that Chrysanthemums in this district were rather late, uneven in quality, and, owing to the continued wet weather, a considerable number of good blooms were damping off. The plants in the groups showed an unmistakable tendency to return to the old bush form rather than the lanky style, with two or three mop-like blooms at the top, and an uncommonly nice group shown by Sir John Phear, of Marpool (gr, Mr. Kelland), who took a well-deserved 1st in the 7 feet by 6 feet group class. The plants were well-clothed with healthy dark-green foliage, and the quality of the flowers was good.

In the cut-bloom class there were some fairly good flowers among them, and in the 1st-prize lot of thirty-six Japanese varieties, won by Miss Fripp, The Grove, Teignmouth (gr, Mr Stiles), a magnificent bloom of Viviand Morel, 6 or 7 inches deep, and of fine form and colour, was observed, and this bloom having developed from a crown bud, it was rather fine in the petal. This variety was found in nearly every exhibit, Florence Davis and Beauty of Exmouth coming next in popular favour.

In Miss Fripp's lot were good examples of Mrs. C. H. Payne, Stanstead White, W. Tricker, and Charles Davis. Louise, a more than ordinary-fine bloom, with a pale flesh-like hue, resembling Souvenir de la Malmaison Carnation, was well shown by Mark Farrant, Esq., of Exeter (gr., Mr. Protheroe), and in the same lot was a fine John Shrimpton.

The Certificates of the National Chrysanthemum Society went to Mrs. Kingscote, of Exmouth, and Mrs. Gooding, Exmouth; both groups being well put together, in the latter the foliage being all that could be desired, whilst the blooms were fresh and of good size. Fruit was only middling in quality, as were also vegetables.

The table decorations were very effective, and showed much good taste in arrangement and design. Mr. W. J. Godfrey had a splendid collection of Chrysanthemums, Pelargoniums, and cut blooms, staging fine examples of his new Carnations Miss Mary Godfrey and Reginald Godfrey. His new Chrysanthemum, Mrs. W. J. Godfrey, is a seedling from Mrs. Alpheus Hardy, but only slightly partakes of the peculiarities of that variety. Indeed, the petals are nearly smooth, few being hirsute, and those only partially so. The petal is broad, white, curled, and glistening, reminding one of Moonlight. It is a good thing, apparently.

PLANT PORTRAITS.

Begonia Paul Bruant, *Garden*, August 25

Bertolonia hybrida, *Wiener Illustrierte Garten Zeitung*, August, 1894.

Browallia speciosa major. *Revue de l'Horticulture Belge*, October.

Cattleya Acklandiæ, Lindl., var. maxima hort. Flowers of exceptional size (6 inches in diameter). *Lindenia*, t. 421.

Cattleya Trianæ, Lind. & Rchb. f, var. Capartiana. *Lindenia*, t. 426.

Chænomeles japonica serotina. *Revue Horticole*, September 16

Citrus triptera = C. trifoliata, Linn. *Garden*, Sept. 22; see *Gardeners' Chronicle*, Nov. 18, 1893, p. 625.

Cymbidium eburneum, Lindley, *Lindenia*, t. 422.

Cypripedium Charlesworthii, *Revue de l'Horticulture Belge*, October.

Cypripedium ribezianum ×, L. Linden. A hybrid out of C. venustum by C. villosum. *Lindenia*, t. 425.

Dahlia, Mrs. A. Peart, a white Cactus Dahlia, raised by Mr. Ware, of Tottenham. *Illustration Horticole* (1894), t. 18.

Datura cornucopia, fl. pl. *Garden*, Sept. 8, 1894.

Dendrobium Nestor ×.—A cross from D. Parishii by D. superbum anosmum, *The Orchid Review*, Sept., 1894, p. 273.

Gladiolus tristis, *Bull. R Soc. Toscana di Orticultura*, September, t. 9.

Lachenalia, 1, Cawson Gem; 2, Little Beauty; 3, Ruby; 4, Topaz. *Garden*, Sept. 29.

Lælio Cattleya × Cauwenbergii, L. Linden, supposed to be a hybrid between Cattleya granulosa and Lælia purpurata, and dedicated to one of the foremen of the Horticulture Internationale. *Lindenia.*

Lilium philippinense, *Illustration Horticole*, t. 16, 1894.

Masdevallia Davisi, Rchb. f. Mountains of Peru, 10,000 to 12,000 feet. *Lindenia*, t. 427.

Odontoglossum cirrosum, Lindley, var. superbum, *Lindenia*, t. 424

Pink Her Majesty, *Revue de l'Horticulture Belge*, Sept. 1.

Plum (Prune Tardive Musqué), *Revue Horticole*, Sept. 1.

Senecio sagittifolius, André. *Revue Horticole*, October 1, woodcut and coloured figure.

Syringa vulgaris, fl. pl., Léon Simon. *Garten Flora*, t. 1707.

Tetratheca ericoides *Garden*, Sept. 1.

Trichopilia suavis, Lindley, *Lindenia*, t. 423.

Tropæolum Lindeni. *Illustration Horticole*, Sept. 15, 1894, t. 17; a climber, with peltate dark-green leaver, the veins marked out with a lighter colour; flowers trumpet-shaped, rose-pink with green tips to the sepals. Mountains of Colombia.

TRADE NOTICE.

Mr. John Davis, formerly head gardener to Alfred O. Walker, Esq., Leadwork House, Chester, has taken over the nursery business hitherto belonging to Mr. J. B. Crane, at Great Meols, Hoylake, Cheshire, which he intends carrying on together with a horticultural agency.

FRUIT NOTE.

THE "EARL'S FAVOURITE" MELON.

It is so seldom that we meet with a high class Melon, that the appearance of "The Earl's Favourite" deserves note. It was raised by Mr. H. W. Ward as a cross between Lockinge Hero, white-fleshed, and the Bouverie, a green-fleshed variety. It is a slightly netted Melon, of medium to large size; the fruits averaging 4½ lb. each; the flesh is deep pale green, melting, very juicy, and the flavour delicate though rich. It was adjudged an award of merit at the last meeting of the Fruit Committee of the Royal Horticultural Society, and it is probable that a higher award will ultimately be given to it, as the committee expressed a wish to see it again in summer. Mr. Ward tells us that in January last he planted one house entirely with the Earl's Favourite for supplying ripe fruit in May, and at the end of June he planted two houses exclusively with it. From these plants he has been cutting ripe fruit from the beginning of October.

Obituary.

Mr. Henry Sibray.—We regret to announce the death recently of Mr. Henry Sibray, of the firm of Messrs. Fisher, Son, and Sibray, Handsworth Nurseries. The deceased was fifty-seven years of age. When only a lad he joined the firm of Messrs. Fisher, Holmes, and Co., and devoted much painstaking attention to the interests of the firm. A few years later he married the eldest daughter of the late Mr. Edward Holmes, and subsequently when his father-in-law retired from business, took his place as a partner in the concern. The deceased gentleman devoted himself to his business, and took very little part in public affairs. He leaves one son, Mr. E. E. Sibray.

The Colours of Roses.—A German correspondent writes:—"The last Congress of Rose-growers at Gorlitz, in July last, took up the question of the possibility of finding a method for the classification of the colours of Roses. Many classifications were proposed, and coloured papers were exhibited as models and examples, but it was observed that hardly any of them corresponded with the shade of rose in the flowers themselves. This inconvenience may partly arise from the paper not being so translucent as Rose-petals; therefore, coloured silk was suggested for the purpose. This, perhaps, will be found to be too bright. A Rose-grower suggested a better method of determining the colour of a Rose by comparison with well-known types, such as La France, Maréchal Niel, Hermosa, &c. But what if the reader is totally ignorant of those very types? A knowledge of the standard colours, and some typical intermediate shades, may be considered sufficient for ordinary purposes. The difficulty begins when it is desired to determine the different shade of any particular colour. The leaf of a Walnut, for instance, is green, and so are the leaves of a Robinia or an Eucalyptus; yet there is so much difference between their respective hues, that they can hardly be compared one with the other. The same colour, moreover, may produce different effects; this depends on the nature of the substratum. Wool, cotton, silk, wood, &c., may be dyed with the same colour, and yet be of quite a different appearance. So the above question is still open—Who is to answer it?

Caterpillar Plague in Hong Kong.—From the Botanic Garden, Hong-Kong, we have received a report by Mr. W. J. Tutcher, on the plague of caterpillars which has recently been doing much damage in nearly all parts of Hong-Kong and Kowloon to the Pines (Pinus sinensis). The caterpillar has been identified as that of the moth (Eutricha punctata), and very active steps are being taken to check the ravages of this pest.

MARKETS.

COVENT GARDEN, November 8.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0–12 0	Ferns, various, doz.	4 0–12 0
Aspidistra, per doz.	12 0–30 0	Ficus elastica, each	1 0– 7 6
— specimen, each	5 0–15 0	— small, per 100	4 0– 6 0
Erica, various, doz.	9 0 12 0	Foliage plants, doz.	9 0–24 0
Chrysanthemums, per dozen ...	6 0–15 0	Marguerites, p. doz.	6 0–12 0
Cyperus, per dozen	4 0–10 0	Mignonette, p. doz.	0 0– 6 0
Dracæna, each ...	1 0– 5 0	Palms, various, ea.	2 0–10 0
Evergreen Shrubs, in var., per dozen	6 0–24 0	— specimens, ea.	10 6–84 0
		Primulas, per dozen	4 0– 6 0
		Solanums, per dozen	10 0–12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, per doz. bl.	3 0– 5 0	Orchids:—	
Bouvardias, p. bun.	0 6– 1 0	Odontoglossum crispum, 12 blm.	3 0– 6 0
Carnations, 12 blms.	1 0– 2 0	Pyrethrums, 12 bun.	2 0– 4 0
Chrysanthemums, per 12 blooms ...	1 6– 6 0	Roses, Tea, per doz.	1 0– 2 0
— per 12 bunches	4 0– 8 0	— coloured, p. dz.	2 0– 4 0
Eucharis, per dozen	2 6– 4 0	— yellow (Maréchals), per dozen	6 0– 9 0
Gardenias, per doz.	3 0– 4 0	— red, per dozen	1 0– 1 6
Geraniums, scarlet, per 12 bunches ...	4 0– 6 0	— outdoor, per dozen bunches ...	6 0 12 0
— 12 sprays ...	0 6– 0 9	— (French), red, per dozen... ...	1 6– 2 6
Gladiolus, doz. bun.	18 0–24 0	— (French), yellow, per dozen ...	1 0– 1 6
Iapageria, 12 blms.	1 0– 2 0	Stephanotis, dozen sprays	4 0– 6 0
Lilac (French), per bunch	3 6– 5 0	Tuberoses, 12 blms.	0 4– 0 6
Lilium Harrisii, per dozen bunches ...	4 0– 8 0	Violets, Parme (French), p. bch.	2 6– 3 6
Maidenhair Fern, per 12 bunches ...	4 0– 6 0	— Czar (French), per bunch ...	1 6– 2 0
Marguerites, 12 bun.	1 0– 3 0	— doz. bunches	1 0– 1 6
Mignonette, 12 bun.	2 0– 4 0	— (English), per dozen bunches ...	1 6– 2 0
Mimosa (French), per bunch ...	1 0– 1 3		
Orchids:—			
Cattleya, 12 blms.	6 0–12 0		

ORCHID-BLOOM in variety; rather scarce.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, American, per barrel ...	10 0–12 0	Grapes, Muscat, per lb.	1 6– 2 6
— Cooking, per sieve	4 0– 6 0	— Muscat, 2nd quality, per lb.	0 9– 1 0
— Dessert, half-sieve	2 6– 3 6	— Guernsey, per lb.	0 5– 0 9
Cobs, per 100 lb. ...	25 0–27 6	Melons, each ...	2 0– 3 0
Grapes, 1st quality, black, English, per lb.	1 0– 2 0	Pears, Dessert, half-sieve	2 0– 4 0
— English, 2nd quality, per lb.	0 6– 1 0	Pine-apples, St. Michael, each ...	2 0– 6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Beans, Runners, siv.	1 6– 2 6	Mushrooms, per lb.	1 0 ...
Cauliflowers, p. doz.	1 0 ...	Onions, per bush. ...	2 0– 2 6
Cucumbers, per doz.	2 0– 3 0	Tomatos, per lb. ...	0 6 0 7

POTATOS.

Supply during the past week rather short. Prices keep firm for all kinds, with a tendency to rise values for the cheaper kinds. *J. B. Thomas.*

SEEDS.

LONDON: *November 7.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market was sparsely attended by buyers. Cable advices quote American Red Clover seed one shilling higher. Canadian Alsyke, on account of its goodness and cheapness, meets with increasing favour. Italian Rye-grass is rather dearer. There is not much passing in Tares. Rye is now unprecedentedly low. For Scarlet Runner Beans more money is asked. New English Longpods are now exceedingly reasonable. In Haricot Beans prices favour holders. Blue Peas keep steady. No new feature in Bird-seeds. French Buckwheat unchanged. Linseed moves off slowly on former terms.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *November 6.*—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.*; Savoys, 2*s.* to 3*s.*; Cauliflowers, 3*s.* to 5*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* 6*d.*; Parsley, 9*d* to 1*s.* per dozen bunches; Horseradish, 1*s.* to 1*s.* 6*d.* per bundle; Onions, foreign, 2*s.* to 2*s.* 6*d.* per bag; do., English, 3*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Apples, 2*s.* to 8*s.* per bushel; Pears, 1*s.* 6*d.* to 3*s.* 6*d.* per half sieve.

STRATFORD: *November 6.*—The market has been well supplied with every description of produce during the past week, and, with a good attendance of buyers, a brisk trade was done at the prices mentioned below:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Savoys, 1*s.* 6*d.* to 3*s.* do.; Greens, 3*s.* to 5*s.* 6*d.* do.; Cauliflowers, 6*d.* to 1*s.* per dozen; do, 2*s.* to 5*s.* 6*d.* per tally; Celery, 7*d.* to 1*s.* per roll; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Brussels Sprouts, 9*d.* to 1*s.* 3*d.* per half-sieve; do., 1*s.* 6*d.* to 2*s* per flat; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; do., 2*5s.* to 40*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; do., cattle-feeding, 18*s.* to 25*s.* do.; Parsnips, 6*d.* to 10*d.* per score; Swedes, 15*s.* to 20*s.* per ton; Onions, English, 60*s.* to 75*s.* do.; do., Dutch, 2*s.* to 2*s.* 6*d.* per bag; do., Valencias, 6*s.* to 6*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel.

FARRINGDON: *November 8.*—Quotations: Parsnips, 50*s.* to 55*s.* per ton; Carrots, 35*s.* to 45*s.* do.; Onions, English, 70*s.* to 80*s.* do.; Celery, 8*s.* per dozen; Brussels Sprouts, 9*d.* to 1*s.* per half sieve; Horseradish, 1*s.* 3*d.* per bundle; Cabbages, 6*d.* per dozen; Cauliflowers, 1*s.* do.; Tomatos, 6*s.* per doz. lb.; Leeks, 1*s.* 3*d.* per dozen; Herbs, 1*s.* 6*d.* per dozen all round; Chestnuts, 11*s.* per bag; Walnuts, 6*s.* 6*d.* do.; Apples, cooking, 6*s.* per bushel; dessert, 7*s.* do.

POTATOS.

BOROUGH AND SPITALFIELDS: *November 6.*—Prices ranged from 50*s.* to 95*s.* per ton.

STRATFORD: *November 6.*—Quotations:—Magnums, Dark-soil, 55*s.* to 65*s.*; do. Light-soil, 60*s.* to 75*s.*; Bruces, 65*s.* to 75*s.*; Imperators, 65*s.* to 80*s.*; Main Crop (Scotch), 65*s.* to 75*s.*; Kidneys, Main Crop, 75*s.* to 85*s.*; Bruces, do., 60*s.* to 70*s.* per ton.

FARRINGDON: *November 8.*—Quotations:—Main Crop, 80*s.* to 90*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bruce, 65*s.* to 75*s.*; Magnums, 60*s.* to 70*s.* per ton.

LONDON AVERAGES: *November 7.*—Main Crops, 80*s.* to 100*s.*; Hebrons, 80*s.* to 90*s.*; Magnums, 70*s.* to 80*s.*; Snowdrops, 80*s.* to 90*s.*; Early Rose, 70*s.* to 85*s.*; Champions, 55*s.* to 65*s.*; Kidneys, 60*s.* to 70*s.*; Black-lands, 50*s.* to 65*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 3, and for the corresponding period last year:—1894: Wheat, 18*s.*; Barley, 23*s.* 8*d.*; Oats, 13*s.* 6*d.* 1893: Wheat, 27*s.* 4*d.*; Barley, 29*s.* 5*d.*; Oats, 18*s.* 2*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 128*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 6 *s.* to 112*s.*; do, inferior, 30*s.* to 60*s.*; Mixture, 90*s.* to 110*s.*; and Straw, 22*s.* to 38*s.* per load.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending November 3.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 +	37	4	+ 305	— 32	2 —	189	41·3	7	32
1	3 +	42	10	— 81	+ 36	6 +	173	30·3	19	34
2	4 +	49	0	+ 26	— 65	1 —	179	23·2	12	31
3	6 +	61	0	+ 58	— 128	2 +	174	22·0	20	34
4	7 +	61	0	+ 54	— 112	6 +	165	22·1	17	31
5	8 +	88	0	+ 133	— 139	16 +	165	26·2	20	35
6	4 +	47	0	+ 33	— 63	12 +	176	39·8	20	32
7	5 +	67	0	+ 190	— 131	2 +	174	30·1	14	32
8	6 +	81	0	+ 132	— 86	16 +	177	34·7	13	37
9	5 +	57	0	+ 49	— 30	2 +	194	31·3	35	30
10	5 +	67	0	+ 68	— 75	11 +	177	35·4	28	32
*	6 +	100	0	+ 303	— 18	2 +	184	30·1	21	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

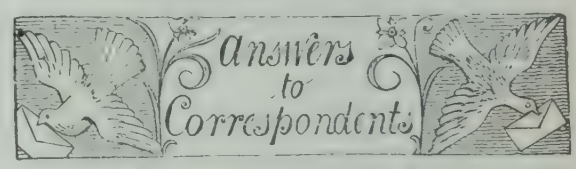
THE following summary record of the weather throughout the British Islands for the week ending November 3, is furnished from the Meteorological Office:—

"The *weather* continued in a very unsettled condition in all parts of our Islands, with further heavy falls of rain in all the southern and south-western districts, and considerable quantities over the country as a whole. Thunderstorms occurred in several parts of England on the 29th.

"The *temperature* was much above the mean, the excess ranging from 3° or 4° in 'Scotland,' to 5° in 'Ireland,' to 6° in 'England, E. and S.W. and the Channel Islands,' to 7° in the 'Midland Counties,' and to 8° in 'England, S.' The highest of the maxima were recorded on November 1, when the thermometer rose to 65° in 'England, S.' (in London), to 64° in the 'Midland Counties,' and to between 60° and 63° elsewhere. The lowest of the minima were registered, as a rule, on October 29, and varied from 22° to 30° in 'Scotland,' from 32° to 33° in 'Ireland,' and from 31° to 41° in 'England.' In the 'Channel Islands' the lowest reading was 49°.

"The *rainfall* was somewhat less than the mean in 'Scotland, N. and England, N.E.,' but in all other districts there was an excess; that in 'Scotland, E. and W., Ireland, S., and England, S.W. and S.,' being again very large. In the last mentioned district the fall was more than three times as much as the mean.

"The *bright sunshine* was very little prevalent in all districts, excepting 'Ireland, N.' The percentage of the possible duration ranged from 7 to 20 in Scotland, from 12 to 20 in England, and from 28 to 35 in Ireland."



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BICTON: A CORRECTION. In our account of Bicton given in our last number, instead of trained Myrtles on the terrace facing the lake, read Sweet Bays, &c. The Myrtle, Mr. Mayne, the gardener at Bicton, tells us, does not succeed away from the shelter afforded by a wall.

BLACK CURRANT: *J. A. B. and K. M. G.* The buds are infested by the Currant-bud mite, to get rid of which you should cut off and burn the affected shoots. See an account of this insect in our issue for September 8, p. 293.

CYPRIPEDIUM INSIGNE: *T. T.* They are of good ordinary type of bloom, and the slight differences from the type do not warrant varietal names being given them.

ESCAROLLE: *W. X.* This is the Dutch name for the broad-leaved Batavian Endive with short leaves. You can obtain seed of it at any good seed-shop.

HORTICULTURAL EXAMINATIONS: *C. P.* You should direct your enquiries to the Secretary of the Royal Horticultural Society, 117, Victoria Street, S.W.

INSECT: *J. W.* The larva of the Rose-chafer, Cetonia aurata. It feeds on the roots of Strawberry and other plants.

JUMPING BEANS: *M. R. & Co.* Thanks; we have had some sent us within the last few years.

NAMES OF FRUITS: *J. E.* Apple, Dumelow's Seedling (Wellington).; Pear too poor a specimen to determine. Thanks for offering for Gardeners' Orphan Fund.—*A. & McA.* 1, Beurré Diel; 2, Louise Bonne of Jersey.—*H. M. T.* 1, Duchesse d'Angoulême; 2, Doyenné du Comice.—*J. H. J.* 1, Marie Louise d'Uccle; 2, Van Mon's Léon Leclerc.—*Poivre.* 1, Beurré Bosc; 2, Bergamotte d'Esperen.—*J. McM.* 1, Hall Door; 2, Bedfordshire Foundling; 3, King of the Pippins; 4, Beurré

Diel; 5, Beurré Rance; 6, Black Pear of Worcester.—*A. Gooden, Chichester.* 1, Forelle; 2, Bellissime d'Hiver; 4, Chaumontelle; 6, Althorpe Crassane; 7, Easter Beurré; 8, Beurré Rance; 9, Beurré d'Aremberg; 10, Beurré Diel.—*B. L* Pear Van Mon's Léon Leclerc.—*C. Longman.* London, or Five crowned Pippin.—*W. R. C.* 1, Beurré d'Amanlis; 2, Flemish Beauty; 3, Swan's-egg; 6, Redstreak.—*L. B. G.* 1, Doyenné du Comice; 2, Glou Morçeau; 3 Beurré d'Aremberg; 4, Winter Nelis; 5, Doyenné Boussoch; 6, Easter Beurré; 7, Catillac; 8, Huyshe's Bergamotte.—*J. C. Quex.* Pears: 1, decayed; 2, Doyenné du Comice; 3, Beurré Clairgeau; 5, Forelle; 6, Duck's Bill.—*J. Paul.* 1, Marie Louise; 2, Louise Bonne; 4, 5, Beurré Diel; 6, Easter Beurré.—*G. W.* 44, New Hawthornden; 45, Cox's Pomona; 46, King of the Pippins; 48, Grange's Pearmain; 50, Betty Geeson; others unknown.—*Alpha.* A, the old or Autumn Bergamot; B, Passe Colmar; C, Beurré d'Aremberg; D, Gravenstein; F, Lord Derby.—*R. H.* 2, King of the Pippins; 3, Washington; 4, Cockpit; 6 or 9, Huyshe's Victoria, the number very indistinctly written.—*W. G.* Beurré Clairgeau.

NAMES OF PLANTS: *T. F. J.* 1, Cotoneaster affinis; 2, Adiantum macrophyllum; 3, Litobrochia aurita; 4, Olearia Haastii; 5, Eriobotrya japonica; 6, Ophiopogon Jaburan. Others next week. *J. C. S.* 1, Peziza fascicularis, A. and G.; 2, Ag. (Pleurotus) septicus, Fr.; 3, Lichen Peltidea canina; 4, Panus stypticus, Fr.; 5, Ag. (Clitocybe) tubæ, Fr.; 6, Craterellus cornucopioides, Fr.—Second lot: 1, Ag. (Colly) maculatus; 2, Cortinarius elatior; 3, Hygrophorus chlorophanus; 4 Hygrophorus puniceus; 5, Ag. (Clito) inversus; 6, Ag. (Euto) sericeus. You transgress the rules by sending more than six. — *J. M.* 1, Rhodea japonica; 2, Euphorbia stricta; 3, Dianthus Seguieri; 4, Gypsophila acutifolia; 5, Polygonum bistorta.—*W. H. Divers.* Helvella crispa, edible. Excellent when dried, to add to soups and gravies in the winter, for its flavour. *B. M.* Common China or Monthly Rose.—*J. H. G.* We cannot tell what the flower is from the scrap sent.—*S. N.* 1, Nepeta glechoma; 2, Sedum rupestre; 3, Saxifraga; 4, Saxifraga.—*W. M.* The Osage Orange (Maclura aurantiaca).

POTATO TRIALS: *J. Andrews.* Write to Mr. Barron, Superintendent, Royal Horticultural Society's Gardens, Chiswick.

VIOLETS, MARIE LOUISE: *J. Roberts.* The Violets sent, notwithstanding the check the plants received by the transplanting, are very good, and furnished with the long stalks so useful to the bouquet-makers.

WHITE FLOWERED ERICAS IN FEBRUARY: *Erica.* E. hyemalis, E. persoluta alba.

COMMUNICATIONS RECEIVED.—W. B.—T. R.—G. & S.—U. D., Berlin.—J. D. H.—G. N.—C. T. D.—L. B., New York.—H. H. D'O.—E. C., Paris.—S., The Woods.—C. B.—A. D.—H. H. W.—W. B.—Ben Reid & Co.—Visitor.—W. Brockbank.—John Thomson.—E. M.—H. Markham (next week).—W. T. T. D.—G. N.—W. M.—W. T.—Thea.—S. C. W.—J. B.—F. F. T.—L. H. C.—W. J.—E. C.—A. J. H.—A. H.—R. W. P.—C. W. D.—T. Christy & Co.—H. C.—C. B.—D. L. M.—W. T.—C. W.—A. E.—J. L.—A. C.—J. O'B.—F. W. A.—M. C. C.—J. Thomson.—W. J. Godfrey.—H. S. F. (next week).—C. Shenton.

PHOTOGRAPHS, SPECIMENS, &C., RECEIVED WITH THANKS.—H. C.—J. M. (1, Pinus Bungeana).—W. F., Jamaica; Superintendent, Oodeypoor Gardens.—E. P., Ghent.—G. K., Alderly.—C. N., Antibes.—Messrs. Veitch, Exeter.—T. Matheson.—W. P.—H. S. K.—R. & W. M.—D. D. & Sons.—M. H. B.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

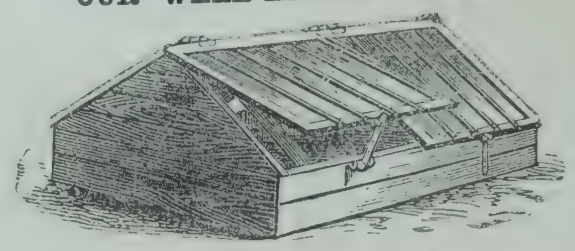
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Increased to the extent of 80 per cent., and that it is increasing weekly.

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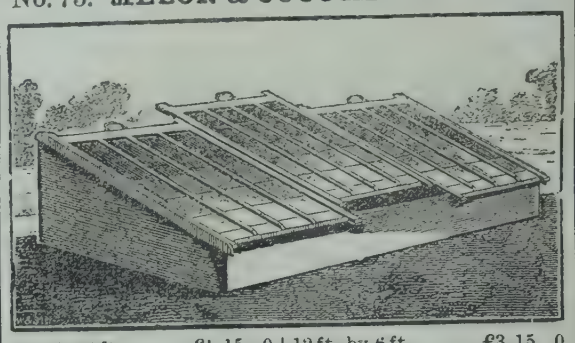
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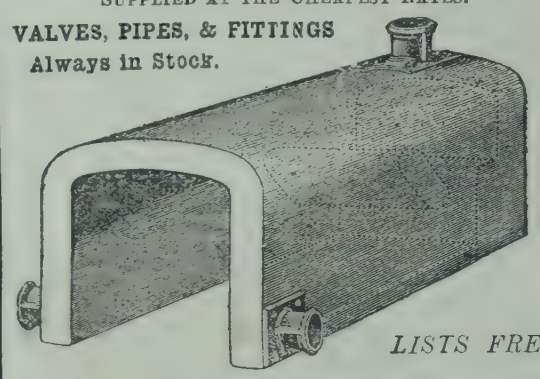
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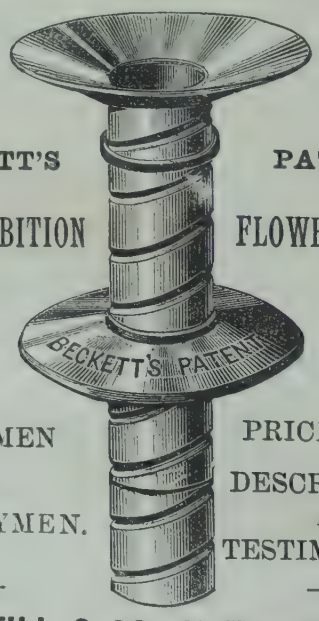
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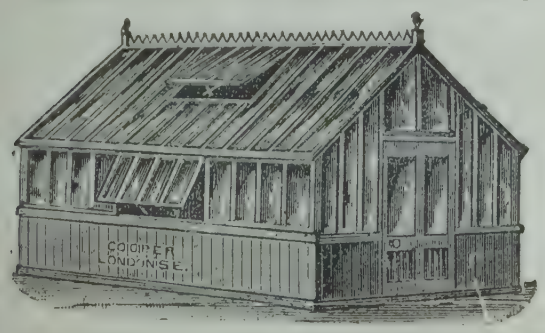
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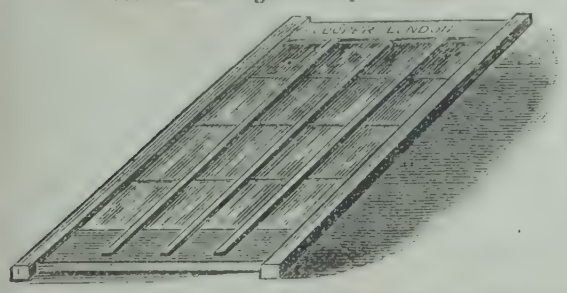
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10 ft. ...	7 ft. ...	7 ft. 6 in.,	4 ft. 6 in. ,,	5 0 ... 6 15
12 ft. ...	8 ft. ...	8 ft.,	5 ft. ,,	6 0 ... 8 0
15 ft. ...	10 ft. ...	8 ft. 6 in.,	5 ft. ,,	8 10 ... 12 0
20 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	12 0 ... 16 0
25 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	16 0 ... 21 0
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These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oiled putty.

3 ft. by 2 ft., painted and glazed	5 0
4 ft. by 3 ft., ,, ,, ...	6 6
6 ft. by 4 ft., ,, ,, with 21-oz. glass ...	9 0
6 ft. by 4 ft., unglazed lights	3 6

Special quotations for large quantities.

See page 278 in List.

CUCUMBER FRAMES.



These Frames are 22 in. high at back, 11 in. at front, and are made of 1¼ in. well-seasoned red deal boards. The lights are 2 in. thick glazed with good 21 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices:—One-light Frames, 4 ft. by 3 ft., 17*s.*; ditto, 6 ft. by 4 ft., £1 8*s.*; Two-light Frames, 6 ft. by 4 ft., £1 10*s.*; ditto, 8 ft. by 6 ft., £2 10*s.*; Three-light Frames, 12 ft. by 6 ft., £3 10*s.* For other sizes and prices see ILLUSTRATED LIST, Post Free.

FREE ON RAIL IN LONDON, Packages included.

GLASS.

	15-oz., 100 ft.,	21-oz., 100 ft.
4ths	8*s.* 3*d.*	11*s.* 3*d.*
3rds	9*s.* 0*d.*	12*s.* 3*d.*

10,000 Boxes to select from.

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1-lb. tins Sunshade	,,	0 6 0
Cocoa-nut Fibre Refuse	per sack	0 1 0
Silver Sand, coarse or fine (2 cwt.) ...	,,	0 2 3
Best Orchid Peat	,,	0 3 0
,, Rhododendron Peat	,,	0 1 9
,, Brown Fibrous Peat	,,	0 2 0
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,, Loose Peat	,,	0 1 9
,, Surrey Loam	,,	0 1 9
General Potting Compost	,,	0 1 6
Fern Compost	,,	0 1 6
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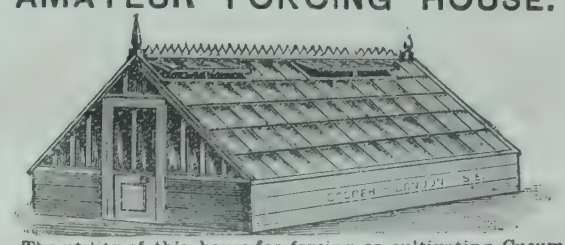


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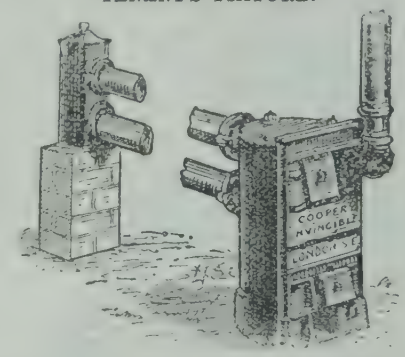
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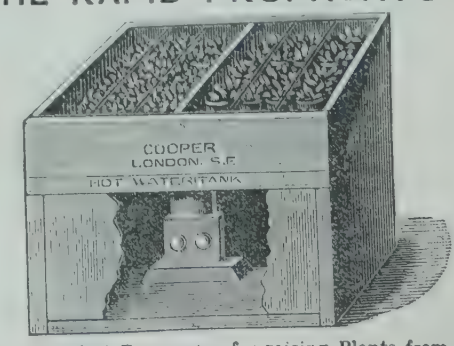
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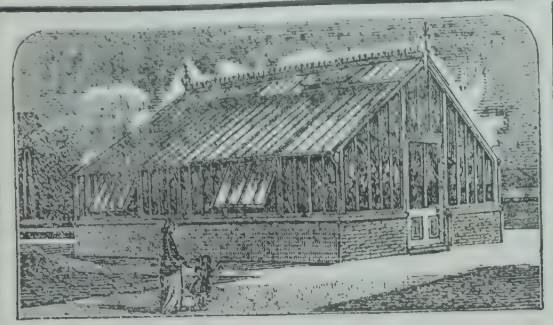
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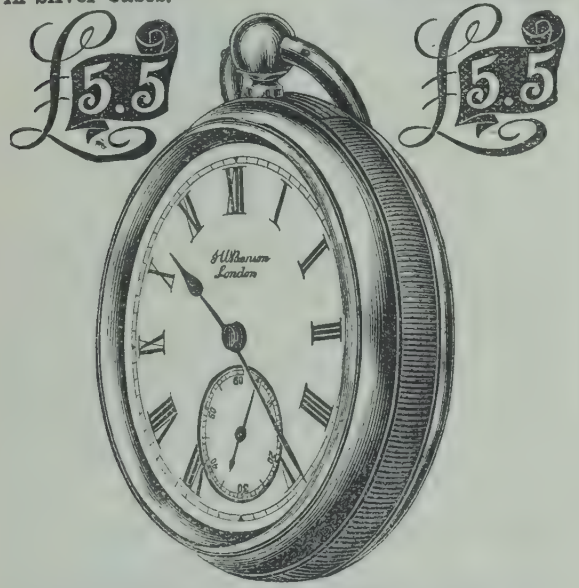


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GARDENER.—A LADY wishes to recommend a good Gardener. Excellent characters. Married. Leaving to better himself. Disengaged now.—THOMAS KIDD, The Lodge, Childown, Longcross, Chertsey, Surrey.

GARDENER (First-class). — Middle-age; expert Fruit Grower. Many years Gardener to Noblemen. Highest testimonials. Salary moderate. — OWEN, Moulsey Villa, Palace Road, East Molesey, Surrey.

GARDENER (UNDER).—Age 21, single; life experience Inside and Out. Good character from present employer. Total abstainer.—J. BATTIN, The Gardens, Dar-el-Saleem, Abbey Wood, Kent.

GARDENER (UNDER).—Young Man, age 22, desires situation as above. Good experience Inside and Out, and leaving through reduction. Excellent references.—J. M., Mrs. Pearce, Bedfont Lane, Feltham, Middlesex.

GARDENER (UNDER).—Good knowledge of Gardening Inside and Out. Good character. No objection to bothy. Please state wages and particulars to H., 41, Wellington Street, Strand, W.C.

GARDENER (UNDER).—Young Man; four and two years' good characters.—H. S., 3, Circus Terrace, Greenwich.

GARDENER (SECOND), where five or six are kept.—J. S. UPEX, Wigganthorpe, York, wishes to recommend a young man, age 24, as above. Four years in present situation.

GARDENER (UNDER).—Age 21; no objection to look after a Pony and Trap; can milk; good character; willing to make himself useful.—F. C. STYLES, West Hoathly, Sussex.

GARDENER (UNDER).—Age 19; Outside or Inside. Willing to be useful. Two years and six months' good character.—F. P., 6, Albion Mews East, Hyde Park.

FOREMAN.—Age 24; ten years' experience in good gardens. Well up in Vines, Peaches, Chrysanthemums, &c. Abstainer; excellent references.—E. P., 41, Wellington Street, Strand, W.C.

FOREMAN (Inside).—Well up in Plant and Fruit Growing, House and Table Decorations. Good characters.—W. P., 12, Aberdeen Place, Maida Vale, London, W.

FOREMAN (INSIDE, or GENERAL).—Age 28. Mr. G. R. GEORGE, Gardener to Earl Sondes, Lees Court, Faversham, wishes to recommend his late Foreman and Decorator as above. Three years as Foreman previously.—Present address, G. W. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses, in large establishment.—Age 29, single; good character from last situations in large establishments as Foreman.—W. WRIGHT, Tilbury Hill, Halstead, Essex.

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FOREMAN.—Age 45; experienced in Vines and other Fruits, Tomatos, Cucumbers, Plants, Cut Blooms, especially Eucharis, and Vegetables. Highly recommended.—J. MOON, Eledon & Co., the Vineries, Milton, Cambridge.

To Nurserymen or Market Growers.

PROPAGATOR and GROWER.—Age 37; well-up in Hard and Soft-wooded Stuff, as Ficus, Palms, Ferns, Carnations, Cinerarias, Marguerites, Cyclamens, &c., and General routine of a Nursery. Good references. Twenty years in different Market Nurseries.—L. GILBERT, 5, Paddock Road, Bexley Heath.

JOURNEYMAN.—Age 20; strong, active, not afraid of work, with good knowledge of In and Out. Highest recommendations.—STACEY, King Street, near Wokingham.

To Gardeners.

JOURNEYMAN, Inside.—Nearly 19; thorough experience in Plant and Fruit Growing. Good reference. Abstainer.—M., 24, William Street, St. John's, Tunbridge Wells.

JOURNEYMAN, in the Houses.—Age 22; eight years' experience. Inside and Out. Three years' excellent character.—T. PAYNE, Kenley, Cressage, Shrewsbury.

JOURNEYMAN (FIRST), Inside. — Age 22; CHAS. BLICK (Gardener to Martin R. Smith, Esq., The Warren, Hayes, Kent), can confidently recommend John Rutherford, as above, who has been here for three and a-half years.

APPRENTICE.—Wanted to Apprentice a Youth, age 16, to learn Gardening in a good establishment (Bothy).—SIMS, Post-office, West Malling, Kent.

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MANAGER to the Seed, Florist, and Nursery Trades (or Estate).—Thoroughly conversant with Horticulture, Agriculture, &c (Wholesale and Retail); twenty-five years' practical, theoretic, and scientific knowledge. Guarantee if required.—FOG, 41, Wellington St, Strand, W.C.

SHOP MANAGER.—Wanted by Advertiser, of fourteen years' experience in all branches of horticulture, permanent situation as Manager in Shop. Willing to invest capital in time. Temperance man, with excellent references. Quick salesman.—W. S., 41, Wellington Street, Strand, W.C.

KNIFEMAN.—Age 23; over eight years' experience in Budding, Grafting, and Growing of Fruit Trees, Roses, Conifers, Clematis, Rhododendrons, Hollies, Ivies, General Soft-wooded Propagation, &c.—A. B. C., 41, Wellington Street, Strand, W.C.

ROCK BUILDER, FERNERY FITTER, and HANDY MAN.—Knowledge of Ferns, Aquatics, Fish, &c. Good testimonials. — W. J. C., 125, Portobello Road, Bayswater, London, W.

TO GARDENERS.—Strong lad, age 16, tall, wants a situation in gardens where he will be able to learn. Bothy preferred.—J. SPENCE, Knossington, Oakham, Rutland.

TO NURSERYMEN and FLORISTS.—A Youth (age 17), desires situation where he would have a good opportunity to learn either Nursery or Florist Business. —Excellent references as to respectability, &c.—C. T., 72, High Street, Hampstead, N.W.

TO NURSERYMEN and OTHERS.—Situation required by a young man (age 23); ten and a half years' experience in Growing for Market and Retail.—HAMBIDGE, Willow Bank, Puckpool, Ryde, Isle of Wight.

TO NURSERYMEN.—Young Man well up in propagating and growing Roses, Clematis, &c., also general Nursery work. Eleven years' experience.—X. Y., Mr. E. Myson, Great Parndon, Harlow.

TO MARKET GROWERS and NURSERYMEN.—Situation wanted by a young Man, age 27; four and a-half years in Market-work. Ferns, Bouvardias, and General Pot-stuff. — S. K., Vinery Cottage, Llanvapley, Abergavenny.

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SHOPMAN.—Twelve years' experience in the Seed, Nursery, and Floral trade; excellent references.—J. H., Mr. Fulker, Stationer, Boscombe, Bournemouth.

ASSISTANT SHOPMAN.—A young man requires a situation as above, in a good Retail Seed Establishment; seven years' experience.—B. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SEED TRADE.—Young man, age 22, wishes situation as ASSISTANT SHOPMAN, in either retail or wholesale house; six years' experience; good references.—B. C., 41, Wellington Street, Strand, W.C.

WANTED.—Investment with Occupation, for about £10, used to Gardening. Good character. Full particulars to C. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FLORISTS. —Man, age 24, wants situation under Glass. Nine years' experience; London or Suburbs. Good references.—T. J., Belmont, Banchory Rd., Blackheath.

TO FRUITERERS, &c.—Situation wanted by a young Lady (age 24) in a Fruiterer's or Seedsman's. Good experience in Bulbs. Excellent references.—B. F., Mrs. Pitcher, Church Road, Caversham, Oxon.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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SALES BY AUCTION.

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1000 Spiræa japonica, from Holland, fine plants, Latanias, Kentias, and Araucaria excelsa, from an English Nursery, choice Greenhouse and Stove Ferns, Dwarf Roses, various Hardy Bulbs, English-grown Lilies, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, November 19, at Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

500 ODONTOGLOSSUM KRAMERI,
CATTLEYA O'BRIENIANA.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on TUESDAY NEXT, 500 ODONTOGLOSSUM KRAMERI, in perfect condition, with 4 to 15 bulbs, received direct; Two fine established plants of the new and beautiful CATTLEYA O'BRIENIANA; a quantity of good plants of imported LÆLIA MONOPHYLLA, L. DAYANA, L. AUTUMNALIS, CATTLEYA SCHILLERIANA; the rare and handsome DENDROBIUM CRUENTUM, EPIDENDRUM NEMORALE, and other ORCHIDS.

On view morning of Sale, and Catalogues had.

Tuesday Next.

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ODONTOGLOSSUM HALLI LEUCOGLOSSUM, the true white-lipped form, spotted with crimson, one of the best Odontoglossums; also Odontoglossum cristatellum, O. species, allied to O. tripudians.

ONCIDIUM OLIVACEUM LAWRENCEANUM (Lehm.), a splendid novelty for Cove-house, with flowers as handsome as those of O. Lanceanum, sepals and petals purple, lip rose, spotted with crimson. It lasts three months in bloom, and has all the flowers open at once, unlike the allied species, which open a few at a time.

ONCIDIUM NUBIGERUM VULCANICUM, a beautiful species, allied to O. Phalænopsis.

COCHLIODA VULCANICA GRANDIFLORA, fine masses; PESCATOREA ROEZLI, the most beautiful of the genus; various new MASDEVALLIAS, and other rare Orchids.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY NEXT, November 20, at 12.30 o'Clock.

On view Morning of Sale, and Catalogues had.

Wednesday Next.

A GREAT CONSIGNMENT OF

HALF A MILLION PALM SEEDS.

Consisting of

400,000 KENTIA FORSTERIANA and BALMOREANA, from Lord Howe's Island,
12,000 ŒNOCARPUS BACCABA,
4,000 SABAL BLACKBURNEANA,
1,000 RAVENALA MADAGASCARENSIS,

And various other PALM SEEDS from Brazil. These Consignments have been received direct, and will be sold without reserve. The Sale will also include 1,000 Calochortus, Lilium Washingtonianum, and other Californian Bulbs.

3 CASES ARAUCARIA EXCELSA PLANTS,

Various Japanese LILIES, 3,000 Chinese Sacred LILIES, Dwarf ROSES, &c,

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, November 21, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

CAMELLIAS, AZALEA MOLLIS, PALMS, DRACÆNAS, and BEGONIA BULBS, from Belgium, and 200 DWARF ROSES.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 22, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co. to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 23, at half-past 12 o'Clock, the following ORCHIDS, &c.:—

1000 PLANTS,

Imported and Established, but all unflowered, of

Sander's celebrated and wonderful type of

CYPRIPEDIUM INSIGNE VAR. MONTANA,

from which C. Sanderæ, C. Sanderianum,

and all the most valuable and beautiful yellow and other grand forms of insigne have emanated.

Also fine Importations, including the beautiful

CYPRIPEDIUM NIVEUM,

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LÆLIA DAYANA.

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CRINUM NOBILE ALBUM,

a magnificent white-flowered species; flowers twice the size of Eucharis amazonica. (See drawing.)

HABENARIA SUSANNÆ,

a magnificent species.

BLETIA CALENULATA,

very handsome glossy violet-purple flowers.

On view morning of Sale, and Catalogues had.

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GREAT SALE of magnificently grown young NURSERY STOCK, by order of the Executors of the late Mr. Richard Mason, in consequence of the

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30,000 Rhododendrons, named hybrids	100,000 Pinus, Abies, and Cedrus
10,000 ,, seedlings	100,000 Hollies, green and variegated
100,000 ,, ponticum	30,000 Laurels of sorts
50,000 Hardy Azaleas, and Kalmias, and Andromedas	20,000 Privet
20,000 Berberis [green	2,000 Aucubas
5,000 Beech, purple and	15,000 Yews
2,000 Thorns, standards	2,000 Roses, standard and dwarfs
10,000 Forest Trees, standards and others	10,000 Manetti Stocks, budded
15,000 Fruit Trees	3,000 Standard Briars, budded
250,000 Conifers of sorts	5,000 Flowering Shrubs
Thousands of Border Shrubs.	1,000 Creepers

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; of Messrs. REEP, LANE AND CO., Solicitors, 4, Great St. Thomas Apostle, E.C., and Bagshot; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday, November 26.

SPECIAL SALE OF 10,000 HARDY PERENNIALS, CARNATIONS, PICOTEES, LILIES, and IRIS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, on MONDAY, November 26, at 12 o'Clock, hundreds of choice Hardy Perennials in great variety, from one of the largest growers in this country; thousands of Carnations, Picotees, Hollyhocks, Pyrethrums, Pæonies, Phlox, and Delphiniums of the most popular sorts, 10,000 Galanthus Elwesii, Chionodoxas, Anemone fulgens, Scillas, and other Bulbs, a magnificent collection of the finest kinds of Lilies, including Browni, Lowi, Colchicum, testaceum, rubrum, album, and many others; also a grand assortment of Iris germanica, sibirica, Kempferi; Olbiensis, and others.

On view morning of Sale, and Catalogues had.

Cliffe, near Rochester. Second portion.

IMPORTANT to FRUIT GROWERS and the TRADE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Perry Hill, adjoining Cliffe Station (S.E.R.), on WEDNESDAY, November 28, thousands of FRUIT TREES, GOOSEBERRIES, CURRANTS, STRAWBERRIES, &c.

May be viewed. Catalogues had on the premises, and by the Auctioneers, 67 and 68, Cheapside, E.C.

Stapleford, near Nottingham.

SECOND PORTION of the extensive and well-grown NURSERY STOCK, for absolute Sale, the Freehold Estate having been sold. Three days.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Frettingham Nurseries, Stapleford, near Stapleford Station, in DECEMBER NEXT, 20,000 CONIFERS, a wonderfully fine assortment, beautifully grown; a grand stock of Golden YEWS, Gold and Silver HOLLIES, for which this Nursery has been noted; CUPRESSUS LAWSONI, in rich variety; THUIA LOBBII, PICEAS, 3000 FRUIT TREES, many large bearing trees being among them, &c.

The Stock is particularly well-rooted, and the Nursery bears a high reputation for the safety with which the Stock can be transplanted.

May be viewed. Catalogues had on the Premises; of A. T. ASHWELL, Esq., St. Peter's Walk, Nottingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Osborn Nursery, Sunbury, Middlesex.

CLEARANCE SALE of STOCK, the Nursery having been let.

MESSRS. PROTHEROE AND MORRIS beg to announce that this Sale, advertised for November 29, is POSTPONED for the present.

Bradford: The Nursery, Bolton Lodge, Wood Lane, Bolton, Bradford. Fifteen minutes from Manningham Station, Midland Railway.

CLEARANCE SALE of the STOCK in TRADE and GLASS ERECTIONS, &c., by order of Mr. Fred Packer; entirely without reserve.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises as above, on MONDAY and TUESDAY, December 3 and 4, at 12 o'Clock each day, 400 Pyramid Apples and Pears, including horizontal and trained, all to name; Victoria Plums, 2500 Gooseberries and Currants, 1200 Hybrid and Tea Roses, all the best sorts, 600 being in pots; 1000 Strawberry Plants and Runners, 4500 choice Bulbs to name, consisting of Narcissus Emperor, Empress, Sir Watkin, Horsfieldii, Sulphur, Kroon, and other superior kinds; Tulips, Roman Hyacinths, 600 Spiræa Japonica, strong clumps; 5000 Chrysanthemums, best market sorts; Herbaceous Plants, Stove and Greenhouse Plants, Vines, the erection of four span-roofed Greenhouses, comprising 5000 feet of Glass, hot-water Piping, Saddle Boiler, thirty-two Pit-lights, 200 head of Poultry of the leading strains, Ducks, Geese, Turkeys, Hogs, Pigeons, thirteen patent Improved Poultry Cans and Pens, Bay Mare, 14·3 hands, Stanhope Phaeton, Silver and Brass-mounted Harness, light Dray and Cart, 5 acres well won Hay, Garden Utensils, and other sundries.

May be viewed Friday and Saturday prior to Sale. Catalogues had on the premises, at 61 & 65 St. James' Market, Bradford, and of the Auctioneers, 67 & 68, Cheapside, London, E.C. N.B.—The House and Grounds to Let. Particulars of the Auctioneers.

Friday Next.

400 DENDROBIUM MACCARTHIÆ, and various BRAZILIAN ORCHIDS, received direct for Unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, November 23.

Every Day.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, SNOWDROPS, SCILLAS, DAFFODILS, LILIUM HARRISI, &c. On view mornings of Sale, and Catalogues had.

Dutch Bulbs—Dutch Bulbs.—Dutch Bulbs.

SALES NEARLY EVERY DAY,

In Large and Small Lots, to suit all Buyers.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., nearly Every Day, at half-past 12 o'Clock. First-class Consignments of Choice HYACINTHS, TULIPS, CROCUSES, NARCISSUS, and other BULBS, ARRIVING DAILY from WELL-KNOWN FARMS in HOLLAND, in the finest possible condition.

On view mornings of Sale, and Catalogues had.

Wednesday and Thursday Next.

A Large and varied Assortment of rare English and American BORDER PLANTS, containing many of the latest introduction; Home-Grown LILIUMS in variety, CARNATIONS to name, GLADIOLI of sorts, HYACINTHS, ONCIDIUMS, ARUMS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY and THURSDAY NEXT, November 21 and 22.

On view mornings of Sale, and Catalogues had.

Wednesday and Thursday Next.

SPECIAL TWO DAYS' SALE of BULBS and PLANTS.

A Splendid Assortment of Beautifully-grown small Decorative SHRUBS, for in or outdoor cultivation. A great variety of Standard, Dwarf, and Climbing ROSES, AZALEAS, and RHODODENDRONS. A large Collection of LILIUMS, &c., in the finest possible condition, from Holland.

MR. J. C. STEVENS will include the above Grand Importations in his SALES by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY and THURSDAY NEXT, November 21 and 22.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

Four Cases of ARAUCARIA EXCELSA, just imported direct in fine order, a consignment of fine masses of CYPRIPEDIUM SPECTABILE, 5000 S. African TUBEROSES, LILIUM AURATUM from Japan, LILIUM HARRISI, L. CANDIDUM, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 21.

On view morning of Sale, and Catalogues had.

Wednesday Next.

300 choice named PYRAMID and DWARF TRAINED FRUIT TREES, comprising APPLES, PEARS, PLUMS, CHERRIES, PEACHES, NECTARINES, &c. Also Black, Red, and White CURRANTS, and GOOSEBERRIES.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, November 21.

On view morning of Sale, and Catalogues had.

***Re* J. Southall. Deceased, by Order of Executors.**

MESSRS. JAMES AND BAXTER are instructed to SELL by AUCTION, without reserve, on the Premises, THE NURSERIES, MARROWFAT LANE, HANDSWORTH, BIRMINGHAM, on WEDNESDAY NEXT, at 11 o'Clock, the Growing NURSERY STOCK, GREENHOUSE PLANTS, the Erection of Four Greenhouses, number of Lights, Shedding, Tools, and miscellaneous items.

The Goodwill, Glass Erections, and Stock-in-Trade will be first offered as one lot, and if not sold will be disposed of as per Catalogue.

Auctioneers Offices, 35, Temple Street, Birmingham. Telephone, 1202. Tel. address, "Horticulture, B'ham."

Stanwick Nurseries, Higham Ferrers, Northants.

To LAND AGENTS, NURSERYMEN, GARDENERS, and OTHERS.

MESSRS. J. ROBINSON AND SON have received instructions from the Official Receiver to SELL by AUCTION, on THURSDAY, November 22, 1894, the whole of the Extensive Stock of FOREST and ORNAMENTAL TREES, EVERGREENS, SHRUBS, &c., consisting of Oak, Ash, Elm, Beech, Lime, Willow, Poplar, Chestnut, Larch, Firs, Cypress, Laurel, Holly, Burberis, Quick, &c.; a quantity of Fruit Trees, including Apples, Pears, Plums, Damsons, Filberts, Gooseberries, Currants, Raspberries, Greenhouse and other Plants, Orchids, Palms, Ferns, Aspidistras, Calias, Camellias, Stephanotis, Dracænas, Pandanas, Eucharis, Ericas, Begonias, Cyclamen, Cineraria, Azaleas, Primulas, Zonal and Fancy Pelargoniums, Fuchsias, Chrysanthemums, Carnations, Violets, Tomatos, Rhododendrons, Tea and other Roses; Celery, Brussels Sprouts, and other Vegetables; also Span-roof and other Frames, Garden-roller, Water-carriage, Syringes, Thermometers, Garden-pots, Tools, Seed-filler, Nests of Drawers, Office-desk, Stationery, &c.; Spring Market-van with tilt, Basket-trap, Potato-digger, Horse-hoes, Seed-barrows, Chaff-cutter, Dun Mare Pony, quiet to ride and Drive; Chesnut Mare, &c.

N.B.—No Catalogues will be issued.

Sale to commence at 11 o'Clock prompt.

Harold Nursery, Sittingbourne.

CLEARANCE SALE of NURSERY STOCK, including Standard, Pyramid, and Dwarf-trained Fruit Trees, Forest Trees, Shrubs, Standard and Dwarf Roses, Pots and Plants, Hardy Herbaceous Plants, &c.

MESSRS. JACKSON AND SONS have received instructions from the Executors of Mr. E. Thomas, deceased, to SELL the above, by AUCTION, on the Premises, on THURSDAY, November 22, 1894.

Catalogues may be obtained of Messrs. JACKSON & SONS, Valuers, &c., Sittingbourne.

Strood, Kent.

TO FRUIT GROWERS and OTHERS.

IMPORTANT SALE of 54,000 PYRAMID and HALF-STANDARD FRUIT TREES, comprising:—

40,000 APPLE, of the best varieties, including Worcester Pearmain, Ecklinville Seedling, Yellow Ingestre, Cox's Orange Pippin, Quarrenden, Lord Derby, Stone's, Loddington, Stirling Castle, Pott's Seedling, Gladstone Pippin, Warner's King, &c.

10,000 PEAR, viz.: Pitmaston Duchess, Williams, Red Lammas or Calais Rose, Onion or Peg-top, Calabash, &c.

3,000 PLUM, viz.: Victoria, Pond's Seedling, Bush, Gisborne, Rivers' Early Prolific, &c.

500 Cluster DAMSON, and 400 Morello CHERRY.

MESSRS. JACKSON & SONS have received instructions from Mr. W. Edmonds, to SELL the above by AUCTION, on TUESDAY, November 27, 1894, on the Premises, Brompton Farm, Strood, situate about 1¼ mile from the stations at Strood (S.E.R.), and Rochester Bridge (L.C.D.R). Sale to commence at 12 o'Clock. Luncheon provided. Lots will be put on rail.

Catalogues of Messrs. JACKSON AND SONS, Valuers, &c., Sittingbourne.

WANTED, Small NURSERY, or FLORIST'S BUSINESS, N.W., or a few miles out.—S. F., 53, Adelaide Road.

TO LET.—MARKET GARDEN, House, Stabling, and Greenhouse; adjoining Shirehampton Railway Station; 8½ acres. Stock at valuation. Christmas taking.—Apply, W. RICHARDS, on Premises.

To Gentlemen's Gardeners.

TO LET or SELL, a MARKET NURSERY.—About 1 acre. Seven large Houses, well-heated and in good going order. To be sold at a sacrifice owing to illness.—A. C., Mr. Trussler, Enfield.

NURSERY, SEED, and FLORIST BUSINESS, genuine. Established 40 years. Good town (small), Midland Counties. Good neighbourhood, first-class connection, splendid Seed Trade, good Shop and House, best position. Small Nursery, 4 Greenhouses, 4 rows of Frames, Plants, Trees, Shrubs, &c. Fixtures, Seed Drawers, and Stock in Trade, £325. A splendid opportunity for one with a little capital. Near several good markets. Rents Low. Good reason for disposal.—B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GROWERS.—A NURSERY of about 3 Acres, Dwelling-house, 9 Glasshouses, well heated and stocked; Sheds, Frames, &c., all in thorough working order, FOR DISPOSAL on favourable terms. Apply to—FREDK. G. HUGHES, Estate Agent, Hampton-on-Thames.

FOR SALE, Cheap, a Small NURSERY and FLORIST'S BUSINESS: four Glasshouses and Propagation-house, &c., heated by Hot-water. Near Main Road. Apply to W. H., Park Row Nursery, Greenwich.

FOR SALE.—Compact little NURSERY, with Dwelling-house and Florist's Shop, near Station and three Cemeteries, doing good local trade. The Houses are modern, well heated, in good condition, and filled with thriving young stock. Low rent.—Price £225, all at.—J. S. APPLETON, 4A, Broadway, Manor Park, Essex.

BOX TILTED VAN, in capital condition, holds 25 dozen 48's, cheap. C. JOHNSON AND CO., The Nurseries, Hampton.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

Dræcana Australis.

THOS. AITKEN, Kirkleatham Gardens, Redcar, having a fine Stock of the above in healthy plants, begs to offer them, carriage paid, at 30*s.* per 1000, or 4*s.* per 100.

MANETTI STOCKS, 21*s.*; GRIFFIRAE, 24*s.* per 1000, well disbudded, for cash. HENRY ROCK, Kemberton, Shifnal.

TOMATOS, for spring fruiting, in 60-pots. WILL TAYLER, Nurseryman, Hampton.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

PALMS, FICUS, FERNS, &c.—KENTIAS, fine, in 48's, 12*s.* per doz.; six sorts of PALMS, in 48's, 9*s.* and 12*s.* per doz.; large KENTIAS, in 60's, 5*s.* and 6*s.* per doz.; eight sorts of PALMS, in 60's, 4*s.* and 5*s.* per doz.; do. in large thumbs, 3*s.* per doz., 20*s.* per 100; ARALIAS, in 48's, 5*s.* and 6*s.* per doz.; FICUS, in 48's, 12*s.* per doz.; CYPERUS NATALENSIS and ALTERNIFOLIUS, in 48's, 5*s.* per doz.; twelve best sorts of FERNS, 12*s.* per 100; ASPARAGUS PLUMOSUS NANUS, 6*s.* per doz.; variety of FERNS in 48's, 5*s.* and 6*s.* doz. Free on rail. Cash with order.—ALFRED MARTIN (late Lane & Martin), 5, Bramah Road, Brixton, London, S.W.

EXHIBITIONS.

TWICKENHAM HORTICULTURAL and COTTAGE GARDEN SOCIETY.

The ANNUAL AUTUMN SHOW of CHRYSANTHEMUMS, FRUIT, VEGETABLES, and TABLE DECORATIONS, will be held in the TOWN HALL, TWICKENHAM, On TUESDAY and WEDNESDAY, November 20 and 21, 1894.

Entries must be sent in on or before Tuesday, November 13, 1894. Entry Forms and all further particulars may be obtained from the Hon. Secretary—Mr. EDWARD F. GREEN, Lincoln Lodge, East Twickenham.

THE NEXT

BIRMINGHAM CHRYSANTHEMUM SHOW

Will be Held on November 13 *and* 14, 1895.

J. HUGHES, Secretary.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

GERMANIA CARNATION.—Strong plants, in 60's, 15*s.* per 100, £5 per 1000. Old Crimson CLOVE, strong-rooted layers, 10*s.* per 100, £4 per 1000. C. JOHNSON AND CO., The Nurseries, Hampton.

VINES, VINES, VINES.—Grand Stock of both Fruiting and Planting Canes in all the leading varieties. Prices on application.—JOHN PEED & SONS, Roupell Park Nurseries, Norwood Road, West Norwood, S.E.

FOR SALE, one (established), Half-standard trained PEACH, Grosse Mignonne, stem 3 feet, 14 feet 6 inches by 18 feet across. Price 31*s.* 6*d.* cash. R. GREENFIELD, F.R.H.S., Ranelagh Nursery, Leamington.

LILIUMS, LILIES.—Best and cheapest ever offered. Auratums, very fine, 4*s.*; extra large, 6*s.*; immense bulbs, 9*s.*; Harrisii, fine, 4*s.* and 6*s.*; longiflorum, extra fine and cheap, 3*s.* and 4*s.*; lancifolium, extra, 4*s.* and 6*s.*; Croceum, 2*s.*, umbellatum, 3*s.* and 4*s.*; Davuricum, 3*s.*; candidum, 2*s.*, all per dozen. Cases and packing free for cash. MORLE AND CO., Direct Importers, The Conservatories, Finchley Road, N.W.

CARNATION "Countess of Paris," finest blush Perpetual Tree Carnation, large Malmaison-coloured flowers, splendid grower, easy forcer. Very strong layers, for immediate potting, 4*s.* per doz., 30*s.* per 100, carriage paid for cash. Large forcing plants, established in 4 to 6-inch pots, 12*s.* to 20*s.* per dozen. BECKER, Nurseries, Jersey.

CŒLOGYNE CRISTATA, a fine variety, well grown and cheap, plants with 18 bulbs, 1*s.* 6*d.*; 36 bulbs, 3 spikes, 3*s.* Stronger, 70 bulbs, 8 spikes, 5*s.*; 100 to 150 bulbs, 10 to 18 spikes, 7*s.* 6*d.* to 12*s.* 6*d.* TRUSTEES, late J. STEVENSON, Timperley, Cheshire.

WHINHAM'S INDUSTRY GOOSEBERRY. Strong well-grown Bushes of this celebrated variety, 3*s.* 6*d.* per doz., £1 per 100.—T. COLEMAN, Saffron Walden.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.

GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

FINE EXHIBITION PLANTS for disposal. Have taken many prizes. Several large CROTONS, IXORAS, ALLAMANDAS, PHŒNIX, KENTIAS, LATANIAS, SEAFORTHIAS, and CYCAS, in the highest state of health and quite clean. Sizes, prices, and full particulars on application to WM. CLIBRAN AND SON, Oldfield Nurseries, Altrincham.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

CHEAP AND GOOD ROSES.

FIFTY strong, well-rooted, beautiful varieties of Dwarf H.P. ROSES, true to name, for 21*s.*, 25 for 12*s.*, 12 for 6*s.* 6*d.*, package free. Cash with order. A choice selection of Standard, Half-Standard, and Dwarf H.P.'s, Teas and Climbers, open ground and pot plants. Priced Descriptive CATALOGUE free.

W. RUMSEY,

JOYNING'S NURSERIES, WALTHAM CROSS, HERTS.

CONIFERÆ.—Abies Douglasii, 1½ to 2 ft., 20*s.* per 100; Canadensis, 10 to 12 in., 4*s.* per doz.; Cedrus deodara, 1½ ft., 6*s.* per doz.; Araucaria imbricata, 3 to 3½ ft., 4*s.* per doz., 4 ft., 60*s.*; Cup. macrocarpa, 3 ft., 6*s*; Lawsoniana, 3 to 4 ft., fine, 25*s.* per 100, 4 to 5 ft., 30*s.*; Stricta, 2 to 2½ ft., 3's., 3 to 4 ft., 40*s.*; Erecta viridis, 3 to 3½ ft., 40*s.*; Picea nobilis, 12 to 18 in., 6*s.* per doz., 2 ft., 12*s*; Nordmanniana, 3 ft., 18*s.* per doz.; Pinus Cembra, 12 to 18 in. 10*s.* per 100; Retinospora plumosa, 4 to 5 feet, 50*s.* per 100; Aurea, bushy, fine, 32*s.*; Squarrosa, 3 to 4 ft., 12*s.* per doz., 1½ ft. 25*s.* per 100; Thuia Lobbii, 3 ft., 20*s.*, 2 ft, 10*s.*, 4 to 5 ft., 50*s.*, 7 ft., extra, 75*s.*; Thuiopsis dolobrata, 2½ to 3 ft., 18*s.* per doz., 3 to 4 ft., 30*s.* GARLIES MITCHELL, Nurseryman, Stranraer.

LONDON PLANES.—Splendid Trees, straight stems, fine roots, 12 to 14 feet, 4*s.*; 14 to 16 feet, 5*s.*; 16 to 18 feet, 6*s.*; 18 to 20 feet, 7*s.* 6*d.* each.

IRISH IVIES in pots, beautifully furnished, 4 to 5 feet, 12*s.* 5 to 6 feet, 15*s.*; 6 to 8 feet, 21*s.*; 8 to 10 feet, 30*s.* per dozen.

LIGUSTRUM OVALIFOLIUM AUREUM (best Golden Privet), 12 to 18 inches, 6*s.*; 18 to 24 inches, 9*s.* per dozen.

BERBERIS AQUIFOLIA, 9 to 12 inches, 10*s.* 12 to 18 inches, 12*s.* 6*d.*; 18 to 24 inches, 20*s.* per 100.

ROSES, FRUIT TREES, SHRUBS, CLIMBERS, BULBS, GARDEN REQUISITES, TOOLS, &c., of every kind. Priced descriptive LISTS on application.

W. FROMOW AND SONS, Sutton Court Nursery, Chiswick, London, W. Established 1829.

WANTED.—AUCUBA CUTTINGS. State price per 1000

BARR'S WINTER & SPRING FLOWERS. CATALOGUES sent free.—See Illustrations, back page, *Gardeners' Chronicle*, September 1, 1894.

BULBS, Winter, Spring, and Summer-flowering.

DAFFODILS, for Pots, Beds, Borders, and Naturalisation in Meadows, Woods, &c.

ENGLISH AMATEUR TULIPS, of absorbing interest to Amateurs.

HARDY HERBACEOUS PERENNIALS, for Beds, Borders, and Naturalisation.

COLLECTIONS of BULBS, 12*s.* 6*d.*, 21*s.*, 42*s.*, and 63*s.*

COLLECTIONS of DAFFODILS, 5*s.* 6*d.*, 7*s.* 6*d.*, 10*s.* 6*d.*, 21*s.*, to 105*s.*

BARR AND SON, 12, King Street, Covent Garden, London.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3*d.*

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,

THE NURSERIES, SAWBRIDGEWORTH, HERTS.

WELLS' NEW CATALOGUE OF CHRYSANTHEMUMS,

Contains the description of nearly 1000 best varieties, and more useful information than any other such book ever published. Including a Coloured Plate of his New Green Chrysanthemum, "Ethel Amsden." The Novelty of the Season. Post-free, 4*d.*, from **W. WELLS, Earlswood Nurseries, Redhill, Surrey.**

SUPERLATIVE

RASPBERRY.

THE TRUE RAISER'S STOCK.

GEORGE BUNYARD & CO., MAIDSTONE

Hold a large lot this year of this, by far the finest Raspberry, and as many former applicants could not be supplied, early orders are requested.

First size ... ... 30*s.* per 100; 5*s.* per dozen.
Second size ... ... 20*s.* per 100; 4*s.* per dozen.
A few extra large, 9*s.* per dozen.

JOHNSON'S IMPROVED MUSHROOM SPAWN.



BEING one of the largest Manufacturers of Mushroom Spawn, and keeping over 100 cows from which I obtain a large quantity of pure virgin spawn, I am in a position to offer the best obtainable at 3*s.* per bushel.

Special Prices for Large Quantities and the Trade.

HANGER HILL, EALING.

RHODODENDRONS ON THEIR OWN ROOTS

The finest named hardy kinds can now be supplied. These are much to be preferred to grafted plants, which are in many instances most unsatisfactory to the purchaser.

ANTHONY WATERER,

KNAP HILL NURSERY, WOKING, SURREY.

FERNS A SPECIALITY.

Our Collection is unrivalled. Over 1400 species and varieties of Stove, Greenhouse, Filmy, Hardy Exotic, and British Ferns. For prices of these and for specially cheap collections in beautiful variety, see our Catalogue, free on application.

W. & J. BIRKENHEAD, F.R.H.S.,

FERN NURSERIES, SALE near MANCHESTER.

EUONYMUS, Golden, from 12 to 18 inches, good colour; strong, bushy plants, 6s. to 8s. per dozen. Cash with order.—C. LINTOTT, Fishbourne Nursery, near Chichester, Sussex.

CHRYSANTHEMUMS. — New Illustrated, Descriptive, and Priced CATALOGUE of all best varieties in commerce, now ready, post-free, two stamps.
R. OWEN, Castle Hill, Maidenhead.

Prize Cob Filberts and other Fruit Trees.

MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

APPLE, CHERRY, PEARS.—Stout fibrous-rooted trees of all the leading market sorts, including Beauty of Bath, in maidens, 2, 3, and 4-yr. old, at 6s., 8s., and 10s. per doz.; extra fine standard Jargonelle Pear, 12s. per doz.; ditto Morello and May Duke Cherries, 12s. to 18s. per dozen.
SYCAMORES, 10 to 14 feet.
WILLIAM KERSHAW, Airedale Nurseries, Bingley, Yorks.

VARIEGATED IVYS, CLIMBERS, &c., all the best varieties, fine stuff 3 to 4 feet, in 5-inch pots, Arborescens variety, Rhombodia variety, Marginata, Canariensis Aurea, Spectabilis, Mrs Pollock, and others, 12s. per dozen, in variety; six or twelve Hardy Climbers, in six or twelve sorts, 6s. and 12s. Package free.
MORLE & CO., The Conservatories, Finchley Road, N.W.

CUCUMBER SEED.—For Sale, about 4000 Cucumber Seed, "The Rochford," true to name, Price 5s. per 100, cash with order.
R. J. WICKHAM, Grower, Sutton Scotney, Hants.

BARR'S MIXTURES of DAFFODILS, for beautifying Orchards, Woodland Walks, Grass Slopes, &c., and for Cutting. MIXED, ALL SORTS, per 1000, 21s. and 30s. MIXED PEERLESS or CHALICE-CUPPED STAR NARCISSI, graceful and beautiful, per 1000, 42s.; MIXED POET'S DAFFODILS, very beautiful, per 1000, 42s. All sent, CARRIAGE PAID, on receipt of remittance.
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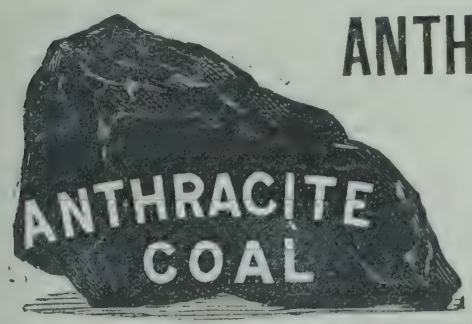
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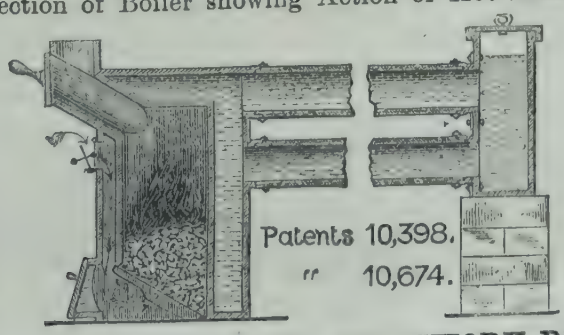


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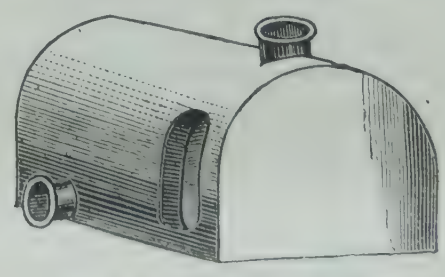
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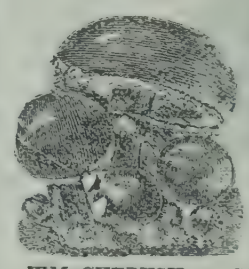
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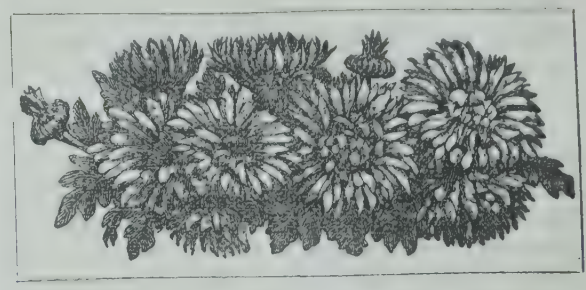
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THE
Gardeners' Chronicle.
SATURDAY, NOVEMBER 17, 1894.

A RECTORY GARDEN IN ESSEX.

THERE seems room for yet another book on horticulture. A taking title might be "The Rectory Gardens of England." How beautiful they are! In lecturing for County Councils, judging at rural shows, visiting cottage gardens, and allotments, one has the pleasure of inspecting many rectory gardens, as also those of the squires and large farmers.

Cultured tastes and eyes have chosen the rectories of to-day as they did the monasteries, nunneries, and abbeys in olden times. Modern vicars and rectors, like the older ecclesiastics, are also members of the gentle arts and skilful guilds of horticulture.

The pressure of the modern difficulties of living have not been felt in vain in the rectory gardens of to-day. There may, perhaps must be, more utility in modern rectory gardens. But surely there need not be less of beauty, inasmuch, as most of our gardens are also crowded, overflowing with beauty. The orchard in blossom or in fruit runs even the rosary hard in the field of beauty, and pleasure and profit are everywhere running a friendly race for more room and richer developments in our best gardens. Bare earth, green grass, especially around rectories, are plentiful and cheap, living plants crowding round, waiting for the touch of taste, the inspiration of genius, to mould the raw materials into growing landscapes overflowing with life and beauty. The makers of the latter mostly get more than they bargain for. They may have planted for shelter, shadow, health, profit, and they reap a veritable Eden of rest, retirement, pleasure, beauty as well. And these living landscapes fade not with the passing years, but mellow into a softer, richer, beauty as time softens their colours, or deepens their shadows. But whether site inspires culture or culture site, the two between them have converted many rectories into homes of beauty. I have been several times in Essex of late, to look for derelict farms. So far, I have chiefly found land in creditable cultivation. Fields of Roses, fairly cultivated small holdings, and tastefully and fully-furnished rectory-gardens. I am enabled to give this local habitation and name of the garden I describe.

The Wakes-Colne Rectory is within about a quarter of a mile of the Chappel Station and junction of the Great Eastern Railway, with which travellers by the Great Eastern from Bury to Marks Tey, are familiar. The rectory, however, is hardly seen from the station. It is near the entrance of the Colne Vale Railway, famous for its fine viaduct here, and the cluster of Colne parishes. For instance, there is the Colne Le Blanc or White Colne, Colne Engain, and Earls Colne, the latter not only being the largest of the four, but larger than the other three together. Earls Colne is also the oldest and most important,

with a history running back to the time of Edward the Confessor; the common name of all being derived from the River Colne, that runs through the valley.

Wakes-Colne is on the highway between Cambridge and Colchester; 8 miles from the latter, 9 from Halstead, and 6 from Coggeshall. The living is a rectory, including 12 acres of glebe land, and the church All Saints has a nave, chancel, spire, and bells. There are several charities and good schools, and a nice schoolhouse recently built. The parish is a large one, covering some 1800 acres, and a shrinking population. Among other means of benefiting his parishioners, the rector offers five prizes every year for the cleanest, best-stocked, and cultivated gardens owned by or let to labourers, railway servants, or widows. These prizes consist of 7*s.* 6*d.* for first, 5*s.* for second, 3*s.* 6*d.* for third, 2*s.* 6*d.* for fourth, and 1*s.* 6*d.* for fifth. Five more prizes of the same amounts are offered for allotments under the same conditions.

One of the most striking features of these competitions was the number and excellency of the widow exhibitors.

These prizes are to be awarded at the Four Colnes shows in the autumn, when the four villages will combine their resources to have a friendly contest with each other—a far better plan than each small village attempting to stand alone in such matters. By such, and in other ways, Dr. Bartram, the rector of Wakes-Colne, for twenty-four years, the head master of the Berkhamsted School, endeavours to improve the science and practice of gardening throughout the parish and district. But the Rectory garden furnishes the most potent object-lesson, and with the assistance of a good gardener, and other helps, Dr. Bartram succeeds in placing examples of horticulture before his friends and neighbours worthy of their careful imitation. The area under culture is about 3 acres, and every part of it, whether in the open, or against walls or fences, is occupied with a crop of some sort. Roses may be said to be used as a sort of packing-material between other crops, where little or no space is left, as well as for forming brilliant masses of colour and fragrance, near to doors and windows. As the Doctor had the assistance of Mr. Mawley, Secretary of the National Rose Society, it is hardly needful to add, that the selection is one of the choicest and the best.

Dr. Bartram has happily caught the prevailing art of utilising space to such good purposes as to form a nice fernery under a large tree on the lawn, and the same principle is constantly seen in bed and border, nooks and corners of walls and fences. Wherever a foot of space can be found, a cordon-tree, bush, or plant is packed into it.

Waste not want not seems writ large all over the rectory garden, and it is made to apply to waste products, as well as sweetest flowers and most luscious fruits; thus the garden fills the house with plenty, the house and stables replenish the orchard with strength. Other rural industries, such as bee-keeping and fowl-farming, are in full swing at the Rectory, the Doctor being as much at home in selecting a queen or hiving a swarm as in pruning or training a Rose or fruit tree. The bees, too, help to set the fruit, the fowls to feed and cleanse it, as they run in hungry swarms through the orchard.

Space would fail to descant upon the prodigal supply of Roses and other flowers, the liberal use made of them in the Rectory house, the beauty of bed and border, snug shelter and seclusion secured for lawns and tennis grounds, and the security for fruit trees and borders begotten, as it were, of absolute reliance on the honesty of the public, furnish a striking example of the potency of trust as a means of safety and security for gardeners and their produce.

The area under culture extends over about three acres, including the rectory stables, one cottage for the gardener, and other buildings. The following are the chief trees and bushes used to furnish this area.

Nine hundred and fifty Cordon Pears on the Quince, some of these are arches, alternating with Apples, and doing well; 25 Cordon Apples on Paradise stock, 55 Standard Apples in orchard on Crab, 8 Pears on Pear, 250 Bush Apples on Paradise, 45 Bush Pears on Quince, 28 Bush Plums, 192 Gooseberries, 122 Black Currants, 8 Red Currants, 125 Damsons, chiefly Fairleigh's Prolific; 2 standard Cherries, 2 Crabs, Transcendant and Dartmouth; 3 standard Apricots on walls, Doyenné du Comice Pear closely trained to gardener's cottage, fine fruit; Peaches Early Alexander, Royal George, Noblesse, Reliable, and Morello Cherries.

Among the finer Pears were Louise Bonne of Jersey, Durandeau, Pitmaston Duchess, Souvenir du Congrès, Doyenné du Comice, Bellissime d'Hiver, Duchesse de Angoulême, Beurré Clairgeau, Beurré Diel, Easter Beurré, Thomson's Catillac are well grown. Almost every cordon laden with fruit, breast or current year's wood pinched back to six or seven leaves about the end of June or early in July, and finally to three leaves early in September.

Of Apples, Dr. Bartram finds the Duchess of Oldenburgh and Stirling Castle the most productive, and the Ribston Pippin as disappointing and slow in coming into bearing; Bramley's Seedling and Lord Derby likewise do remarkably well planted close to a boundary fence, the hedge being hard cut back, to prevent the fly getting on to the Apples through contact. Cordon Apples, standards, bushes, Gooseberries, Currants, with a preventative and cleansing dressing of hot lime at the rate of 100 to 50 soot, with sufficient melted grease and clay to make the mixture stick. Plums are syringed overhead in winter with lime-water, to prevent insect pests, the eggs of which the microscope reveals early in February.

The cordon Pears and bush Apples on the Paradise are among the more striking features of this fully-furnished garden, and the produce of both, if carefully thinned and marketed, might pay expenses, and leave a rich revenue of pleasure, and home supplies. How rich and full the pleasure of such gardens are will be apparent when it is stated that 300 or more choice Roses were grown.

Among the greatest favourites were Grace Darling, The Bride, Souvenir de Thérèse Levet, Madame Lambard, Marie Van Houtte, William Allen Richardson, Gloire de Dijon, &c. Ulrich Brunner, La France, Viscountess Folkestone, the old white Scotch yellow Persian, Harrisoni, Gloire de Polyantha, and many more all greatly admired by visitors. Roses thrive remarkably well in this part of Essex, owing, it is thought, to the predominance of iron in the soil. Even the wild Roses grow in the hedges with a vigour, and bloom with a prodigality such as is seldom met with in other counties. In a long drive through the parish of Wakes-Colne, assessing the merits of cottagers' gardens and small holdings, we scarcely once lost sight or smell of wild or garden Roses.

Not a few expert budders were found converting wildling Briars into garden Roses for the supply of their own wants, and those of their neighbours. More fruit-trees and bushes, larger area for the cultivation of vegetables, are, however, still needed in the Colne Valley. *D. T. Fish.*

New or Noteworthy Plants.

BOLBOPHYLLUM PERPUSILLUM, *Wendl. and Krnzl.**

With the exception of Bolbophyllum Odoardi, Pfitz, this new species is certainly the smallest Bolbophyllum we have any notice of. The creeping stems are thinner than ordinary silk thread; the bulbs and the leaves are one to two lines in length, and the leaves about half a line in breadth. The pedicel is also very slender, and the flower is, in spite of the tails of the sepals, a very inconspicuous one. The most striking character is the very prominent soft-haired callus of the lip, which occupies nearly the whole disc except the very edge, and this character will be regarded as sufficient to distinguish the species from all the others hitherto described. It flowered for the first time in June, 1893, at Herrenhausen, under the careful cultivation of Mr. Wendland. The plant was found and sent home by Mr. Johannes Braun. *F. Kränzlin.*

Bolbophyllum Johannis, *Wendl. and Krnzl.*†

This plant is also one of the discoveries of our unfortunate countryman Mr. Johannes Braun, who died at Antananarivo some years ago. I received fresh material from Herrenhausen, the inexhaustible source of rare botanical Orchids, many of those there existing being in some cases the only living specimens in Europe. The sides of the column running downwards and united with the base of the lip, are very peculiar, but the only characteristic of botanical interest by which this species may easily be distinguished from others. To reproduce the whole description of this little thing is of no use, as botanists will recognise it by its characters given in the appended foot-note. *F. Kränzlin.*

Trichomanes (Didymoglossa) solitarum, *Jenm., n. sp.*

Rootstock threadlike, freely repent, sinuated, tomentose, and much branched; fronds dark dull green, abundant, scattered; stipites 1 to 1½ line long, rusty like the rootstock; blade 2 to 3 or 4 lines long, 1 to 2 lines wide, the base freely cuneate, barren ones lanceolate, entire or indented, fertile ones bat-like, the sides spreading and incised, deeply cleft and open at the top, with a solitary stipitate entirely-free sorus in the cleft, within or much protruded; midrib evanescent above the base, veins fine, close, flabellate, forked; involucres urn-shaped, with rounded club-like lips. Jamaica.

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* *Bolbophyllum perpusillum*, Wendl. and Krnzl.—Caule primario repente filiformi tenuissimo bulbis segregatis subglobosis obliquis diphyllis; foliis lanceolatis acutis, bulbis 2 mm. diametro, foliis 2—3 mm. longis, ½ mm. latis; pedunculis multo longioribus tenuissimis erectis unifloris; bractea ovata acuta quam ovarium longiore; sepalis ovato triangulis in caudas ipsis æquilongis angustatis; petalis multo minoribus oblongis obtusis, labelli epichilio ovato obtuso basi complicato utrinque rotundato, per totum epichilium a basi callo crasso apicem obtusum usque decurrente minutissime piloso pone basin sulcato; gynostemio generis; dentibus androclinii omnino obsoletis. Totus flos 3 mm. longus, albidus, petala levissime roseo-suffusa. Madagascar leg. Joh. Braun vir beatus.

† *Bolbophyllum Johannis*, Wendl. and Krnzl.—Caule primario v. rhizomate tenuissimo repente, secundariis, 5-bulbis minutissimis approximatis irregulariter globosis obliquis monophyllis; foliis oblongis acutis; bulbo 2—3 mm. diametro; folio 3 mm. longo, 2 mm. lato; scapo filiformi erecto squamis 1—2 vestito unifloro; bractea ovata acuta, quam ovarium breviore; sepalo dorsali lineari-oblongo acuto, sepalis lateralibus paulo longioribus angustioribus carinatis; petalis duplo minoribus oblongis obtusis, labelli hypochilio v. pede satis producto, epichilii ungue lineari angusto canaliculato, epichilii lamina expansa late ovata basi cordata, lineis 2 paulum prominentibus in disco; gynostemii margine utroque in labelli hypochilium, descendentibus foveam stigmaticam profundam efformantibus. Totus flos inter minimos generis, albidus, vix expansus 3 mm. diametro. Madagascar leg. Johanes Braun vis beatus.

Discovered by Mr. Syme several years ago, locality not recorded. Communicated by Mr. Hart. The barren fronds of this might easily be taken for those of T. setiferum, the two species being of like diminutive size, but the fertile fronds of each are quite different, this one resembling a pair of spreading incised wings, with the free sorus extended or not, neck and head—as of a water-bird when flying—in the deep cleft between. Occasionally a fertile frond is linear. *G. S. Jenman, Demerara,* 1894.

DENDROBIUM HARVEYANUM.

This handsome species, of the D. Brymerianum section, is even more quaint in appearance and in the arrangement of the delicate fringing on its clear yellow flowers than D. Brymerianum, which was so eagerly sought and much valued for years after its first appearance, and which even now causes great admiration whenev r it is sufficiently well grown to develop to the full the branched fimbriation of its lip. In D. Brymerianum the fringing is confined to the lip, but in D. Harveyanum it is comparatively restricted on the labellum and more displayed on the petals—a most unusual development in the genus, and one which probably originated in a sport or abnormal form, perhaps of D. Brymerianum itself.

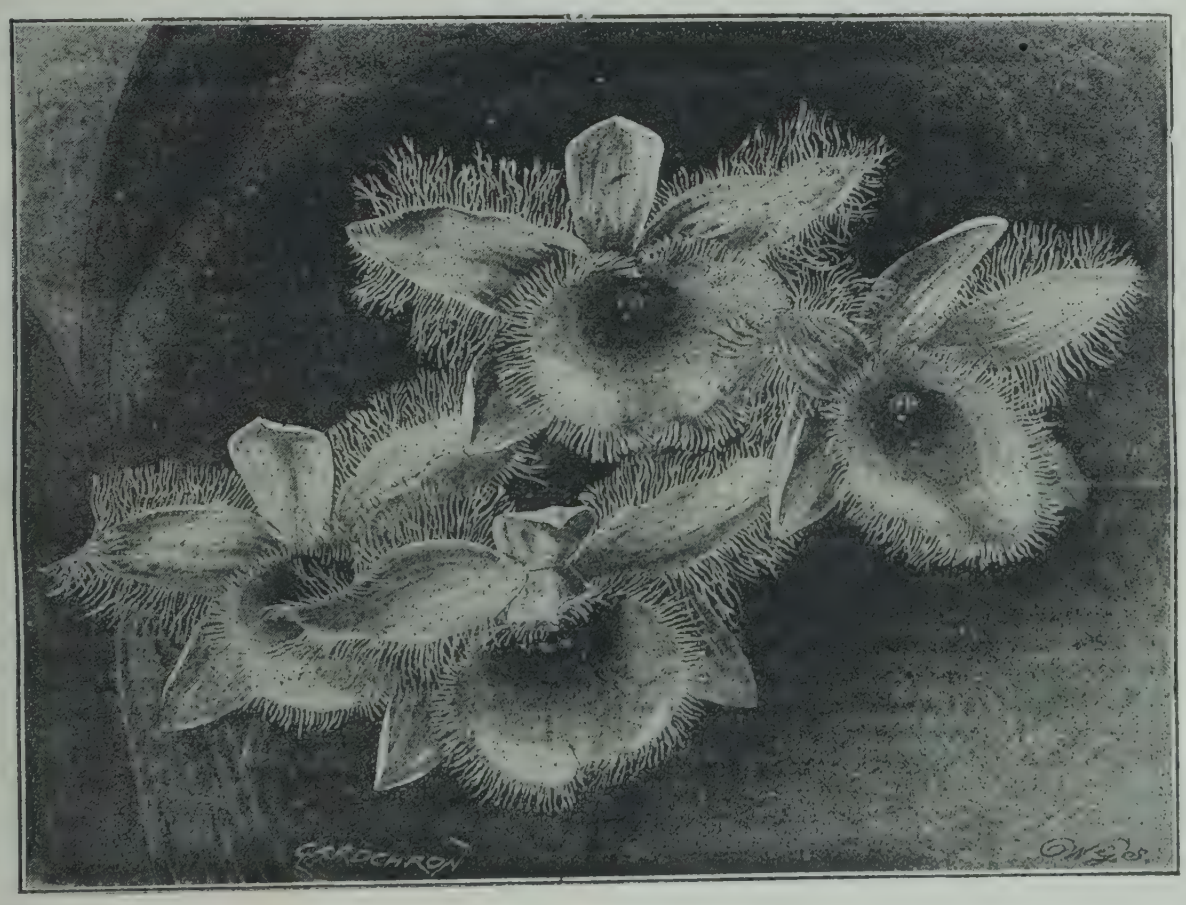


Fig. 76.—DENDROBIUM HARVEYANUM: FLOWERS YELLOW.

D. Harveyanum requires the same treatment as the other Burmese species, that is to say a good free growth in a warm moist house in the growing season, and a proportionately long cool and dry resting time after the growth is completed.

It was first imported in 1883 by the Liverpool Horticultural Company, and it was named in honour of Enoch Harvey, Esq., of Aigburth, Liverpool.

The photograph from which our illustration (fig. 76), was prepared, was kindly sent by the Rev. F. D. Horner, Lowfields, Burton-in-Lonsdale, who has grown the plant with considerable success.

THE SEED TRADE.

The Garden and Root-Seed Harvest.—A severe frost late in spring, that left its mark wherever experienced, and which was followed by a most ungenial summer, accompanied with occasional heavy downpours of rain in excess of the average, has served to aggravate what appeared to be a serious position for the grower of the more tender classes of seeds; and now that the harvest, generally speaking, has been gathered in, we are within reasonable distance of being able to give some definite information upon the outcome of what cannot be otherwise described than an extraordinary season.

Broad Beans, so largely grown in the rich alluvial deposits lying inland from the mouth of the Wash, are under the average again this season, the plant although hardy was considerably affected by the late frosts, and the check influenced the black-fly to an alarming extent; this circumstance followed by a wet harvest, has practically spoilt the size and colour of the Beans, and clean bright samples from any part of the country are few and far between. The Long-podded section is now so largely produced in sunnier climes, that the outcome of our home-grown crops scarcely affects the market. Scarlet Runners will also be short, the wet autumn, and a taste of early frost helping to ruin what might otherwise have been a large crop. This Bean is now so extensively grown on the Continent, that shortcomings here are likely to be met sufficiently to prevent such famine prices ruling next spring, as prevailed at the end of last season. The commoner kinds of dwarf Bean are now grown in so many parts of the world, that it is difficult to form an estimate; Europe, however, has by no means a full return, and the Colonial supplies that found their way here last season were cleared at such low figures that the growers may hesitate to take another bite at English markets.

Beet is but sparingly grown in this country for seeding purposes; excepting a few extra special strains, and these chiefly for stock seed use, the area scarcely influences values. It is to the Continent that we have to look for our bulks, and there seems to be a poor crop again this season in most countries, which is hardly a cheerful outlook, considering how bad it was everywhere last year.

Cabbage, Kale, and Brussels Sprouts are all largely grown in the Eastern Counties, at the same time their cultivation is by no means restricted to this area. At one time it was thought there was to be a heavy yield, the like of which had never before been known; a cold and cheerless time, however, supervened when the flowers were in need of warm sunshine, which caused many to drop and wither without setting—the pods that were formed were found to contain many thin, weak, and undeveloped seeds, which, when they came to be cleaned, helped materially to lessen the bushels per acre. The Essex crop seems to have turned out the best, whilst the Continental crop is under average in most countries. Broccoli, also grown chiefly in the eastern side of the country, is under the average; whilst Cauliflower, a plant but sparingly cultivated for seed here, is reported to be fair abroad.

Carrot seed is always late in a wet autumn, as the umbelliferous seed-heads retain moisture to such an extent that they are with difficulty dried until some time after being cut; and from this cause the crop is certain to run short when threshed. The finer garden and frame varieties, which are mostly grown in France, yield, from all accounts, a not over satisfactory result, some sorts being quite a failure.

Leek and Onion were both remunerative seed crops in this country at one time, but the adverse seasons of the past few years have disheartened growers, and, as a consequence, the industry is lessening. This has led to an enormous increase in their cultivation on the Continent, both France and Italy growing extensive areas of seeds and selected bulbs, to supply our needs; but they find some difficulty in perpetuating our best English kinds, even when stock seeds are first of all supplied for the purpose. The Californian crop appears to be an average one, but it only affects us after the American home demand is satisfied. Lisbon Onion, the variety grown in such quantities by market-gardeners for bunching in spring, is a short crop, and the difficulty is likely to be somewhat increased by an attempt to "corner" available supplies.

Lettuce is under the average everywhere, but a sufficiency is expected, as this seed is now largely produced on the continent, in America, and also in the Antipodes.

Of Mustard, both the white and brown variety are largely grown in the districts bordering The Wash, and at the annual market held at Wisbech a week or two back, the crop was reported a large one, although many samples were somewhat discoloured. Values, however, were kept down by the enormous increase in the English acreage, and the quantities that come into our markets from Holland, Russia, and South America, and the outlook is not encouraging for an extended area to be put out at home next season.

Parsnip and Parsley are fairly good crops, both at home and abroad; and so is Radish, so far as it was safe before the wet set in. The delicate sorts are always uncertain, and although largely grown on the continent, are never produced in a sufficient quantity to meet all demands.

Spinach is a very short crop at home; the bad weather that has overtaken the counties of Essex and Kent, where it is chiefly grown, has seriously prejudiced the finishing off of the plants, already somewhat crippled by the June frosts. The varieties grown in the Hook of Holland are reported a fair return.

The garden varieties of Turnips are fairly satisfactory, although the return is not nearly so large as was at first estimated, as so much threshing out of light and sickly seed was needed. An increasing demand from abroad for certain popular kinds has also helped to keep values steady.

Probably no crop suffers so much in a bad season as that of Peas, and there is no doubt, so far as our own growths are concerned, that it is both short and poor in quality. Rubbed-out samples of the early round sorts that have come into our hands are very disappointing; the wrinkled varieties are hardly yet in condition for threshing, but these too will be found wanting in size and colour through being stocked too full of moisture—the bine of many of the newer kinds being so strong, that they cannot be sufficiently dried in a dripping season. In view of the great demand in all directions, it is fortunate that

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the Pea acclimatises so readily, and were it not for the large areas produced in several parts of the world, we should, indeed, be badly off. Adverse seasons, however, affect results, even in these more favoured climes, for the Canadian crop has turned out wretchedly poor, whilst the last New Zealand harvest gave about one-half the average yield. The German and Dutch crops seem fairly good, but as many growers in these countries pay such little attention to rogueing, it is dangerous to handle their bulks unless from the most reliable sources.

Potatos were lifting badly everywhere; the heavy rains having so soddened the earth, that in districts which lie low, and carry a retentive soil, the sight of the tubers rotting from disease was disheartening, and those that are pitted or pied are certain to open out badly. In many of the Fen districts many acres were hardly worth lifting.

Of flower-seeds, all that were garnered early are fairly safe, the later maturing kinds, such as Nasturtiums, are having a bad time of it, so that it will be necessary to rely for main supplies upon places abroad; in both France and Germany the results all round seem more favourable. Sweet Peas and other flowers are being so largely cultivated for seeds in California, that there is every likelihood of a plentiful supply for all demands.

As to agricultural crops, the Mangel is likely to turn out much better than it did last year, although yielding by no means a full average; this plant is always late upon the land, as is necessary for the full development of the seed. Those growers who feared the wet autumn, and cut before the seed was nearly ripe, will find themselves saddled with a quantity of green capsules for which it will be difficult to find a market. In view of the remunerative figures ruling last season, a large area of plants was put out, and so there is likely to be a sufficiency. The continental crops are somewhat short, but taking things all round, it is anticipated there will be enough for ordinary wants.

The harvest of Swedes and Turnips has been one of the best for the last few years, and had it not been for the sharp frosts that visited us at the end of spring, there is no doubt the crop would have been a record one; as it was, the flattering estimates made during rogueing time had quite another complexion put upon them, when the seed came to be threshed, a good deal was found to be thin and weak, so that the ultimate returns do not average beyond two thirds of the original estimate. Such a large area was cropped, and prices have gone down accordingly, that the merchants have a fine opportunity of filling up their empty floors at remunerative figures. The French crops are fairly good, but these strains are ill-adapted for many parts of our variable climate. *Seedsman.*

Orchid Notes and Gleanings.

CATTLEYA VICTORIA REGINA, *Reichenbachia*, t. 85.

In Mr. Rolfe's opinion this is a hybrid between C. labiata and C. Leopoldi pernambucensis. These and other Brazilian Cattleyas require a pure and not too moist atmosphere, a bright light in the morning and evening, careful watering, but no syringing. Messrs. Sander themselves doubt the alleged hybrid origin of the plant, and have put the matter to a test by crossing C. labiata with C. Leopoldi pernambucensis. The result will be interesting.

Zygopetalum Klabochorum, *Reichenbachia*, t. 86.

This Orchid requires a moist, shady house, of an even temperature, ranging from 60° to 70°, the whole year round, and in hot weather a slight dewing over with the syringe in the early morning and in the evening. It may be grown in baskets or in pots, but in the material used for them quite one-half of living sphagnum should be given, the other portion being fibrous peat. Care should be taken not to subject them to bright sunlight or cold currents of air.

Lælia autumnalis var. alba, *Reichenbachia*, t. 87.

It is suggested that the Mexican Lælias may be grown in an ordinary greenhouse. The rather dry air and bright light of the ordinary conservatory suits the Mexican Lælias, and the chief cultural item to be observed is to give the plants a most liberal supply of rain-water at the roots while making new growths, and until such growths are matured. They should be placed in a cool and airy situation, scarcely any water given till the flowering season comes round again. The present form is a very beautiful one, the sepals and petals, and even the lip, being pure white.

Spathoglottis Kimballiana, *Reichenbachia*, t. 88.

The flowers of this showy species have been likened to those of a yellow Phalænopsis. The plant is a native of Borneo, and is best grown in Orchid pans in a compost made up of equal proportions of fibrous loam, good peat, and living sphagnum, with a little silver sand. The plants should be suspended within 3 feet of the glass of the roof in a moist house, where the temperature ranges from 65° to 75° F., and kept there the greater part of the year, being liberally supplied with moisture at the roots. It is well to give them a resting-season in a cooler and more airy house, where they may be kept comparatively dry for a month or so.

Peppermint Culture.

In these days of depression in agriculture, when owners of land and cultivators of the soil are at their wit's end to know what crop to grow for a profit, or to what use they may apply the land they possess, it is somewhat strange that more attention is not directed to the growth and production of all the finer essences and perfumes in which France now holds a monopoly.

The Peppermint known to botanists as Mentha piperita is a plant common in many parts of Great Britain, but yet its cultivation has never made much headway in this country.

We learn from a report by Mr. J. K. Reeve in the *American Agriculturist* that, about sixty years ago some Connecticut farmers, emigrating to Western New York in search of more fertile lands, found the Peppermint growing wild in great abundance along the edges of the streams. In their own district they had already been accustomed to cultivate it in a small way, and to distil the essence, and the fact of its prolific indigenous growth suggested to them the natural adaptability of the soil to its production, and they began to plant and cultivate it.

From that time the industry has steadily grown until now, in that county alone there is annually cultivated an average of about 6000 acres, rising occasionally, when high prices stimulate production, to 8000 acres. As a great deal of labour is required upon a small area, most of it is grown in small patches, as an adjunct to the general work of the farm, instead of being made the principal crop. In this way, some 2000 cultivators are engaged in its production. As each acre under Peppermint culture requires the entire labour of one man for one month, and as the entire crop demands immediate attention at certain times, the grower must have considerable capital, and be certain of plenty of available labour when most needed, before he is warranted in entering upon the work to any great extent, and as both product and price are exceedingly variable, farmers ordinarily are not disposed to take the financial risk incidental to the cultivation of a large area.

An average yield of Peppermint is about 1 ton per acre, of air-dried plants, which will produce about 20 lb. of oil when distilled. From this the yield ranges, according to season, from 10 lb. or less, and has been known to go as high as 45 lb. of oil per acre. At Mitcham, in Surrey, the great centre in this country for the cultivation of medicinal plants, and the manufacture of essential oils, the average production is 17½ lb. of Peppermint-oil per acre. It is probable, however, that if the financial aspect of the industry were more favourable, other localities would speedily be found where the soil, treated by the best methods of cultivation, would respond generously to the Peppermint-grower. Weeds are the great enemy to success, and the habit of growth of the plant is such that its profitable cultivation is almost impossible upon foul land. Low, rich, marshy land is the most suitable for it. This should be ploughed in spring, and shallow furrows may be drawn 30 inches apart.

In these the sets, which are portions of old plants, are strewn so thickly that they touch in the rows. This work may be done in March or April, as soon as the ground can be got into proper condition. Cultivation consists in keeping the ground clean until the plants, by tillering, have taken entire possession of it. After that, the only thing that can be done is to weed by hand. The land is generally cropped two, but sometimes, three years, from one plant-setting. After that the soil usually becomes so foul that the quality of oil produced would not be good enough to pay for harvesting.

The first crop is, in this respect, of course, the best of all. The Mint ripens when about 2½ feet high, and is harvested about September. Having been cut, it is raked into small heaps, allowed to wither, and then taken to the still, which extracts the oil.

Besides its medicinal uses, Peppermint-oil enters largely into the manufacture of confectionery, perfumery, essences, and cordials. *J. J. Willis, Harpenden, Herts.*

Orchids at Cambridge Lodge, Camberwell.

The very large and healthy collection of Orchids belonging to R. I. Measures, Esq., affords a good example of successful Orchid cultivation in the neighbourhood of London. Some species, notably Miltonia vexillaria, M. Roezlii, and other plants of a similar nature, require unremitting attention in the season of fogs and darkness, so as to keep them healthy; others, on the contrary, flourish with such luxuriant vigour, and are in so much better condition than they are generally found even in country gardens, that one is almost tempted to imagine that London air suits them best. The most striking example of the latter fact is the collection of Vanda tricolor and V. suavis, the varieties of which nearly fill the house devoted to them. Some of them are still in bloom, and the plants, one and all, possess hard, dark green foliage from the bottom of the stems upwards—as sure an indication of good culture and perfect health in Vandas as long, naked stems are of improper treatment and unsuitable quarters. The other species of Vanda are in equally good condition, viz., V. cœrulea, a grand specimen of V. Denisoniana, V. Kimballiana, and V. Amesiana having remarkable vigour.

Another example of good results not to be excelled in any other part of the country is in the Cymbidium-house, where the huge specimens of most of the species are in very fine condition—most of them now out of bloom, although a specimen of C. Mastersii is carrying ten spikes of flowers; and the rare C. cyperifolium is in bud.

But what may be called the two great specialties at this place are the Cypripediums and the Masdevallias, which form one of the largest and most varied collections in this country. Many of them are still in bloom, and scores of plants in hanging pans, &c. The Masdevallia Chimæra section afford flowers ranging from pale yellow, spotted with chocolate, to the nearly black of M. c. Roezlii. M. attenuata, M. Laucheana, M. muscosa, M. elephanticeps, M. melanoxantha, M. corniculata and its variety, inflata, M. × Measuresiana, and others were in flower; and numbers of M. tovarensis are covered with buds. Among specially-prized species were M. Lowii and M. O'Brieniana; and in the Masdevallia-houses were a very great number of Pleurothallis, Stelis, Restrepias, and other miniature plants, many of which were in flower.

In the several houses set apart for Cypripediums, both the species and hybrids are in splendid condition; the larger Selenipediums having foliage almost as robust, and quite as ornamental as a Phormium

In the "seeding" house are hundreds of seedlings, ranging in size from those in the seed-pans to the plant just ready to flower. Cypripedium bellatulum, and that other fine variety C. Godefroyæ leucochilum, of which there is a good batch, have been largely used in the hybridising, and good results are certain to accrue. The side of one of the houses is entirely filled with fine forms of C. insigne, among which in bloom were C. i. Ernestii, which may be called a C. i. Sanderæ with clear yellow and white flowers, possessing the form of C. i. violaceo-punctatum. The true C. i. Sanderæ is in bloom, and forms a good companion to the last-named variety; and another yellow-flowered C. insigne near to C. i. Hardyana is also in bloom. Of the differently coloured forms, C. i. Cambridge Lodge variety, with handsome purple-spotted upper sepal, is one of the best; and C. i. nigro-maculatum, one of the darkest coloured. In the same house was a plant of C. × Arthurianum, with eight flowers; one of the remarkable clear yellow-coloured C. venustum Measuresianum; some fine varieties of C. × Leeanum; and a noble plant of Oncidium ornithorhynchum album with seventeen spikes.

In the other Cypripedium houses several forms of C. × Bellona, C. × œnanthum superbum, C. × Swanianum, C. × regale, C. × Cretheus, C. × Pitcherianum, C. × tesselatum porphyreum, C. × Seegerianum, C. callosum, and others were in bloom.

In point of showiness, the Cattleya and Lælia houses were the most brilliant. The autumn flowering varieties of Cattleya labiata was apparent in quantity, and in a variety of good forms. The hundreds of flowers observed display much variety and excellence; but in point of beauty the new white C. labiata, R. I. Measures variety, takes the lead, the peculiar primrose tinge at the base, and the faint pink pencilling in front of the lip, rendering the otherwise quite white flower very distinct.

In the other houses we noted Nanodes Medusæ, which Mr. Chapman, the gardener at Cambridge Lodge, says gives no trouble if grown cool; Lælia superbiens, which here flowers every year; a quantity of spikes of different varieties of L. anceps; L. tenebrosa, a huge plant of Cœlogyne cristata alba, with perfectly plump pseudobulbs, which will be a glorious sight when in bloom; an equally huge C. tomentosa, which bears long racemes of salmon-coloured flowers; C. Massangeana, in bloom; and fine plants of Oncidium tigrinum, with very stout spikes of large flowers.

CHRYSANTHEMUMS ABOUT LONDON.

(Continued from p. 566.)

Messrs. H. Cannell & Sons.—As is usual in this well-known nursery at Swanley, there is a large number of Chrysanthemums in the great span-roofed house used for the purpose of their display. Seedlings are raised annually in very considerable numbers, a fact evident from the number of plants already turned outside, where they are developing flowers whose quality, or lack of such, has doomed them to oblivion. In seed experiments, however, a certain amount of failure is expected. The other side of the picture shows plenty of promising varieties, which will be given liberal treatment with a view to bringing them out next season. Kentish White (1893) is one of these latter, for it will give much disappointment if it fails to make one of the freest and best of the white Japanese incurved section. Colonel Curzon (1894) is a good bold rose-coloured flower with silver reverse, also an incurving Japanese.

Jeannie Pearson (1894), with flower of the same type as the previous ones, is somewhat a novelty in colour, having yellow florets, tipped slightly with green. Another season will prove if such as these now noticed will be of any use commercially. Jno. Machar has already been seen at the exhibitions, and is a good large Japanese incurved of bright but rich yellow; and Globe d'Or is even a greater acquisition, being a large and regular incurved bloom of a rich golden-yellow, suitable for exhibition, and apparently more easily grown than some of this section. Both of the last-named varieties have been certificated by the National Society. A sport from Cullingfordii, having larger blooms and broader florets, slightly hirsute, is suitably known as Cullingfordii Improved, the well known colour of the type being preserved in this variety. There are several hairy varieties, the result of seedlings (continental) from Mrs. Alpheus Hardy, among which Belle Arlesienne appears likely to be very good. It is a Japanese incurved, of rosy-lilac, apparently larger and more pleasing than Louis Bœhmer. Mr. Cannell says the large Primrose League has given a yellow sport, but this was not in bloom at our visit.

Queen Elizabeth is an extra large Anemone bloom of blush-white, cushion suffused with sulpher. The collection has a large number of the season's novelties in flower, and we can only briefly mention some that are remarkably good, descriptions of which, in most cases, have been written in previous notes. Commandent Blussett, Leviathan, Pearl, Beauty, M. Panckoucke, Mrs. E. G. Hill (very excellent), Good Gracious, Alice Seward (capital), M. Chas. Molin, represented by a first-class bloom; Madame Octave Mirabeau, Robt. Owen, just bursting very large buds; Madame Ad. Chatin, John Bunyan, an excellent Anemone-flowered yellow sent out by Mr. Owen, of Maidenhead; Ernest Cannell, a Japanese incurved; and Amy Chantler. Madame Vessière, a variety from the Continent (1894), is a dark-coloured Colonel W. B. Smith, but not superior to that excellent variety. Gabriel Viaud (1894), may be liked as a Japanese reflexed, with colour similar to Edward Audiguier. Other attractions at Swanley at present consist in the unique display of zonal Pelargoniums, collections of Cannas, Salvias, and many other plants in bloom.

Dover House, Roehampton, S.W.

In these admirably-kept gardens, belonging to J. P. Morgan, Esq, the Chrysanthemums this season are even better than previously. As many as 1500 plants have been grown, and almost all the best of the novelties may be remarked; indeed, the collection is thoroughly up to date. Before noticing a few of the flowers, remark may be made upon the excellent habit induced in the plants, which are dwarf and strong, and in most cases carry more first-class blooms on each than is usual.

The best of those in flower when we saw them a week ago were in the fruit-houses, and the display suffered in some degree from the character of the structures lending itself only in a limited sense to such a purpose. The first to attract attention is a plant of that fine acquisition, Louise. The plant, like many others of this variety, was not distributed until late; but it carries four blooms, and of quality equal to any we have noticed outside an exhibition. Chas. Blick also is capital, and quite equal to exhibition form, but most growers have failed to get much size into it, and we do not remember seeing it in any first-prize stand this season; it is a magnificent golden-yellow, and when grown well is a gem. W. G. Drover, Sunflower, Boule d'Or, and G. C. Schwabe deserve special remark, all of them being good, but especially a bloom of G. C. Schwabe—large, full, of good colour, and excellent form. Some good blooms of Niveum further demonstrate the acquisition we have in this superb white Japanese, and Richard Dean is giving a better account of itself than usual.

Colonel Chase is a lovely Japanese variety, its pale rose centre and graceful florets make it very distinct and desirable. Violetta, a violet-rose flower, and Waban, may be mentioned, the latter very good, and by no means ragged as sometimes. When one sees that very distinct, but not entirely satisfactory variety, Good Gracious, it almost forces one to exclain its singular name. Here it is as good as we have seen it, and its delicate colour, and extraordinary distinctness of florets, lead one to hope that it will be more tractable than it has proved this season.

No mention has yet been made of the incurved varieties, but it is by no means that they do not suggest remark, for there are blooms here much better than many that were shown at the Aquarium, and a representative collection withal. Did our pages combine the quality of extensibility with their other elements, it might be interesting to use notes we made concerning these, but we must refrain, and merely give the following names as representing those that provoked the use of the pencil: Jeanne de Arc, Princess of Wales, Queen of England, Empress of India, Lord Alcester, Emily Dale Improved, Lord Wolseley, Nil Desperandum, Mr. Bunn, Jardin des Plantes, and Alfred Lyne.

Solna, Roehampton.

The collection of Chrysanthemums under the care of Mr. Knowles, gardener to the Hon. Mrs. Egerton, is worthy of remark, presenting, as it does, one of those curious, perplexing phenomena in a gardener's very varied experience. The plants are left almost alone during the summer, for beyond watering, they receive little attention and, as a consequence, the stems are weak, the foliage is small and poor, and judged from the ordinary standpoint, promise but poor flowers when taken into the houses. Here, however, is the surprise, for Mr. Knowles has now a very creditable lot of incurved blooms, and Japanese, Anemone, and other flowers of considerable merit.

Pointing to some of the large, well-developed incurved blooms (judged by the standard of those seen this season), a third observer remarked that the wood showed no signs of a ripened maturity, but was quite green—and such was the case yet in many instances these shoots were perfecting incurved blooms rather above than under the quality of the best of those shown at the Aquarium. How is this finishing process achieved without the usual preparation, viz., well-ripened, thoroughly matured plants? Mr. Knowles says it lies entirely in the bud. "Select the proper bud, and it matters not if the shoot is green as grass." Though it would be unsafe to follow such a practice as is hinted here, it may be interesting to record the circumstance.

(To be continued.)

A TRAVELLERS' NOTES.

(Continued from p. 533.)

Napier, New Zealand, *June* 16, 1893.—The excellent, almost circular, harbour of Wellington is surrounded by low hills, forming a basin within which high winds circulate in a most unpleasantly continuous fashion. Sweeping in through the narrow strait connecting it with the open ocean, the strong breezes from the Pacific revolve and revolve apparently in endless gusts. Up the sides of the hills and gullies spreads the town, most of the houses of wood, from Government House and the public offices downwards. English Gorse is now flowering freely, and evidently escaped from cultivation, judging from the large patches beyond the confines of the settlement. The most commonly planted tree is Cupressus macrocarpa, plants of which are offered, I noticed, in a grocer's window at 5*s.* per 100.

On leaving Wellington for the North I directed my course for Napier, a small town on Hawke's Bay, connected by rail, and distant some 200 miles. Hearing, however, that by taking another route, and traversing the bush for 26 miles by coach, some good scenery would be met with, I determined on this course. As far as Eketahuna the train, at the rate of from 15 to 20 miles per hour, traverses hilly country, and some fine forests of Fagus. According to Mr. Kirk, those species commonly represented are F. Solanderi, fusca, and Menziesii. *Apropos* of the genus, the same gentleman writes in the *Forest Flora*:—"The Beech forests of New Zealand may be renewed at a minimum cost whenever it is desirable. Whenever trees are felled, or a track is cut through the forest, myriads of seedlings spring up, the majority of which are gradually killed off in the struggle for existence, leaving the strongest to form trees. No other forests in the colony could be made to afford a regular crop of timber at fixed periods at so small a cost." That the preservation of timber may be found necessary at no very distant date seems probable, and is the opinion of many. The number of fine trees cut, left to rot, and subsequently burnt, is indeed startling to a stranger.

The scenery is very fine, though the rainy mist obscured much of it, and snow lay about, the result of a 4-inch fall some hours previously. Beyond one long narrow gorge, following the turns of the line is a long break-wind, to prevent the hurricane blasts sweeping a train off the rails, an incident said once to have occurred—quite possible with the small narrow-gauge cars in use.

Arundo conspicua and Cordyline australis were common. In its young state the latter is bold and handsome, but when it attains the proportions of a tree, the size of the leaf crown diminishes, and so much cannot be said for it. From Eketahuna to Woodville, viâ Pahiatua, the mail-coach is the best means of transit. In summer it must be most enjoyable, in winter the traveller becomes doubtful as to the possession of his extremities.

Some of the bush, what little is left, is certainly fine, consisting of tall, white Pine (Podocarpus dacrydioides), graceful Rimu (Dacrydium cupressinum), hundreds of Cyatheas, the most common being C. dealbata; Lomaria procera, with fronds 4 to 5 feet long, trailing over banks yards high. The White Pine (Podocarpus dacrydioides) is a striking tree, attaining a height in this district of 130 feet, with a straight often unbranched trunk for 70 to 80 feet. Its timber, though valuable, is not considered so durable, and for that reason is not so highly appreciated as that of some others.

Rimu (Dacrydium cupressinum), "occupies a larger area of the New Zealand forests than any other timber-tree. . . . . it is the chief timber employed for building purposes over fully two-thirds of the colony."* Its pale green foliage and weeping habit render it very handsome, though in size it by no means approaches the White Pine, with which it so freely grows. Various species of the parasitic genus Astelia are common in the branches of both, many bearing thick clumps may be easily discerned.

Clearings are common along the road, the following method being practised. The trees are felled, allowed to rot, then collected together and burnt. In the meantime, grass (English Rye and Cocksfoot, to a large extent), has been sown, sheep and cattle being turned in amongst the decaying logs. The waste of timber is startling; suggest this, and the inevitable reply is, "What are we to do with it?" Thousands of magnificent logs, rotting, lay along the sides of the road we traversed; the why and wherefore naturally being—sheep pay, and timber of the two trees named does not—at least, in such overwhelming quantities. The soil is good, and a plot thus cleared, after the logs have rotted and been burnt, yields a pasture as fine as can be met with. Ring-barking, universal in Australia, is unknown in this district, and, I am given to understand, throughout the colony.

From Woodville by train to Napier; open country, fine pasture and sheep—endless sheep—meet the eye everywhere. Clumps of seeding Phormium tenax, acres of impenetrable sword-like foliage, and many fine clumps of Arundo conspicua, inhabit the swampy ground along the line. Tall bush forest is almost entirely absent. Broad shallow streams—so indicative of low hilly countries—are occasionally traversed, the stream occupying but a small portion of the whole bed.

Napier is a small town on a high peninsula, a square mile in extent. The town lies on a series of rounded slopes in the intervening plain. Though a commercial centre, it has few factories of any consequence within its immediate limits. The weather during the whole season, as in New South Wales, has been, and is now, abnormally wet. It rains daily, and frosts, hitherto almost unknown, have several times occurred. Added to this, a biting wind, the charms of coach-travelling in winter in New Zealand need no advertising. *James H. Veitch.*

(To be continued.)

* J. Kirk, in *Forest Flora of New Zealand.*

BERLIN.

BERLIN LETTER.

At the beginning of September I wrote to you that we had even then Hyacinths in blue and red varieties. Shortly afterwards they disappeared, but the Lilies of the Valley have been continuously in bloom since that time. The flowers are still good, but the leaves become more and more yellowish. Now, in the first days of November, we have also the White Roman Hyacinth. I have seldom seen the flower-stalks of this sort as strong and healthy, so full flowered, and the flowers so well-formed and robust as they are this year. If I did not know the sort well, I should think it was quite another sort. Lilac is now to be had in white forced sorts. The kind which is sold here during the greater part of the year, is the violet-coloured variety. The quantities sold of this daily in the streets are enormous, it is a matter of surprise where they all come from. Beside these Roses are most appreciated. We have them still in good home-grown specimens, but the first frost will certainly bring us the Riviera flowers. Tuberoses are also much liked, and are used in various ways. White, rose-coloured, and scarlet Pinks, especially the latter, are highly esteemed. Camellias in different sorts are in good flower. Orchids, some years ago seldom seen, are now sold in each of the better class flower-shops; Lycaste and Cypripedium are now the most common, besides them I have seen also good specimens of Vanda. That Chrysanthemums are not wanting at this time is not to be wondered at; rose and yellowish-brown coloured sorts of about 3 to 4 inches in diameter are preferred.

It is very interesting to note that plants are now appearing again in greater quantities and variety, not all common species. A few years ago plants were so seldom bought, that you would find in the flower-shops only the most common ones. Some time ago I wrote you that we had had a Cactus show. But other plants are also much liked, so are filmy Ferns. It is not rare to see now good collections of these fine plants. Also there are to be had good collections of Palms. Amongst flowering plants, various Ericas are fashionable plants. Perhaps we shall again have, in a few years, good collections of plants of the Cape and of Australia, once so much cultivated here. This growing interest for plants is to be seen also in another way. Next spring we shall have a local plant show; but whilst for a long time only nurserymen were exhibitors, next spring there will be also some classes for amateurs. The cause of this change in the public taste is to be attributed to the fact that the dark curtains which formerly darkened our rooms, are disappearing. Besides this, almost all the newer houses are built with balconies, which are decorated with plants. At first only the common plants for decorative purposes were bought, but now other species are asked for. It will be interesting to see how gardeners will take this change. The hard competition has made our nurserymen specialists, so that often in a nursery, no more than two or three or even only one species is grown. What will they do if there are asked for more species? Shall we have again the old-fashioned nurseries in which the most varied collections were found? Or shall we have also in future times only specialists? But, be it as may, at all events we have progress in gardening, and this is the best of all. *Our Berlin Correspondent.*

Gardeners' Education in Berlin.

For a long time we have had in Berlin, during the winter months, courses of lectures for young gardeners. At first there were only a few subjects, viz., gardening, botany, culture of plants, drawing, and the art of surveying. The pupils had to pay, as far as I remember, two shillings, and could select which course they liked best. Drawing only was taught in the forenoon hours of Sunday. The other subjects were taught in the evening hours from seven to nine, once or twice a week. The course began in October, and finished at the end of February or beginning of March. The costs were defrayed by the entrance-money of the pupils, and by the then two Berlin horticultural societies. Afterwards there was formed a school with a more comprehensive plan. The town of Berlin has a great many schools of two kinds, viz., those in which everyone may learn whatever he will, the so-called "Fortbildungsschulen;" and others in which only, or especially, such subjects are taught as concern a distinct branch. These are the so-called "Fachschulen" (professional schools). So we have a Fachschule of the shoemakers, of the chimney-sweepers, of the tailors, of the locksmiths, &c. Such a "Fachschule" (technical school) for the gardeners has also been formed. The town finds the rooms, light, &c., and gives a salary to the teachers, to which the Horticultural Society adds. The pupils have to pay three shillings for the winter. Twice in the week, in the evening, from six to nine, and on Sundays during the forenoon hours lectures are given (on Sundays only drawing lessons are given). During the summer months land surveying is taught practically on Sunday. The lectures begin early in October, and end at the end of February. Up till this year there have been two courses.

At the beginning of the course, each pupil had to write a *curriculum vitæ;* from an examination of which it was determined whether the pupil was to enter on the first or second course. Now, each scholar may hear and learn what he prefers, or thinks to be the best for himself. There is no restriction in any way. Every gardener, be he young or old, can learn what he will. The subjects which are taught are—German grammar and orthography, accounts, trade information, and book-keeping with regard to gardening, plant-culture, fruit and vegetable culture, botany, a knowledge of the different kinds of soil and manures and drawing. The number of pupils is increasing from year to year. Whilst we had the last year some sixty scholars, this year we have already over eighty. Of course, all the subjects are taught in a rudimentary manner that every one may understand them. This is necessary, because the scholars have had the most different degrees of education. Besides apprentices, we have older gardeners, over thirty years of age, as well as those who have only had an education in a village school. The results are generally good. At the end of the course each scholar is examined, and gets a certificate. This professional school is not to be confounded with the horticultural schools which we have at Potsdam, Proskau, Geisenheim, &c. The latter are schools in which gardeners remain for two years, and are instructed daily. The plan of instruction, of course, here, is a much wider one. Besides theory, also a good deal of time is given to practical information. *U. D.*

CAMPANULA SIBIRICA VAR. DIVERGENS.*

The drawing of this plant (fig. 77) was taken in the Royal Gardens, Kew, in the past summer by Mr. John Allen. It represents a form of a biennial species distributed through Siberia, the Levant, the Caucasus, the Danube Provinces, Silesia, Northern Italy, &c. The stems are assurgent, slender, terete, hirtulous; the leaves sessile, lanceolate, serrate; flowers aggregated towards the ends of the branches, spreading or drooping; the calyx is provided with reflexed appendages between the sepals, as shown in the enlarged figure; the corolla is campanulate, of a purplish-blue colour, and about double the length of the calyx. The variety differs from the species in the broader leaves and larger flowers.

* C. sibirica, Linn., sp., 236; var. divergens, *Willd. Enum.*, t. 212; = var. major Boissier, *Flora Orient.*, vol. iii. (1875), p. 901.

TRENTHAM.

A visit made at this season to this magnificent place will satisfy anyone that the gardens are in excellent keeping under the present management. The entrance-lodge which stood at the front of the half has been removed, and a stretch of turf has taken its place, the overgrown shrubs pruned back into moderate size, and the drive made level. The large beds in the front panels of the lower terrace are being replaced by large fountains; the lake is being cleared out, and the sheds, stables, &c., for garden purposes have been pulled down, and substantial new ones built. Mr. Blair is continuing the improvements in the pleasure-grounds, which he began several years ago, by forming grassy glades in place of unsightly shrubs and bare earth, bringing out objects as single specimens on the lawns that were previously half-hidden by other things, and generally affording the idea of breadth that was much needed.

Chrysanthemums have been the conspicuous feature of the garden for some half-a-dozen years past, and this year they number about 3000. These plants are up to the average in quality sure to take a place in the back row on exhibition-stands. The flower is of a delicate pink colour, with broad petals, large and massive, and apparently without any eccentricities as regards cultivation. I: horn (splendid), Mrs. Robinson King, John Lambert, M. Darrier, Robert Petfield, Baron Hirsch, Jeanne d'Arc, M. Bahuant, and Hero of Stoke Newington.

There are several span-roofed houses devoted to the



CALYX.
(Enlarged 3 times.)

Fig. 77.—CAMPANULA SIBIRICA DIVERGENS: FLOWERS BLUE. (SEE P. 596.)

or the present season, and should Mr. Blair be able to spare flowers for competition (which is doubtful, on account of the heavy demand at present for cut blooms), he should be able to give a good account of himself. A new seedling incurved variety has been raised at Trentham, which will be should form a worthy companion to M. Bahuant. Some of the more striking varieties in flower were Madame E. Rey, W. Tricker, Rose Wynne, Harman Payne, Madame Mezard, Richard Dean, Colonel Chase, Primrose League, Thomas Wilkins, Boule d'Or, Avalanche, G. C. Schwabe (very good), Anna Hartscultivation of about 4000 Carnations in pots, which consist of Souvenir de la Malmaison and some of the Marguerite varieties. The latter has the merit of being a continuous bloomer. The whole stock of these Carnations is particularly healthy. Cattleyas are excellently grown, and in large numbers. In the Cattleya-

house standing near the ridge is a row of twelve plants of Cymbidium Lowianum, which are magnificent specimens. They are growing in pots of 15 inches in diameter. The spikes at present showing are 3 to 4 feet in length, and have twenty-four to thirty flower-buds. In one of the pits is a fine batch in full flower of Cypripedium insigne and C. i. var. Maulei. The plants covered a space of only about 18 feet by 4 feet, and in this space there were counted nearly 200 flowers. Large numbers of the beautiful Dendrobium Phalænopsis Schrœderianum were remarked, and the lovely Indian Crocuses—Pleione lagenaria, P. Wallichii, and P. maculata. In the Odontoglossum flower-house is a fine display of Odontoglossum crispum, and the various species of Masdevallia are grown with astonishing vigour in the house devoted to them. In a lean-to house was a number of Primula sinensis coming into flower, a charming effect being produced by forming a ground-work about them with potfuls of Selaginella denticulata. The house in which formerly Bananas grew is now a Fig-house, and a glass-case formerly containing Vines is now planted with Pears and Apples as cordons. *J. Udale.*

Florists' Flowers.

AURICULAS.

These plants, as regards show varieties, are at a rather critical time of the year, the outer leaves continuing to decay, and unless these are promptly removed, the seeds of decay may affect the entire plant, which may die. It is the best practice to examine the plants once a week, to have a certain day on which so to do, and to allow nothing to interfere with this arrangement. Ten minutes may be found sufficient time. The pips of the autumn trusses should be cut off, leaving the stem, which will gradually die down, and may then be pinched off; but if the truss be bodily broken off whilst the stem is in a sappy green state, the remains of the stem become rotten, and carry decay to the centre of the plant. Water should be very sparingly applied after this date, the plants being allowed to become moderately dry at the roots, but not dust-dry, which is very injurious to them. Last year's seedlings are now in various stages of development, many of them being full-sized plants that will flower strongly next year. The plants raised from spring sowings are still small, but the seed vegetated freely, and the seedlings have been pricked out to the number of twelve in 3-inch pots. The pans out of which the seedlings were drawn, will be still kept in cold frames or in the greenhouse, the soil being always maintained in a merely moist state. The seedlings will continue to appear during winter.

The alpine Auriculas do not require so much care, and are well adapted for planting in the borders. I have taken the offsets of these, planting them in a border of fine soil, having a low wall on the south side. Those which I planted in the early days of September, are established. It is rather late now for this kind of work, but they may still be put into boxes that will be kept in frames during the winter, planting them out in the spring. These late offsets, if strong, give small trusses of bloom the first year, and form large plants the second year. Alpine Auriculas may remain on the same spot for twenty years, being allowed to spread on all sides, and by so treating them and affording a slight moulding up with sandy loam and dry cow-manure, they make fine blooming tufts.

Show Tulips

may still be planted on beds of rich soil, in a friable condition; but the planting as a rule is best when begun and finished in October. Success or failure in the cultivation of all these garden flowers, depend in a great measure upon the state of the ground at the time of planting, and in the case of the Tulip it is always advisable to plant in the last week of that month, rather than wait till November—a proverbially wet month. Now that the Tulip is likely to be greatly taken up by amateurs, it is necessary to give the reason for every cultural direction. The idea of fixing a certain date, such as November 9, is absurd, as there is so much difference in the seasons; and there may also be a difference of two weeks one way or the other in the condition of growth in the bulbs themselves, which would also have to be considered. In some years they may not be ready to plant out before the second week of November, whereas in another season planting late in October might be desirable. The right time to plant Tulips is when the base of the bulbs swell a little, a condition that is caused by the growing roots raising the coating of the bulbs, and the latter ought to be in the ground before the roots become visible. The top of the bulb should be at the least 3 inches below the surface, the bottom of the bulb resting on white sand. Tulips should not be planted when the soil is very wet; and if there is no prospect of dry weather, get some fine dry soil to place around the bulbs, always placing sharp sand under them, to prevent the rich soil coming into immediate contact with the bulbs, and perhaps causing decay.

The arrangement of the colours should be attended to; the old system of planting one of each class alternately is the one amateurs should adopt. But for a large trade collection, it is better to begin with the bizarres, and plant the entire collection of these first, following these with the byblœmens, then the roses, and the breeders last. The old florists used no labels, merely beginning at one end of the bed, and planting in rows across it, seven bulbs in a row, the order of planting being written in the Tulip-book, every bulb being named in proper order. *J. Douglas, Great Gearies, Ilford.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

Cœlogyne cristata.—This species and its varieties now fast finishing up their growth, are beginning to push up their flower spikes. When in growth, Cœlogynes need considerable quantities of water at the root, but at the present season the plants should be kept rather drier, the young spikes being very liable to turn black and rot away if the potting materials are kept in a constantly wet state.

Maturing the growth of Orchids.—Through insufficient sun-heat, some Orchids will be found in most collections with pseudobulbs which are only partly developed, and these plants should receive a more generous treatment, or their flowering will be either unsatisfactory or they will not flower. This applies in particular to Schomburgkia tibicinis, S. undulata, S. Lyonsii, and S. Sanderiana. It is generally admitted that these plants are very difficult to flower in a regular manner; and to ensure success, everything that will assist growth should be done by the cultivator, this being of more account than any amount of drying off afterwards. Speaking generally, these plants succeed under the same kind of treatment as is found to suit the Mexican Lælias. At Burford, owing to certain circumstances, the plants have been put into one of the hottest houses, well raised up to the roof, where they can obtain every ray of light possible. This greater degree of heat will have the effect of assisting the early formation of growth, and be favourable, perhaps, to the production of flower-spikes, but it cannot fully compensate for the deficiency of sunheat. Schomburgkia crispa is not nearly so refractory a plant in getting to flower as those last-named. A strong plant is standing in the Cattleya-house, has flower-spikes already 2 feet in length, and it has received the same treatment as the Cattleyas. Lycaste Skinneri and varieties are late in finishing their growth, and the plants have been taken from the Odontoglossum-house and placed in a light position at the coolest part of the Cattleya-house. They still require plenty of water at the root, but when the flowers commence to push up from the base of the new bulbs, the plants will be kept on the dry side for a few days, which will enable the flowers to come up altogether, instead of by ones and twos at a time. In high temperatures Lycaste foliage is liable to become infested with a very minute acarus or red-spider, which feeds on the lower side of the leaves. These insects should be destroyed as soon as observed, by sponging them with the usual insecticides. The increase of artificial heat at this season favours the propagation of the ordinary species of red-spider on the leaves of other Orchids, especially those which are thin and grass-like, as Cymbidium, Maxillaria tenuifolia, M. angustissima, Platyclinis filiformis, also Cœlogynes, Sobralias, &c. Whether red-spider be present or not, it is good practice to wash the leaves rather than run a risk of these enemies multiplying unmolested. Such Oncidiums as O. crispum, O. Forbesii, and O. varicosum grow fairly well during the summer and early autumn months in the cool house, but now that their flower-spikes are visible, the temperature of the intermediate-house will be more suited to their needs. These last-named species are sometimes seen to be slowly deteriorating, and one of the chief causes of this is giving them too much heat, weakening them by permitting the flowers to remain on the plants for a long time, or by their being more numerous than the plant can bear. As a rule for general observation, strong flower-spikes should not remain on the plants for any great length of time after all the blooms are fully open; and small weak plants should have their flower-spikes removed so soon as they show. After flowering, return these plants to their former quarters; but do not keep them long without water, drought being injurious to them at any season.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

Gooseberry sawfly caterpillar.—When the pruning of the Gooseberry bushes is finished, means should be taken to destroy the chrysalids of the sawfly, which, if the bushes were infested last spring, are lying just beneath the surface of the soil under the bushes. It is good practice to loosen the earth with a digging-fork round about the stems, shovelling it away and forming it into a ridge midway between the rows, to be deeply dug-in at a later date. The earth being removed, it may be replaced with some from the alleys, previous to which, by way of further precaution, a good handful of air-slaked lime and fresh soot should be thrown on the soil under the bushes. Gooseberry bushes planted in rows at a distance 6 feet apart admits of this mode of removing and replacing the soil being carried out, but where the bushes are more thickly planted together, it is absolutely necessary to bring clean soil from a distant part of the kitchen-garden, removing that taken from beneath the bushes to some quarter where it can be trenched in. Hellebore powder applied over the bushes, either dry or in water, as soon as the first brood is hatched, will clear the bushes, and the fruit being very small then, there is no danger of poisoning by it.

American blight.—All the Apple-trees being now cleared of their leaves, the gardener should go over the trees infested with American blight, dressing them with petroleum emulsion. This may be made with any kind of oil, as sperm, neats-foot, olive, linseed, &c., and is a very efficient dressing. It is made by mixing equal parts of petroleum and oil, and with a painter's brush dressing all the infested parts of the branches and stem, first removing the rougher parts of the bark. Petroleum by itself so surely penetrates the bark, that even when trees are dormant it is a very unsafe substance to use alone, but when mixed with oil it is quite safe to use. Whilst the dressing of young trees is a simple matter, with larger old trees it is a big job, and except in cases where the trees cannot well be spared, I would advise that all large, or virtually worn-out trees which may be badly infested, be grubbed up and burned forthwith.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

Sowing Peas.—In southern counties and warm districts generally, the old fashion of sowing a few rows of early podding Peas may now be followed. Where these conditions of climate do not exist it is better to sow in pots or troughs in the spring, and grow on under glass, ready for planting out when the weather has become suitable. If sown at this season the soil should have been well manured, and carefully dug, and when the drills are drawn, dry soil such as potting-bench refuse should be placed under and over the seeds, a dusting of soot following when the drill is half filled in, the soot tending to avert the attentions of the mice. Much watchfulness is needed to protect them when above ground from their various enemies, the chief of which is the sparrow.

Horn Carrots in frames.—A mild hot bed consisting of three-fourths tree leaves and one-fourth

stable-dung or half-spent hotbed manure, may now be made, a frame placed thereon filled with light soil to within 6 or 8 inches of the glass. When the soil is sufficiently warm, seed of Horn Carrots should be sown in lines; like hotbeds generally, if not made in a pit dug in the ground, it will require a lining round the box, and in hard weather another all round it may become necessary to keep up the right degree of heat, say from 65° to 70° with about 75° to 80° bottom-heat. Before the soil is put into the box, some short manure should first be put in to a depth depending on that of the box, and the soil should not be less than 7 in. thick. If the plants come up very thickly, thin them without delay, as they soon spoil if crowded together. The last-sown Carrots out-of-doors, upon the approach of frost, must be protected by scattering tree leaves amongst them, and they will then continue to grow, except in very inclement weather.

THE ICE HOUSE.—Whilst there is time for such work it is a matter of prudence to put the ice house in readiness for being filled; and to repair all the tools used in dragging the ice ashore and smashing it up in the house.

BROAD BEANS.—These plants, although much hardier than Peas, and more generally sown in the late autumn than those, should have a sheltered position chosen for them. The Early Mazagan is a trusty variety for autumn sowing, or rather dibbling. If some of this variety be sown at the foot of a south wall, clear of the drip from the coping, the produce will come into use sooner than that of plants growing in the border.

CELERY.—As growth will not continue much longer, it will be advisable on the first dry day to finish the earthing-up of late Celery, severe frosts soon crippling the tender heart-leaves, and thus setting up decay. In some cases the main crop will now have grown above the banking-up so much, that it will be necessary to add more soil from the trenches, one man holding the tops together, whilst the other puts the mould round the stalks. In the event of frost, protect with dry litter, bracken, &c.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

ROSE CUTTINGS.—Where Roses are raised from cuttings, the latter should be made and inserted in a bed suitably prepared for them. A border on the east or west sides of the kitchen garden, sheltered by the walls, should be chosen as the site of the cutting-bed. If stiff, some sand and leaf-mould may be dug into it, and if naturally light and porous, it will suffice to dig it deeply, make it level, tread it evenly all over, and chop out furrows with an almost perpendicular side 1 foot apart, and set the cuttings against that side at about 6 inches apart. If possible, the cuttings should be all strong, straight, of one length, and made of well-matured shoots, with a heel of ¼ inch in length of the previous year's growth attached. The cuttings may be 9 to 10 inches in length, and they should be prepared like those of the Gooseberry, leaving from three to four buds on that part that is above the soil, the rest being rubbed off. Whether planted in furrows or dibbled in, the base of each cutting should be made firm in the soil. In severe winters protection in the way of bracken, branches of evergreen, or any other light material may be placed over them.

BEDS AND BORDERS OF ROSES.—These should be inspected, and all the dead and unhealthy plants removed, and a list of varieties made for filling up gaps thus made. If alterations are contemplated, the ground should be prepared so that on the arrival of the plants from the nursery they may at once be planted. It is good practice to remove a good deal of the exhausted soil, exchanging it for new pasture loam; and to this crushed bones and rotten manure may be added, incorporating them well together. Where Roses are raised at home, planting may be done at any time between the beginning of October and the middle of the present month. In planting the Rose, trim the roots a little, spread them out on a conical mound firmly made at the bottom of the hole, placing them but a little deeper than they were before, filling-in the hole by degrees, and treading all firmly as the soil is thrown in.

HERBACEOUS BORDER.—Now that the flowering of most of the occupants of this border is over, the stems of tall or straggling growers, such as Pyrethrum serotinum and other species, Helianthus, Heleniums, Phlox, Lupins, &c., should be cut down. Where it is not an eyesore, the plants are greatly benefited by being top-dressed with rotten manure at this season, having first carefully cleared off all weeds and rubbish. Note should be made of any species or varieties in flower at this season, so that, if necessary, they may be increased. Some of the Lupines, as well as Delphiniums and Aconites, may be divided at the present time, and almost any small portion of the above, if removed with a root or two attached, will, with fair treatment, form good plants next season.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

FIGS IN POTS.—As soon as the leaves have fallen, the repotting of those which require it should be taken in hand; and before potting the plants, those which may be infested with white or brown scale or mealy-bug, should be cleaned. White scale, the worst Fig pest, is difficult to get rid of in one season, as the insecticides can only be applied during the season of rest. The old wood should be well brushed with some soap-suds in which a small portion of petroleum and carbolic soap are mixed, and several times painted with Lemon-oil emulsion, applying it with a painter's brush. If the plants are infested with mealy-bug, the house walls, floors, and pots must be thoroughly cleaned in the same manner as that advised for a Vinery, and the same kind of insecticide used as for the other pest. There is nothing gained by growing Figs in over-large pots, as good-sized plants will fruit satisfactorily for many years in sizes say 12 to 18 inches in diameter. Plants which are to be repotted should be soaked in a tub of water, having first turned them out of the pots and removed all crocks. When saturated, let the water drain away, and when dry enough to be handled conveniently, loosen the matted roots with a pointed stick, but do not shake them out. Use pots that are either new, or quite clean old ones, that are large enough to give the roots 2 inches of fresh soil all round, and afford ample drainage materials. The potting-soil may consist of strong, turfy loam, and a small quantity of ½-inch bones, no other kind of manure being employed. The soil should be in a friable condition, neither very wet nor dry, as they require to be potted very firmly, and the rammer used. Young layers or rooted cuttings which may have filled with roots the 8-inch pots in which they have grown, should be shifted into 12-inch pots, it not being a desirable practice to keep them for any length of time cramped in small pots, plants better furnished with branches being produced if they are moved on quickly when young. After cleaning and re-potting the plants, any required pruning should be attended to; but if previous directions in regard to summer pinching and the regulating of the future bearing-shoots have been attended to, very little will now require to be done. Much training is also not needed, a pyramid or bush requiring merely a strong stake placed in the middle of the ball, and the side-shoots regulated by fastening them to shorter stakes or pegs put in near the rim of the pot; and this is only necessary whilst the trees are young. One point in Fig culture which is sometimes lost sight of in pot plants, and planted-out Figs, is the amount of space which should be afforded each shoot, so that it may obtain the necessary light and air to perfect the development of the fruits. A Fig tree in a good state of health will continue to bear fruit in one stage or another for a long period of time, and it is ruinous to allow useless wood to crowd the head. Plants not requiring repotting should be lifted out of the plunging material, the drainage put in good order, and be top-dressed with loam after removing the exhausted upper crust, ample space being left for affording water. In replunging the plants, allow as much space as possible for each tree, and it is better to keep the plants of one size together, the small ones being placed at the front, near the glass, and the larger ones in the centre of the house. Excellent varieties of Figs are Violette Sepor, Grosse Verte, St. John's, Negro Largo, Early Prolific, Pingo de Mel, and Black Bourjassotte, although the good old varieties should not be lost sight of. Cuttings, for striking in heat next spring, may now be taken—short pieces with a heel, laying them in damp soil in a sheltered place till required. They strike very freely. Good plants are easily obtained by layering shoots in 6-inch pots during the summer.

TREES PLANTED OUT IN BORDERS, if growing too gross, should be carefully lifted, the roots pruned, and replanted, planting them very firmly, and not allowing more space for the roots of each than about 8 feet square, brick divisions being built between them, so that separate treatment may be afforded, if needed. If the soil be wet or clayey, an impervious bottom should be used in the border, and thorough drainage. The border may consist of good loam 2 feet thick, with plenty of lime and brick-rubbish mixed with it. The training and top-dressing should be proceeded with as for pot-trees, and but little water afforded at the root during the winter, although dryness should be avoided, or the first crop may drop; abundance of air should be given during mild weather, but frosts should be excluded from the house.

VINES FOR EARLY FRUITING IN POTS.—These may now be started, following generally the directions given for Vines in borders, and giving a thorough root-watering at the commencement, but employing but little fire-heat for a few weeks.

STRAWBERRIES IN POTS should now be plunged in frames or in coal-ashes in the frame-yard, covering them with litter in the event of hard frost. The first batch may be placed in a cool house ready for starting.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

TUBEROUS-ROOTED BEGONIAS.—When it is seen that the tubers are ripe, they may, if space be of consequence, be turned out of their pots, and laid down thinly on a bench or shelf, in a dry house that is well ventilated, but which can be heated if wet or frosty weather should occur, frequently turning them over till most of the soil has fallen from off the tuber. When this occurs, lay them in shallow boxes in a mixture of Cocoa-nut fibre refuse and sand, and store away in a place to which frost has no access.

GLOXINIAS.—Those which are out of bloom should be treated similarly to the foregoing, except that they should be kept in a place having a temperature during the winter of 40° to 45°.

THE FERN HOUSE.—Most species of Adiantum should be frequently examined for decayed fronds, removing these by cutting them off at the surface of the soil. Liquid manure should now be withheld from nearly all Ferns; those of the arboreal section may still be afforded weak doses at longish intervals of time.

SEASONABLE OPERATIONS.—Where it is intended to plant out at a later stage, any of the various plants which are adapted to this mode of culture, the present time, whilst the contents of the various houses are being overhauled, is a good one for preparing the borders and beds. The drainage of the same should be of a thorough kind, or the growth of the plants will be unsatisfactory. The drains may consist of field drain-pipes, laid with a sharp fall to the out-fall drain, and brick-bats may be laid over these to the depth of 1 foot, and over this some rough peat-sods, packed closely together to prevent the soil from filtering into the drainage. Warmhouse plants, such as Stephanotis floribunda, Allamanda, Bougainvillea glabra, Dipladenia, Clerodendron, and many others, will require a free-rooting compost of two parts fibrous peat, one part of fibrous loam, while the remaining part may consist of one-fourth part of old mortar, charcoal, sand, and half-inch bones; this mixture should be thrown into the beds and borders prepared for the plants, and be moderately pressed together. A similar preparation, save that loam and peat should be added in equal parts, will be found suitable for such greenhouse-climbers as Clematis indivisa, Lapageria, Plumbago, Jasminum, &c. If the compost be dry, water should be afforded on one or more occasions, to moisten it throughout.

ANTHURIUMS OF THE SCHERZERIANUM SECTION, now growing in quarters where the necessary amount of artificial heat cannot be obtained, when frosty weather ensues, should be removed to warmer pits or houses, where they will be suitably placed at the cooler end. The leaves will require to be sponged over with soft-soap and warm-water, handling the leaves very tenderly, to avoid splitting them. Water in more moderate quantity may now be applied at the roots, but the syringing of the leaves must still be persisted in, using soft-water by preference.

FORCING HOUSE.—Roman Hyacinths will now be showing their flower-spikes, and when the first flowers expand be removed to cooler quarters. The stems will need some slight support of a sightly kind. Continue to place plants and bulbs in this house to maintain a succession of bloom.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

TUESDAY,	Nov. 20	Woking and District Horticultural and Cottage Gardeners' Association Show of Chrysanthemums (two days). Manchester Royal Botanic Society's Chrysanthemum Show (two days).
WEDNESDAY,	Nov. 21	Glasgow Chrysanthemum (three days).
THURSDAY,	Nov. 22	Rotherham and District Chrysanthemum.
FRIDAY,	Nov. 23—Dundee Chrysanthemum.	

SALES.

MONDAY,	Nov. 19	Great Sale of Nursery Stock, at Mason's Nurseries, Windlesham, Bagshot, by Protheroe & Morris (six days). Dutch Bulbs, at Protheroe & Morris' Rooms. Plants, Spiræas, and Hardy Bulbs, at Protheroe & Morris' Rooms.
TUESDAY,	Nov. 20	Sale of Orchids at Protheroe & Morris' Rooms. Dutch Bulbs at Protheroe & Morris' Rooms.
WEDNESDAY,	Nov. 21	Great Sale of Palm Seeds at Protheroe & Morris' Rooms.
THURSDAY,	Nov. 22	Dutch Bulbs at Protheroe & Morris' Rooms, also Plants and Roses.
FRIDAY,	Nov. 23	Orchids at Protheroe & Morris' Rooms. Dutch Bulbs at Protheroe & Morris' Rooms.
SATURDAY,	Nov. 24	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.5.

M. Duchartre.

WE regret to have to announce the sudden death, in his 84th year, of one of the most distinguished of French botanists, M. P. DUCHARTRE. Among horticulturists, he will be best known from his long connection with the National Horticultural Society of France, and as Editor of its Journal. Scientific men will remember the whilom President of the Institute (Académie des Sciences); botanists in particular will treasure the memory of an indefatigable worker, who maintained the best traditions of the splendid French school of morphology. There is, however, hardly a department of botany in which M. DUCHARTRE has not left his mark. In systematic botany his monographs on Aristolochiaceæ and Liliaceæ are noteworthy; in physiological botany, his work was voluminous, and characterised by ingenious experimental research and careful observation; in teratology, DUCHARTRE'S records were very numerous. As a teacher at the Faculté des Sciences, the late Professor was long and honourably distinguished, and to outsiders he is known specially by his *Éléments de Botanique*, a text-book as remarkable for its wide grasp as for the lucidity and clearness of its exposition. In the Horticultural Society of France, DUCHARTRE occupied for many years a position analogous to that held with such advantage to our own Society by Mr. BERKELEY. In this country, while there are many who will hold his memory in respect as a distinguished botanist, there are also some who will likewise entertain for the deceased master a lively feeling of gratitude.

Chrysanthemums.

THE Chrysanthemum season, with its ever-increasing list of shows, will soon be over for the present year, the majority of the southern exhibitions having been held, and those in the more northern districts and north of the Tweed follow shortly.

It is quite impossible for us to give detailed reports of all these exhibitions, and our space has therefore been given to the more important of them, including a comprehensive account of the exhibition of the National Society at Westminster.

Regarding that display, a few remarks may not be out of place. The show was another large success, clearly showing that the society still retains in a very full measure the confidence of the exhibitors and cultivators. The Japanese varieties as usual made the brighter display, and generated the greater enthusiasm and the closest competition. To say that they were shown well, would be to inadequately describe the wonderful quality of the blooms. There is little doubt that Japanese flowers have never been shown better at any exhibition than the collection which secured the 1st prize in the open competition for thirty-six distinct varieties. Many of the varieties were new, and were larger naturally than the older ones, at the same time the cultivation could hardly have been better.

Incurved blooms, on the other hand, were not equal to those that used to be familiar to us, nor have they been really good for several seasons past. If present indications go for anything, it will appear that these blooms are grown in fewer numbers than ever, due chiefly to the overwhelming attractions of the Japanese varieties, which appear to absorb in large measure the attention of the cultivator, and this becomes more easy from the fact that they are less difficult to cultivate. The incurved flowers of the Japanese section, however, are popular with raisers and growers alike, and numerous varieties of great attractiveness are brought out each year.

If closely-incurved flowers are voted too stiff and uninteresting, there can be no such objection taken to the larger and less close flowers of the Japanese incurved section, such as the excellent Louise, sent out this season; Lord Brooke, Préfet Roberts, and many others, and it would be well if the Society were to include special classes for flowers of this type in their schedule for next season. They would be certain of more popularity than the strictly incurved blooms now enjoy, and perhaps fewer or none might then be included in the stands of Japanese. As we have said, these Japanese incurved are presented for certificates in numbers; they are large, showy, and many of them easily grown, consequently they figure much too largely in the Japanese stands. In any first-class stand the proportion of pure Japanese flowers is lower than it should be, and perhaps if the incurved and the reflexed were made the subjects of separate classes, the departure would be a good one.

The Anemone-flowered and the Pompon varieties have been exhibited in average numbers. The Anemone section is augmented by several new and excellent varieties, such as John Bunyan, Queen Elizabeth, and Descartes. These two sections are not unpopular, and in many cases where they figure less prominently in collections than they ought, it is by reason of the rage that exists for display and effect, and all this is more easily attained by cultivating Japanese varieties. Single flowered varieties make but little headway, though one seldom hears it denied that they are pretty and useful.

In all the sections, but principally in that of the Japanese, new varieties continue to be sent out in large numbers, and at present the reputation that France has long enjoyed in this respect remains practically unimpaired, but many good things have come from other parts of the continent, and from America; nor must we omit to notice that more has been done in raising English seedlings than formerly. Still, much more might be done at home.

The gain that has resulted from all this cross-fertilisation is evident in the improved habit of the plants, and the size and colours of the flowers. Varieties that grow only 3 feet or 4 feet high, and produce first-class blooms, are becoming more common, and again may be instanced the above-mentioned Louise, or Avalanche, a little older variety, but representing clearly a better habit than any of the whites previously raised.

The value of the Chrysanthemum for decorative purposes was never better illustrated than at the show of the National Society, where additional classes brought exceedingly tasteful ingenious arrangements; and the exhibition was so far more attractive. Much might still be done in the same direction, and it is worth consideration whether the whole of the show blooms could not be exhibited in a more artistic manner, and yet in such an one that the qualities of the bloom could be judged as readily as at present.

Speaking of Chrysanthemums for decoration, it may be added that several additions have been made to this useful class. Conspicuous amongst such is Ryecroft Glory, raised by Mr. JONES of Lewisham, an excellent acquisition in this class; then there is Mrs. R. Filkins, the new one shown by Messrs. CANNELL & SONS, Swanley, before the Royal Horticultural Society, on Tuesday last, an exceeding pretty one for such purpose.

In regard to the best varieties in either section, it would not be difficult to make an analysis of the varieties exhibited in the best stands this season. Every grower strives to obtain the largest and best flowers, and did we forget this, it would be surprising that certain varieties should be exhibited with such frequency, and that competitors should exhibit such uniformity in those they select to stage. We cannot go into that question now, however, but in passing we might urge judges and exhibitors alike to give a little more consideration to refinement in a bloom, and rather less to mere bulk.

The present season has not been an unusually good one for growers of Chrysanthemums, neither was 1893; indeed, compared with last year, we are not disposed to speak of this season unfavourably. In 1893, the amount of dry hot weather was too great, the plants were more than ripened, they were hardened in an unsatisfactory degree, and, subsequently, incurved varieties especially opened unkindly. Some varieties were excellent, and precisely the same kinds have been comparative failures this season, owing to the very reverse of circumstances that attended their growth. The growers' ideal year, we are afraid, is an improbable one, when all the varieties may be seen at their best.

Without attempting to include cultural details at this time, we think it may be well to add the following hints, rather to remind the cultivator than instruct him. Do not take your cuttings too early, or from plants you have dosed incessantly with manures of divers descriptions. Select small cuttings in preference to long ones; they root more easily, and are freer. Do not grow more plants than you have labour and convenience to cultivate perfectly, and in a season like the present you will be better prepared to prevent loss from damping. In stopping the plants, and especially in taking or selecting the bud, be guided by the character and circumstances of the season. Any cultivator is aware of the importance of some of the hints just mentioned, but they are just those that bear frequent repetition, because they are not always practised by those who know their importance best.

In conclusion, reference must be made to the interesting and eminently practical paper read by Mr. C. E. SHEA on Tuesday last before the Royal Horticultural Society. The simple direc-



Fernery in the Garden of L. Marquard, Esq., Cape Town.

tions then given on how to raise Chrysanthemums from seed ripened in this country, by a gentleman peculiarly fitted by personal experience in the work, should result in many more cultivators engaging in the work. A summary of this lecture is given on p. 606.

FERNERY IN THE GARDEN OF L. MARQUARD, ESQ., CAPE TOWN.—Our supplementary illustration shows a charming example of the decoration of the walls and roof of a fernery, with Ferns of diverse species, Begonias of the ornamental-leaved type, Pothos or Philodendrons, Ficus stipulata, and other plants of a scandent clinging habit. Being out of the usual run of such constructions, as regards its informal arrangement, and sufficiently favourable to the growth of the plants employed, it forms a pleasant addition to the conservatory from which it appears to be entered. The electric lamps indicate that it does not remain unvisited at night.

AN EXHIBITION OF NARCISSUS, PANSIES, AND VIOLAS IN BIRMINGHAM.—The third annual exhibition of these flowers is to take place in the Birmingham Botanical Gardens on April 9 and 10, and the schedule contains fifteen classes, with five prizes in each class. A very extensive exhibition of Pansies and Violas is arranged to be held in these gardens on May 29 and 30, when between £40 and £50 in cash and the large handsome silver medals of the Botanical Society will be given in prizes, including those for twelve true species of Viola in pots, as well as for six double or single Violets in pots. Other exhibitions are contemplated, and the annual great exhibition of the Midland Counties Carnation and Picotee Society will be held in August.

BIRMINGHAM BOTANICAL GARDENS.—We learn that Professor HILLHOUSE, the Professor of Botany at Mason College, and Honorary Secretary of the Botanical Gardens Committee, is taking very active interest in these smaller representative exhibitions, and in the gardens generally; and a large tract of ground, formerly used for the exhibition, under an enormous tent, is now being converted into an alpine rockery garden, designed and planted by Messrs. JAMES BACKHOUSE & SON, of York.

KNIPHOFIA NELSONI.—Mr. GUMBLETON tells us he has flowered this new species, described in our columns in 1892, and reports that the colour is very brilliant, and must be seen on a living specimen to be properly appreciated—a dictum every one will assent to.

"THE BOOK-HUNTER IN LONDON."—Mr. W. ROBERTS, editor of *The Bookworm*, is preparing under the above title a fully-illustrated book. It will form a companion to M. OCTAVE UZANNE'S *Physiologie des Quais de Paris*, better known under the title of the English translation of *The Book-Hunter in Paris*. The results of many years' inveterate book-hunting will be chronicled, and the experiences not only of the compiler, but of many past and present distinguished "hunters" will be laid under contribution. The introductory chapter will take the form of an essay on "The Theory and Practice of Book-hunting." This will be followed by a dissertation on book-hunting in London from the earliest times to the eighteenth century. Other chapters will deal with book auctions and auctioneers; with some famous collections and collectors; with book thieves; with book-stalling in London, with famous booksellers; with lady book-collectors; with the prices paid for particular books in past and present times, booksellers' catalogues, and other interesting matters connected with the subject. The compiler, therefore, will gladly welcome any information or suggestion sent without delay to him, as well as the loan or indication of rare or curious pictorial illustrations of the subject, at 86, Grosvenor Road, London, S.W.

HORTICULTURE AT THE LORD MAYOR'S SHOW.—Very pretty, says the *Times*, was a car contributed by the Gardeners' Company in honour of their science and craft. In the main it took the form of a huge basket of flowers, with Flora holding a wreath, a gardener at work, and a nymph scattering artificial flowers. Contrary to custom, women were dispensed with on this occasion, the first and third figures being in wood or papier-maché. It is a pity that they could not have been prevented from wobbling about in a decidedly undignified fashion.

STOCK-TAKING: OCTOBER.—Brightening up nearly all round is the opinion of our commercial prospects based on the Trade and Navigation returns for the past month of October. The imports for the month show an increase of £311 088 over those for the same period in 1893, and an increase of £7,777,048 is recorded for the ten months of the present as compared with the same period in last year. Annexed is the usual extract from the "summary" table of import values for the month, not forgetting that decrease in value does not always mean decrease of quantities:—

IMPORTS.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	35,357,297	35,668,385	+311,088
(A.) Articles of food and drink—duty free	13,293,187	12,261,764	—1,031,423
(B.) Articles of food and drink, dutiable	2,802,939	3,005,375	+202,436
Raw materials for textile manufactures	3,347,040	3,958,526	+811,486
Raw materials for sundry industries and manufactures	4,459,104	4,536,262	+77,158
(A.) Miscellaneous articles	1,429,950	1,431,685	+1,735
(B.)—Parcel Post ...	37,180	92,317	+55,137

Our caution as to values and quantities receives corroboration very often in the matter of exports where—as in the case of the decrease recorded for the ten expired months—cheapening of prices to suit markets is the cause of what looks like a falling off.

We come now to our usual brief record of the import trade in fruits, roots, and vegetables for October, as follows:—

IMPORTS.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	642,279	1,229,146	+586,837
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	12,362	34,701	+22,339
Pears ... ... ,,	107,715	204,377	+96,662
Grapes ... ... ,,	380,616	405,701	+25,085
Unenumerated ... ,,	71,076	115,950	+44,874
Onions ... ... ,,	595,469	611,764	+16,295
Potatos ... ... cwt.	43,218	39,389	—3,829
Vegetables, raw, unenumerated ... ... value	£ 60,164	£ 77,138	£ +16,974

These figures have always a peculiar interest when coupled with those in the first table relating to imports of cattle and cereals—the comfort of the toiling millions is greatly affected by them; the agriculturist may use them in determining his future course of action. Noticing a slight increase in the value of timber of all sorts imported, we are reminded of the truth of the old saying about "ill winds," &c. Mr. Commissioner CAMERON, in his last annual report (published recently), on the condition of the Turk and Caicos Islands, states quite naïvely, that there had been but a trifling import of lumber during the twelvemonths, owing to the fact that a great quantity of wreckage had been thrown up on the shores of the islands! These remarks bring us to the matter of—

EXPORTS.

For the past month these show a total of £19,147,996, as against £18,179,792 for the same period last year, or a gain of £968,204. There is something substantial about this rise; of course, the reader takes into account the general aspect of affairs, the death of the Czar, and the so-called war between China and Japan. We have made a good treaty with Japan, which country, in five years, will be thrown open to us just as ours is to the indomitable Jap, and he will introduce new and favourable features into the tariff, under which we hope to win much. We note that champagne growers and woollen manufacturers in France are breaking away from Protection, and ranging themselves under the Free Trade banner. In Spain, also, the dry bones are sounding, and whilst we take stock, our American cousins are busy electing members for the next House of Representatives and the Senate. Both sides count to win the majority, by means of increased tariff facilities—one side hampered by free silver coinage; this latter has a most depressing effect on American trade, and will continue to do so until dismissed from consideration; then there will be a "boom."

TAXODIUM DISTICHUM AT LAEKEN.—Among the large number of trees of the Taxodium distichum which are to be seen around the lakes at Laeken (Brussels) is one of unusual size, 3 mètres 40 centimètres in circumference, and 30 mètres in height. This tree is a very handsome Conifer, and at this season is remarkable for its yellow-coloured leaves, which are striking in the distance. This month is the best time to plant it; it does best in low-lying land near the margins of lakes.

THE RUSSIAN THISTLE.—A recent *Bulletin* of the United States Department of Agriculture contains an account by Mr. LYSTER H. DEWEY of the Russian Thistle, a plant which, though covered with spines, is no Thistle, but the species known to botanists as Salsola kali var. tragus. It is believed to have been first developed on the plains of south-east Russia, whence it was probably accidentally imported into America with Flax or other seed. In its new home Salsola has already so increased as to have caused damage to the value of several million dollars, thus constituting a serious evil, to check which the Department of Agriculture is instituting organised investigations to determine the exact cause and extent of the new weed, and the best means of preventing its increase. It is found that certain districts of Dakota, Minnesota, Iowa, and Nebraska are thoroughly infected with the plant, which thus prevails over an almost continuous area of 35,000 miles, which has been covered with it in the comparatively short period of twenty years. This wide distribution is due to the dispersal of plants and of their seed by the wind, by the seed of it becoming accidentally mixed with Wheat and other grain, and by the fact of the bushes being blown on or into railway stock, and thus transported for long distances. Plants broken off at the roots by the wind are frequently blown about all the winter, their fruits meanwhile retaining their fertility, and germinating in the spring. The "Tumbleweed," as it is sometimes called, ruins the crops of grain and Flax, clogs machinery, and by its many and sharp spines inflicts serious injuries on both men and horses. As to the best means of coping with it there are, according to the Report before us, two principles to be acted upon:—1. No Russian Thistle should be allowed to produce seed. 2. There must be concerted action throughout all the infested area. As regards the first condition, it is reckoned that three years of united effort on the part of the farmers would probably completely eradicate the pest. Wheat should be sown and grown early, so as to have the start of the Salsola, and after harvest the stubble should be mown, left to dry for a few days, and then burnt or ploughed in. Crops such as corn (Maize), Potatos, and Beet should be sown late, and the plants of Tumbleweed hoed up before seeding. Also roadsides and wastelands should be weeded, weed-laws enforced, fences and trees arranged to keep the Thistle from rolling, and care taken that Flax and other seed is, when sown, as pure as possible. In fact, to quote the concluding words of the *Bulletin*:—"The chief hope, therefore, of subduing the Russian Thistle lies not in legislating it out of existence, but in an earnest effort by each community and each individual, after seeing the advantage of destroying

it, and the danger of permitting it to grow, and after learning with what ease and certainty it can be eradicated, to carry out these measures. As the law may have some effect in the case of non-resident landowners and wilfully ignorant or careless farmers, it should be enforced against them with all the healthy sentiment of the industrious farmers at the back of it."

PINUS BUNGEANA.—Mr. MILBURN of the Royal Victoria Park, Bath, sends us a branch with cone of this interesting species, a native of Northern China, and one which has the merit of being hardy and ornamental. The cone now received is considerably larger than that previously figured.

"THE NATURAL HISTORY OF PLANTS."—The seventh part of the English translation of this valuable treatise is before us. The author, as has been previously stated, is Professor KERNER VON MARILAUN, of Vienna, and the translation has been made under the superintendence of Professor F. OLIVER. A natural history of plants has, till recently, been too much confined to an account of the systematic relationship of plants, an account of the natural orders, and so forth. The present volume is more physiological in character. The minute structure and organisation, together with the outward conformation, are treated from a physiological rather than from a genealogical point of view. In the present part the subjects treated of are climbing plants. The old trouble of "dextrorse or counter-clockwise," and "sinistrorse or clockwise," of course confronts us, but we cannot say that the authors have laid down any more precise definition than others have done, and it is quite conceivable that with the description and picture here given, some readers will attach precisely the opposite signification to that intended by the author; and, moreover, that they will be justified in so doing. In treating of the stem, attention is directed to the provisions in the trunk and branches for resisting strain, pressure, and bending—provisions, of course, of a mechanical nature dependent on the formation and disposition of thickened cells. The flower-stem and inflorescence come next under review, and then the root and its marvellous attributes. It is satisfactory to find the author cautioning the reader against that very common tendency to confound a statement of fact with the explanation of that fact, as in the case of such words as "gravitation, geotropism, negative, and positive," and other similar terms. The particular instance cited by our author, is "stimulus." What is a stimulus? In the present state of our knowledge, no concise answer to this question can be given.

TESTIMONIAL TO MR. WILLIAM DEAN, BIRMINGHAM.—MR. ROBERT SYDENHAM and MR. W. B. LATHAM met MR. DEAN on the evening of Wednesday, November 7, and formally presented him, in the name of the Committee of Subscribers, with a handsome Silver Watch bearing the following inscription:—"Presented to Mr. WM. DEAN, along with fifty guineas, on his 70th birthday, as a mark of esteem. Subscribed for by florists and friends in all parts of the country."

BOOK NOTICE.

THE FORESTER. Sixth edition. By Brown & Nisbet. (W. Blackwood & Sons.)

The appearance of what may not inaptly be termed the continental edition of Brown's *Forester*, at last supplies the British student with a reliable text-book on practical forestry. The editor must be congratulated upon the success which has attended his attempt "to engraft (in literature, at any rate), the modern continental science of sylviculture upon the old British stock of arboriculture." That in order to do this, he found it necessary to practically re-write the whole book, is in itself sufficient evidence that the work before us is something more than a "revised edition," and the fact that in so doing, German forest literature has been largely laid under contribution throughout, is a guarantee that the information supplied is the best of its kind and up to date. The opening chapter is partly historical, and also deals with the position forestry holds in rural and national economy, particular attention being directed to its present and prospective condition in Great Britain. Frequent extracts from the evidence laid before the Select Committee of 1887 appear, and the greater part of the chapter is practically an argument in favour of the teaching and practice of scientific forestry. Chapters ii. and iii. deal with the botanical description, habitat, methods of propagation, and sylvicultural peculiarities of all hardy broad-leaved and coniferous trees respectively. The editor's additions to these chapters in the shape of a concise summary of the results of all-important observations and investigations made by continental experts, are of especial value. The characteristic features by which the timber of the more important trees may be identified, might advantageously have been added for the use of the student. In dealing with the disputed question of mixed *versus* pure woods, the editor (p. 518, vol. i.) differs slightly from the author, but neither sufficiently emphasises the evils frequently occasioned by an indiscriminate mixture of species, independent of light requirements, rate of growth, period of maturity, &c., to which much of the bad condition of English woods is attributable. Chapter vi. devoted to soil-preparation, drainage, &c., contains certain conclusions (p. 529) regarding the former subject which deserve special attention from practical foresters, as the expenses of planting may be needlessly increased by too much zeal and too little knowledge, both regarding this and draining work. The editor's comments (Chapter vii.) upon the comparative advantages of natural regeneration, sowing, and planting, and the methods of rearing plants, are likely to be critically received by practical foresters and others interested in these matters, although they are undoubtedly justifiable from an economic standpoint. Several excellent continental methods of planting are described which deserve to be more generally adopted in this country, but we find no mention made of the German forest-plough, an implement especially useful when small-sized plants are used on grassy land. The editor's opinions regarding the density of plantation crops at planting-time are (p. 583) evidently opposed to the British practice of thin planting; yet Gayer, whom he quotes in support of his views, lays down rules on the subject, which are practically identical (size of plant considered) with the prevailing custom in this country, viz., 3 to 4 feet between the plants. In a following paragraph we read, "Larch or Scots Pine cannot thrive if planted so close as shade-bearing species." This statement neither recognises the survival of the fittest, nor is it reconcileable with the German practice of raising Scots Pine forest from seed. Chapters ix. and x. are both full of valuable information. The editor's comments and quotations on thinning are copious and instructive, but something more definite on the *rationale* of this work is desirable. We think, too, that the important part which natural selection plays in the production of first-class timber, and the practical deductions to be drawn therefrom, deserve closer attention. Neither do we find sufficient stress laid upon the necessity for regulating thinning operations in such a manner as to obviate the sudden removal of trees whose crowns form part of the normal leaf canopy. This point has constantly to be dealt with in practice. The chapter devoted to the utilisation of forest produce contains some instructive illustrations of implements, methods of felling and transporting timber, &c. Useful data regarding the qualities and physical properties of timber are also given. Forest pathology is briefly but comprehensively dealt with. The statement (p. 320, vol. ii.) that the Elm-bark beetle prefers young and vigorous stems to dead or sickly trees, is scarcely confirmed by observations made in this or other countries. Hartig's conclusion regarding the use of seed from diseased trees (p. 308), does not admit of too broad an interpretation, if the first principle of sexual reproduction that like begets like be admitted. Indirectly, the use of seed from thoroughly sound individuals is of great importance, although it may have no purely pathological significance. The data collected from yield tables (Chap. xiii.) may be of interest to the student, but many years of systematic management must elapse before they can be applied to British woods, except, perhaps, in the Scots Pine districts of the north. The continental methods of measuring standing timber might be advantageously practised in this country, but the conservative principles of the timber merchant and valuer render their more practical application a difficult matter. The following chapter on working plans is also in advance of present-day forestry in Britain. We agree, however, with the editor in thinking that more systematic methods of working our woods are urgently needed, and until something in this direction takes place, no great improvement is likely to be effected in British forestry. An appendix dealing with the forests of various countries throughout the world, brings the second volume to a conclusion. To recommend this work to the notice of landowner, forester, and student would be superfluous. That the publication of this or any other work on scientific forestry is likely to have any marked effect upon British wood-management, however, is extremely doubtful, so far, at least, as private estates are concerned; but that does not affect the intrinsic value of the works themselves, and the dissemination of scientific knowledge can never do any harm.

HOME CORRESPONDENCE.

FRUIT *v.* FICTION.—Your correspondent, Mr. B. Wells, writes in a very straightforward and practical style, and I would reply likewise. To his question, whether I have grown fruit "for a living," I answer, that for years I tried to do so; but the result would soon have been dying unless I had betaken myself to something else. With regard to the Grape-growers of the Channel Islands, I have received from several sources the very opposite account to that of Mr. Wells, and for the greater part of the season Channel-island Grapes have been sold in Covent Garden at 6*d.* to 1*s.* per lb. Mr. Wells speaks as if the fruit-crop were as certain as the foliage of the trees. But every grower must reckon with at least one scanty year in three. Neither must he reason from the produce of one happy tree to that of several thousands. Perhaps the bushel measure at Crawley is not of the capacity needful here; else it would appear impossible that a Pear tree planted in 1885, which we are almost left to infer, should produce 25 bushels of fruit in 1893. My most productive and largest tree (of thirty-five years' growth) affords me a maximum of 15 bushels, and that with an interval of two or three years. Taking the average, one may not count upon half a bushel per tree all round; and a Pear tree must be of some years' growth before it will yield so much as that, without breaking its constitution. But the most amazing statement is that 6*d.* per bushel is a paying price for Apples or Pears. Mr. B. Wells must indeed have men as tall as Pear trees, and more nimble than Peas, if they can gather and pack the fruit at less than 3*d.* per bushel; horses, moreover (of iron, or flesh), very different from ours, if he can send his countless bushels to market for less than the other 3*d.* apiece; leaving *nil* to pay for land, years of waiting, interest on capital, labour, and manure, and the rich diversity of outgoings, as numerous, and far more sure than Pears. Of Gooseberry-growing I have no experience; but have heard, on the one hand, tales about it worthy of the great Münchausen, and have known, on the other hand, many a year when scarce a Gooseberry survived for "fool," or for the "silly season." But of Pears, I have as large an experience as any man in England; and I say that, taking one year with another, and allowing for growth and replacement of trees, weather and wind, blight, maggots, and boys, lucky is the man who can send to market 200 bushels per acre. I have 10 acres of Pear trees, and have never yet marketed 2000 bushels in one year, though the trees are strong and in their prime; that is to say, at Mr. Wells' paying price, £5 per acre would be the gross return, to cover all outgoings. Why, rent alone, in this part of the world, would swallow Pear and paring. But my chief object in writing to you is to assure Mr. Chas. Pearson that I make no general charge against the great and important branch of art which he pursues. It is not to be supposed that all nurserymen, any more than any other race, exclaim beyond conscience

or conviction, "Great is Diana of the Ephesians!" or even "there is nothing like leather." Many of them have annually more orders than they can execute, which alas! is not our fate, and the few who do blow up the golden trumpet of fruit-growing may believe that the gold is pure, because they have never tested it. I am well aware that Mr. Frank Rivers sends much fruit to London, and that the great reputation of the firm secures unusual prices. But what said his excellent father to me, when, after a delightful visit to Sawbridgeworth in the ancient days, I exclaimed, "Why, you don't seem to grow fruit very largely here." "The fact of it is," he replied, with his pleasant and very intelligent smile, "it pays much better to grow the tree than it does to grow the fruit." If so then, what shall we say now? Moreover, I would remind Mr. Pearson of a little tale I had the privilege of unfolding to him or his brother. Failing of Pear trees in England one year, I had a large bundle from a nursery in France. While they were being unpacked, an enlightened English nurseryman came in. He admired their growth, sleek olive stems, ruddy and golden ripeness of twig, &c., and asked the price. "Half a franc each," I replied; "could you send them out at that figure, Mr. ——?" "God forbid!" was his pious response. And I fear (in spite of Mr. Pearson's patriotic faith) that the Lord who enables the Frenchman to grow the tree at a quarter of the English price has enabled him to do the like with the product of that tree. *R. D. Blackmore.* P.S. In my last note, p. 541, there are some misprints—fad or too should be fact or two, degradatis should be degradation, Marillet should be Marillat. *R. D. B.*

CHRYSANTHEMUMS AND GRAPES AT TAPTON HOUSE, CHESTERFIELD.—In the garden at the above place are just over a hundred plants of Chrysanthemums standing in a low lean-to Peach-house. The flowers are as yet not fully developed, nor are they grown for exhibition purposes, although they would stand a fine chance of winning a first place, except for new varieties. Any lover of the Chrysanthemum would, I think, be struck with the beautiful blooms and fine healthy foliage, their shortness of stature, and the large quantity of bloom on each. None of the plants range higher than 3½ feet, and many are but 2½ feet, and all of them carry from six to eight blooms apiece. One bloom of Viviand Morel measured over the top of the flower to the tips of the outer petals, 21¾ inches. This is the second year I have known Mr. Grimes, the gardener, to grow Chrysanthemums. The most remarkable varieties grown are Viviand Morel, Florence Davis, Stanstead Surprise, Etoile de Lyon, W. Holmes, W. Tricker. Madame Louise Rey, Condor, Gloire du Rocher, W. H. Lincoln, and Mr. F. Jameson. In a vinery erected by the late George Stephenson, the eminent engineer, at this place, there is an old Vine of the Black Barbarossa, 14 feet long, and this one rod has carried twelve bunches of fruit this season, three of which have been cut off. Those which remain will weigh from 5 lb. to 8 lb. each, with splendid berries, and good in colour. If these bunches were exhibited, some who viewed them would be inclined to the belief that quantity had been sacrificed for quality, but as a fact, the two are combined. *R. W. P., Derbyshire.*

CHRYSANTHEMUM FLORENCE CARR. — Any addition to the Pompon class is always welcomed, as new varieties possessing the necessary merit to take their place and remain in this section are seldom forthcoming. The above variety, which I noticed last season at the Royal Aquarium and the Crystal Palace, received a First-class Certificate, and I thought a promising flower, favouring in shape Mdlle. Elise Dordan, but the colour is a deep bronzy-red with yellow-tipped petals. The plant, if I may judge by those I have seen this season, is dwarf in habit, and the foliage is well retained. *Pom. Grower.*

CEDAR CONES.—In looking this morning (November 7), at some Cedars of Lebanon and also Cedrus atlantica, I find there are numerous male cones on the same branch as the seed-bearing cones are produced. The nearest male cones are perhaps about 1 foot from the female cones. It may interest Canon Ellacombe (p. 541) to know that the catkins are not produced in such abundance on those branches as on those that have no female cones. Some trees of Cedrus Libani have at the present time myriads of male catkins, all thickly set, and numbering, perhaps, tens of thousands, giving the tree a striking appearance. The oldest specimen here of Cedrus Deodara has this year, for the first time, produced six or seven female cones, but not a single male catkin is to be seen on it; but some years it has produced plenty. Other and younger trees of deodar have at the present time plenty of male catkins. *A. Harding, Orton, Peterborough.*

WHITE MARTAGON DEGENERATING.—With this note I send specimens by way of illustration. At various times in the last fifteen years friends in Ireland have sent me fine bulbs of White Martagon. These always flowered well for a year or two, often producing as many as fifty flowers on a spike, after that they rapidly degenerated, and at the end of four or five years were reduced to lumps of minute bulbs, each perfect as far as it goes; packed together in the form of the original bulb, from the scales of which they have grown. Nothing I can try, and I am not deficient in the resources of gardening, will either prevent the old bulbs from assuming this habit, or nurse the baby bulbs into flowering size. Possibly, in the Irish climate and soil they might grow up to maturity, but the climate and soil of England seems unsuited to them. Other Martagons, including dalmaticum, flourish here very well, and last for many years. I have tried the white in every kind of soil. *C. Wolley Dod, Edge Hall, Malpas.*

CRINUM MOOREI.—Considering what a great demand there is for white flowers in a cut state, it is surprising that this noble Crinum is not more generally found in gardens. The pure white blossoms, if cut as soon as they are fully expanded, will last fresh for quite a week in water. Our two plants have this year pushed up two scapes of bloom each, but not at the same time! Is not this unusual? The first had eleven flowers upwards of 8 inches in diameter, four being open at one time. The same plants produced a second scape with eight flowers, not quite so fine as those on the first one. The colour of C. Moorei is sometimes described as pink, or a soft rose-pink, but ours are white. *J. Easter, Nostell Priory Gardens.*

ARAUCARIA IMBRICATA.—I have here at present about four dozen seedlings of the Chili Pine, Araucaria imbricata, raised from seed ripened on a tree in the gardens here last autumn. On the same tree there are this year a quantity of young female cones which will, of course, not come to maturity before next autumn. Close by there is another tree, which every year bears a quantity of male-catkins only. Do any of your readers know of any other instance in the north, east, or west of Scotland where the Araucaria has produced ripe fertile seed? So far as I am aware, there are very few places in the south of Scotland where ripe seed has been got. *A. G., Inverness.* [Will some Scottish reader kindly give his experience? Ed.]

MARKET PRICES.—Mr. Ilott mentions in his note concerning market prices that he had sold Runner Beans at 1*s.* per bushel. Thinking that such a price was rather below ordinary market returns, I asked one of our metropolitan growers who sends during the season over 100 bushels weekly to market, what his returns were, and he replied. "Rarely indeed under 2*s.* 6*d.* per bushel." Now this is but another illustration of the difference that exists between the professional and the amateur salesman. It is just what is seen in the case of fruit, and it does but help to show that there is an art in selling as in growing, which the amateur element fails to recognise. Mr. Ilott doubtless belongs to the army of amateur salesmen, although a good gardener, and it is this army of private growers and some amateurs who have done so much to bring down prices, and make a living for the professional market-grower so difficult. No doubt the commoner element benefits by the consequent great abundance in the market, but at least all those who help to that end should realise that each one is an agent in lowering returns, and should therefore be the last to complain. The grower of many acres, and of huge responsibilities, never rushes into print to ventilate his grievances, and even under adverse conditions which the introduction of thousands of private gardeners and amateur competitors have created, he not only lives but manages to thrive. To-day the vegetable markets are glutted with Brussels Sprouts, because the growing weather renders them so wonderfully plentiful. It is an incident that has to be borne with because there is no help for it, but all the same there will not be a single Brussels plant the less produced next year. *A. D.*

THE BLACK CURRANT-MITE.—For the first time in my life I learn that it is a crime, or little less, not to have seen or personally known the Currant-bud mite; yet it is quite true, until this day I have never met personally with market grower or gardener who has ever made reference to it, or to any trouble arising from it. The exception this day was in Middlesex. When looking over a big breadth of several thousands of young bushes, I asked whether there were evidences of the mite amongst them, and the reply was, "No; they are perfectly clean." The only place where the mite gave trouble was in an old breadth some twenty years planted, where trees overhung, and the soil was indifferently cleaned and cultivated, That is, I am disposed to think, ordinary experience. Given good culture in all phases of tree or bush life, insect pests give little trouble. Gooseberry-caterpillar, Apple-maggot, woolly aphis, and other insect pests are always most troublesome where culture is bad. I have told audiences constantly that keeping trees and bushes in good health by cleanliness, thinning, good culture, and feeding, does more to repress insects and other pests than so-called remedies. I stick to my guns. *A. D.*

SIZE OF EXHIBITION STANDS.—At page 573 of the *Gardeners' Chronicle*, Mr. W. Wells writes about his Chrysanthemums being disqualified, and seeks to make a grievance of it. He quotes regulation 8 of the Kent County Schedule as follows:—Regulation 8 says: "Exhibitors are requested to have their stands made in accordance with the metropolitan plan, &c." What does this mean! Surely the schedule is plain enough. After "Metropolitan plan," it reads, "the stands for twelve blooms to be 24 inches long and 18 inches wide (with holes 6 inches apart from centre to centre), &c.," with full instructions as to height. The stands Mr. Wells used were, as far as I can remember, 3 inches longer and 3 inches wider; he therefore clearly infringed regulation 8. At the bottom of the page of regulations, Mr. Wells will find these words: "N.B.—These regulations will be strictly adhered to, and any infringement will disqualify exhibitors." Mr. Wells says the judges at Blackheath refused to disqualify, this is also an error. I was one of the judges, and I informed certain members of the committee who were present, that the judges had no alternative but to disqualify. The schedule may require altering another season to meet the requirements of such growers as Mr. Wells, that is another matter, and does not apply to the present case. *J. Douglas, Ilford.*

NURSERY NOTES.

MESSRS. J. CHEAL & SONS, CRAWLEY.

At no season can anyone interested in the fruit crop derive a greater amount of pleasure from a visit to these nurseries than in the last days of August. During several years past this firm has been increasing in reputation for fruit-tree culture, and the ground now under fruit cultivation is greater than ever. At the recent show at the Crystal Palace, excellent examples of fruit were staged from these nurseries; the Pears in the large collection were equal to the Kentish-grown fruit, being well-developed and weighty. The Pears at the Crystal Palace when contrasted with the fruit upon the trees at Crawley at the end of August show the remarkable gain in size during September. This fact had been previously pointed out to me when in conversation with a Jersey grower who attached the utmost importance to the practice of allowing the fruit to hang as long as possible. To return to the nursery trees, the hardy appearance of the growth was remarked as surprising after such a wet season as we experienced. The trees bore the sturdy look about them which promised well for the ultimate success when planted. The Apple crop was not so plentiful a one as usual, but in some instances there was an abundance, and the trees had to be supported. The variety that was especially prominent for colour, size, and crop, was Duchess of Oldenburg, which evidently for heavy land is a profitable kind to grow. For the market in its season it is one of the very best. Others which struck one as unusually good were Betty Geeson, Annie Elizabeth, Professor (an early cooking

variety of much promise), Cospatric (which as cordons was heavily cropped), Golden Spire (very fine), Ecklinville, Prince Albert (extra good crop), Schoolmaster, Bismarck, for which the firm have a large foreign demand, is one of the very finest, the trees are strong, and the fruit large and good; Pott's Seedling, Worcester Pearmain, Northern Dumpling, and Lord Derby, were promising well; The Queen (well suited to heavy land), Lord Grosvenor, Lady Sudeley, and Frogmore Early Prolific, are all thought highly of at Crawley, each kind being heavily cropped Peasgood's was then of large size, the fruits upon the small trees very fine; Landsberger Reinette (strongly recommended, being a certain cropper); Colonel Vaughan and Jolly Miller were remarkable for high colour; Lord Grosvenor, at Crawley, was found to do well on the free stock, and Frogmore Prolific on the Paradise. Some double cordons of Keswick, which had survived the ordeal of selection a year or two back, were wreathed in fruit. The Dartmouth Crab was very striking, the heavy crops of highly-coloured fruit being most effective; planted amongst shrubs, this would tell well in the autumn.

Of Pears, a selection is grown under glass as cordons; the best of these were Pitmaston Duchess, Beurré Hardy, Princess, Belle de Bruxelles (a showy early kind), Bon Vicar (heavy cropper), Beurré Superfin (excellent), Jersey Gratioli, Doyenné Boussoch, Louise Bonne, and General Todtleben. In nearly each instance these same varieties were correspondingly good outside, Pitmaston having a russetty appearance; Doyenné Boussoch, with very rich colouring. Triomphe de Vienne, a Pear that is rapidly gaining ground, was of excellent quality; Beurré Fonqueray, Fertility, Marie Benoist, Souvenir du Congrès, Beacon, and Beurré Bosc, were all noticeable. As a novelty in shape and colour, Mikado, a Japanese Pear, is worthy of notice.

Turning our attention to Plums, the most striking, by reason of their cropping qualities, were Belle de Louvain, Archduke, Cox's Emperor, Victoria, and Diamond; several of these and other sorts were cropping well as cordons. The quarters of fruit trees was pointed out as containing some 70,000 stocks worked this season.

Under glass, both Vines and Figs in pots are grown; for the latter there is evidently a greater demand than formerly. The situation of the nursery is flat, and the effect of strong winds are felt, but to guard against injury, tall, but thin hedges of Hornbeam have been reared—some of which are fully 12 feet in height.

Of shrubs and trees for landscape gardening, there are large quantities. Mr. Joseph Cheal, who attends more particularly to the landscape business, evidently believes in rearing his own stock. Summer-houses are dotted about here and there, and for these there is a large demand. They are made on the premises, and these are in a locality of excellent choice as regards suitable woods. *Vitis.*

New Invention.

THE TELESCOPE-CUP AND TUBE.

In fig. 78 is represented yet another cup and tube in which to stage Chrysanthemums and other flowers for exhibition. The length of the tube in this case is regulated by means of the brass screws, and when fully elongated the cup is elevated 9 inches above the show board. The centre tube is the water container, and the stem of the flower is passed from the cup into same through a rubber washer. The holder is intended to be fastened to the stand by means of three small screws, where it would be a fixture, and when closed for travelling, the cup remains about 2 inches above the board. Our readers will best know which of the several inventions will suit their purpose most perfectly. The telescope-cup and tube has been patented by Mr. W. E. Tidy, Brockhampton Nurseries, Havant, Hants.

SOCIETIES.

ROYAL HORTICULTURAL.

November 13.—At the meeting of the Society on Tuesday last in the Drill Hall, James Street, Westminster, Orchids and Chrysanthemums were exhibited largely, and the meeting generally was a good one.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. C. T. Druery, H. Herbst, J. H. Fitt, J. Fraser, R. Owen, Geo. Stevens, C. F. Bause, J. D. Pawle, C. E. Pearson, H. Turner, G. Gordon, H. H. D'Ombrain, E. Mawley, H. Cannell, H. B. May, W. C. Hackett, C. E. Shea, and P. Barr.

A large group of Cyclamen was staged by the St. George's Nursery Co., Hanwell, London, W. The plants were all young ones, and carried a fair quantity of flowers for so early a date (Silver Flora Medal). Another group was from Messrs. H. Low & Co., Bush Hill Park, Enfield, in which case the plants were larger and older (Silver Banksian Medal). From A. Kingsmill, Esq., Harrow Weald, came some sprays of Pernettya mucronata, in variety, and very handsomely berried.

A miscellaneous group, composed of well-grown specimens of stove and greenhouse plants, was staged by Mr. J. F. McLeod, gr. to J. P. Morgan, Esq., Dover House, Roehampton, London, S.W.; the Crotons, Dracænas, &c., made a very bright effect, and the group was further relieved by Cypripediums, Bouvardias, and Cyclamens (a Silver-gilt Flora Medal was awarded).

Messrs. H. Cannell & Sons, Swanley, Kent, made a wonderfully bright show with zonal Pelargoniums, Chrysanthemums, &c. The Pelargoniums represented some capital varieties, of extremely large size and bright colours. Etna is one of the best of the purple-scarlet varieties. R. Dean is quite purple. Pink Domino, Sucrée, Maud of Wales, and Ethel Lewis are good pinks. Salmons, O. W. Holmes, Œnone, Mrs. Hall, A. F. Wootten; whites include Albion and White Lady; whilst Parker's Favourite, Jno. Ruskin, Bright Eye with a pretty white eye, and W. P. Wright, are among the best of the scarlets. M. Jules Chretien with white centre and scarlet edge is pretty; and Raspail Improved, and the curious double New Life were exhibited. The Chrysanthemum blooms represented novelties, most of which are described in another column. Mrs. R. Filkins, a pretty yellow Japanese with forked florets, received an Award of Merit; it will be very popular among the decorative varieties. A similar award was given to Alice Seward, a rose-purple Japanese bloom (Silver-gilt Banksian Medal).

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, exhibited a group of exceptionally pretty little plants of Begonia Jno. Heal, with small rose-coloured flowers.

Mr. Robt. Owen, Maidenhead, exhibited a stand of first-class Chrysanthemum blooms, including many good novelties. Awards of Merit were obtained by the following: John Lightfoot, a large full, reflexed Japanese of pale lilac-rose, J. Bidencope, a large Japanese of rosy-purple, with silver reverse; and Owen's Perfection, a Japanese Anemone-bloom, with white ray-florets, and lilac-coloured cushion; Mrs. Seebohm, white; M. Vilmorin, yellow; Pride of Maidenhead, a creamy-white, with good florets, all Japanese, and others, were good.

A large collection of cut blooms of Chrysanthemums was staged by C. E. Shea, Esq., The Elms, Foots Cray, Kent. Maggie Blenkiron, a very fine incurved Japanese of bronze and yellow; Sir Edward T. Smith, a small yellow Japanese, of fine form; and Miss Rita Schroeter, a large Japanese bloom of white and pale rose, were each recommended an Award of Merit. There were many other superb varieties in this collection, and in all about sixty blooms (Silver Flora Medal).

A collection of single-flowered varieties was staged by Mr. George Jones, gr. to Mrs. Jones, Queenford Place, Sudbury, and were a pleasing contrast to the larger flowers.

Mr. W. J. Godfrey, Exmouth Nurseries, Devonshire, in his excellent collection, had the following three varieties, to which Awards of Merit were recommended: Garnet, a Japanese incurved crimson, with silver reverse; Mrs. Dr. Ward (American), a hairy Japanese bloom, colour reddish-buff, with yellow ground; and Mrs. W. J. Godfrey, an excellent white hirsute variety. Many other good flowers were shown. Also blooms of a pink-flesh Carnation, Reginald Godfrey, and a white one, Miss Mary Godfrey, both very good in quality.

From Mr. W. Wells, Earlswood Nurseries, Redhill, came flowers of single varieties, including Purity, a magnificent white flower about 2½ inches across, very pure, and a large yellow eye (Award of Merit).

Plants of James Lynch, a good crimson Japanese, were shown, and blooms of the green sport from Viviand Morel.

Mr. W. Slogrove, gr. to Mrs. Crawford, Gatton, Reigate, exhibited a magnificent collection of cut blooms, about fifty, and all showing exceptional cultivation. Thunberg was wonderful; and some blooms of Thunberg Improved were exhibited, but we could detect very little distinction in this. Lord Brooke was also capital (Silver Banksian Medal).

Mr. W. Seward, Hill Farm Nursery, Hanwell, showed Elthorn Gem, a yellow incurved bloom, Bronze Beauty, a Japanese incurved, and a large rough Japanese named Autumn Morn.

From Her Majesty the Queen, Royal Gardens Windsor (gr., Mr. O. Thomas), was exhibited a sport from the New Hairy Wonder. The blooms of this sport, named Princess Ena, were slightly smaller than the type as shown; the outer petals are rosy-lilac, and the centre of bloom a silvery yellow. It is hirsute as the type, and very pretty in colour (Award of Merit).

A plant in flower of Cosmos bipinnatus grandiflorus, about 5 feet high, bearing a good number of white flowers 2½ inches across, and grown by Mr. S. B. Simpson, Worthing, was recommended an Award of Merit. Messrs. Stroud Bros., 182, Green Lanes, Finsbury Park, N., exhibited plants of Pteris cretica cristata Torrancei, the frond segment being much wider than other forms. It appears strong, tough, and will prove a good thing for market work (Award of Merit).

Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, exhibited plants of a good narrow-leafed decorative Dracæna named Lord Roberts, some plants of Croton Mayii, also Lastrea atrata variegata, with dull variegation, and a very pretty variety of Pteris Victoriæ named picturata.

The 1st competitive class for Chrysanthemums was for a collection of cut blooms, distinct, to be shown without any dressing, and to stand well above the moss covering the box, supports admissible (Amateurs). The 1st prize was awarded to a collection from Mr. George Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, S.W., which included some very good Japanese blooms, notably W. H. Lincoln, Sunflower, Lord Brooke, Chas. Blick, and others. The incurved blooms were rather weak, Mrs. N. Davis and Lady Dorothy were the best. The 2nd prize was for a good collection from Mr. J. F. McLeod, gr. to J. P. Morgan, Esq., Dover House, Roehampton, S.W., the incurved varieties figuring well here, Golden Empress, Queen of England, Empress of India, Princess of Wales, &c.

The next class was for twelve cut blooms, of not fewer than eight distinct varieties, sent out since 1891 (Amateurs). Mr. McLeod was awarded 1st prize, and there was no other exhibitor. Chas. Blick, Louise, Waban, Col. Chase, Good Gracious, Col. W. B. Smith, Violetta, and niveum, were all good in this stand.

For a group of Pompons and single varieties, either or both distinct, plants not to have been disbudded, the 1st prize was awarded to Mr. Wythes for a nice group. There was no other competitor.

Orchid Committee.

Present: H. J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), De B. Crawshay, E. Hill, C. Pilcher, H. Ballantine, H. M. Pollett, H. J. Chapman, S. Courtauld, W. H. Protheroe, T. B. Haywood, and F. Sander.

The shows at the Drill Hall serve admirably to indicate the species flowering at any given season, by the greater proportion of the plants shown being of those species. At this meeting, the varieties of Cattleya labiata and of Cypripedium insigne predominated, and each contributed some remarkable forms.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, exhibited a very beautiful new hybrid in Cattleya × Fabia (Dowiana ♂, labiata ♀), which had beautifully-formed flowers, the sepals rosy-lilac, with a light cream-coloured mottling, as in C. aurea marmorata; the handsome lip was dark red, merging into yellow at the base, both colours having a pretty white veining. The front lobe of the lip was bright purple, the margin crisped (Award of Merit). Messrs. Veitch also showed the beautiful Lælio-Cattleya × Statteriana

C. labiata ♂, L. Perrinii ♀), and the richly-coloured Cypripedium × Tityus (œnanthum superbum ♂, spicerianum ♀).

In Messrs. F. Sander & Co.'s group of rare plants was a very remarkable bigeneric hybrid, the first of its class—Epilælia × Hardyana (Lælia anceps ♀, Epidendrum ciliare ♂). This remarkable combination results in a most graceful plant, whose habit of growth partakes most of E. ciliare, in the thin cylindrical pseudobulbs and tall slender flower-spike. The plant shown had two flowers. The sepals and petals, which were lanceolate and nearly equal, were blush-white, with a pale rose flush at the base. The base of the lip also was blush-white, except the tips of the side-lobes, which were purple. The front lobe of the lip is extended on a very distinct isthmus, the blade being ovate, finely crimped, and irregular at the edge, and of a rich violet-purple (Award of Merit). In this same group were some beautiful species of the Pescatorei section of Zygopetalum, which seem to grow and flower very freely in this nursery, viz., Pescatorea Klabochorum, with large white flowers, tipped with vinous-red; P. Lehmannii, with very handsome violet and white flowers; P. Dayana; the pretty and rare Stenia pallida, the delicate rose-tinted Phaio-Calanthe × Arnoldiana, the singular Dendrobium platycaulon, with compressed pseudobulbs and pale yellow flowers (Botanical Certificate); Zygopetalum rostratum, Lælia tenebrosa, Calanthe × Victoria Regina, and C. × Sandhurstiana; Lælia præstans, Catasetum Christyanum, and various forms of Dendrobium Phalænopsis Schroderiana, of which the variety purpurea was the darkest and richest-coloured.

The Right Hon. J. Chamberlain, M.P., Highbury, Moor Green, Birmingham (grower, Mr. H. A. Burberry), sent varieties of Dendrobium Phalænopsis Schroderianum, of great beauty; D. P. highburyense was a fine flower, with a remarkable cherry-red hue over its entire surface (Award of Merit). D. P. Chamberlainianum is very large, and perfect in form, white, suffused with light purple, the dark apex of the lip affording a striking contrast; another handsome form was white, except the tips to the segments, which were lilac-coloured.

F. Wigan, Esq., Clare Lawn, East Sheen (grower, Mr. W. H. Young), staged Cypripedium × Clarence, a hybrid of C. Spicerianum, with the form of C. × Leeanum, and C. × œnanthum upper sepal; also Cattleya superba and Lælio-Cattleya Cawenbergiana.

Messrs. Vervaet & Co., Mont S. Amand, Ghent, showed the wonderfully spotted form of Odontoglossum crispum, Franz Masereel, quite two-thirds of the flower surface being occupied by blood-red blotches of varying size (First-class Certificate).

Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, staged a group composed principally of forms of Catasetum Bungerothii and C. macrocarpum, some of them appearing to be almost intermediate between the two species, and one plant bore a female flower. There were the typical C. Bungerothii, with its large white flowers; C. B. aurantiacum, in which the flowers were of great size and of a light orange hue (Award of Merit). C. O'Brienianum (Award of Merit), probably an intermediate or natural hybrid form, with ivory-white lip and sepals, and petals white blotched with purple as in the handsome C. macrocarpum Lindeni; C. Bungerothii var. Lindeni, also with handsome flowers and rose-mottled petals (Award of Merit), and C. macrocarpum chrysanthum, the clear yellow form, figured in the Lindenia (Botanical Certificate). With them were Cattleya Alexandræ elegans, &c. The group was awarded a Silver Banksian Medal.

W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke (gr., Mr. E. Carr), showed Odontoglossum crispum, Fair Oak variety, a very handsome form, with slightly rose-tinted spotted flowers. Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the handsome Cypripedium × Edwardii (superbiens × Fairreanum), C. × Roberti (hirsutissimum × insigne Wallacei), a pretty form with some resemblance to C. × Germinyanum; C. × Ariadne, Cattleya aurea and C. a. magnifica, varieties of Cattleya labiata, &c. (Vote of Thanks).

Earl Cowper, Panshanger, Herts (gr., Mr. J. Fitt), showed a group of varieties of Cypripedium insigne. With them were Lælio-Cattleya × Mauve Queen (C. Warnerii × L. crispa), like a small L. C. × exoniensis; and a very fine dark rose hybrid Calanthe (Vote of Thanks).

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), showed a four-flowered inflorescence of his new white Cattleya labiata, R. I. Measures variety, described in the last issue of the *Gardeners' Chronicle* (Award of Merit); the handsome clear yellow and white Cypripedium insigne Ernesti (Award of Merit), and the rare and pretty Cymbidium cyperifolium (Award of Merit).

E. Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. H. Holbrook), showed a fine plant, with many flowers, of his handsome Cattleya labiata elegans, which had the sepals and petals white, very faintly tinged with lavender-blue, the front of the lip being of a rich shade of purple, with a broad lavender-coloured margin (Award of Merit). From the same exhibitor came Cypripedium × John Ashworth (reticulata × Sedeni candidulum), and C. × Ashworthii, of the Leeanum class. W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), showed cut spikes of a grand dark and a fine light form of Cattleya labiata, and his pretty light variety of Cattleya Gaskelliana.

Norman C. Cookson, Esq, Oakwood, Wylam-on-Tyne (gr., Mr. W. Murray), sent Cypripedium × Cyris (Boxalli atratum × Argus), a very handsome large-flowered hybrid, with rich large dark blotches, as seen in C. Argus Moensii (Award of Merit).

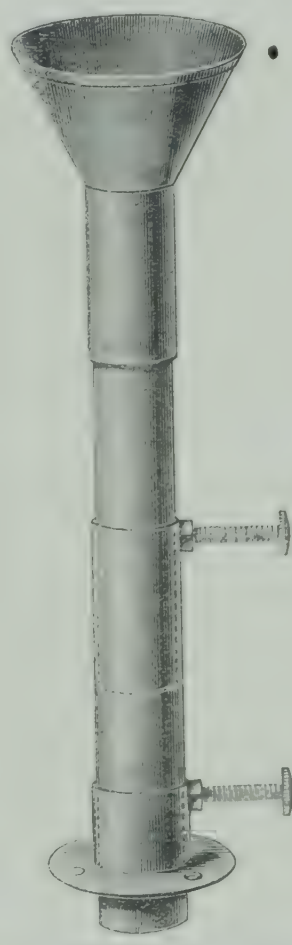


FIG. 78.—THE TELESCOPE-CUP AND TUBE (SEE P. 604.)

Messrs. Hugh Low & Co., Clapton, had an extensive and very bright group, composed chiefly of fine varieties of Cattleya labiata, that named C. l. lilacina being unique in colour. Its sepals and petals had a distinct bluish-lilac hue, and the front lobe of the lip a slate-blue blotch. Also in Messrs. Low's group were Vanda Sanderiana, V. cœrulea, the singular Mormodes tigrinum, &c. (Silver Banksian Medal).

Messrs. W. L. Lewis & Co. also secured a Silver Banksian Medal for a very effective group in which the Cattleyas, and especially C. Bowringiana, were telling features. In the centre was a batch of good Oncidium tigrinum, at one end a fairly representative group of Cypripediums of the season, and throughout the Lycastes, Sophronitis, Oncidiums, &c., were well arranged to harmonise with the rest of the group. Among the Cypripediums, C. × Robertsianum (insigne Wallacei × callosum) was striking by reason of its large, bold flower.

Messrs. Collins & Collins, Cumberland Park Nurseries, Willesden Junction, staged a most effective group, in which plants of the old form of C. insigne formed the salient feature. They also showed named varieties such as C. i. Chantinii, as well as several good forms of Cattleya maxima, C. labiata, Cypripedium callosum; and over all were drooping sprays of Oncidium varicosum, having, as a whole, a good effect (Silver Banksian Medal).

Mr. G. Young, St. Albans, showed Cypripedium insigne Youngianum and C. superbum, both of the yellow or Sanderiana class.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N. showed Phaio-Calanthe × Sedeniana rosea.

J. Forster Alcock, Esq., Northchurch, Berkhamsted, sent Odontoglossum Wilckeanum. R. G. Fletcher, Esq, Withdean, Brighton, sent Lycaste macrobulbon.

F. Wheatley, Esq., Ringmore, Teignmouth, showed Oncidium Wheatleyanum, which might be a cross between O. dasytyle and O. Gardneri (for which species it was bought). The sepals and petals are purple; the lip, which bears traces of O. dasytyle in the crest, is purple at the base, the front bright yellow, edged with brown (Award of Merit).

M. Jules Hye Leysen, Coupure, Ghent, showed Lælio-Cattleya × albanensis.

J. W. Temple, Esq., Leyswood, Groombridge (grower, Mr. Bristow), showed Cattleya × Miss Williams (Harrisoniæ × Gaskelliana), with neat light rose flowers and purple blotch on the lip.

H. Grinling, Esq., Harrow Weald House, Stanmore (gr., Mr. Rapley), showed a remarkably fine plant of a good form of Saccolabium bigibbum (Botanical Certificate).

Admiral Cator, Hazelwood, King's Langley (gr., Mr. Geo. Day), sent Cypripedium Victoria Mariæ, like a colourless C. Chamberlainianum; and Sir Archibald Buchanan, Hepburn, Prestonkirk, East Lothian, sent two examples of the form of Lælia autumnalis known in gardens as Arnoldiana.

Fruit Committee.

Present: T. F. Rivers, Esq., in the chair; and Messrs. W. Wilks, A. Sutton, R. Hogg, J. H. Veitch, H. J. Pearson, G. Bunyard, A. H. Pearson, T. J. Saltmarsh, J. A. Laing, G. Reynolds, F. Q. Lane, H. Balderson, J. Smith, W. H. Divers, and J. Cheal.

Several varieties of Endive came from the gardens of the Society, namely, the Green Batavian, in blanched and unblanched condition; and the broad-leaved Batavian. The first is the best kind of Endive grown, being, when well blanched, tender and crisp, and of a nice creamy-white tint.

Mr. J. Johnson, Ampthill, Beds, showed about one score of Sutton's Improved Long Surrey Carrots, showing the results following on selection carried on for three years. The roots, averaging 21 inches in length, were clean, straight, of good colour, and fine texture. It is a variety well suited to deep, friable, sandy loams, that are free from stones (Cultural Commendation).

Messrs. W. & J. Brown, 56, High Street, Stamford, showed Brown's South Lincoln Beauty Apple; it has some resemblance to Ribston Pippin and Cornish Aromatic, but it came from Cox's Orange Pippin; it is said to be a great bearer (a First-class Certificate).

Fruits of Solanum guatemalense, yellow, with chocolate stripes, and of the size of a bantam's egg, were shown by Mr. Hopkins, gr. at High Cross, Framfield.

Mr. Holden, Rhyl, showed a quantity (twenty-four plates) of Mère de Ménage Apple, of a particularly dark tinge of colour (Vote of Thanks).

An Award of Merit was given to Messrs. T. J. Saltmarsh & Sons, Chelmsford, for specimens of the fine Pear, Le Lectier. Some Coe's Late Red Plum came from Mr. Crook, gr. at Forde Abbey.

Some beautiful dishes of Orange Pippin, the produce of orchard house trees, came from Messrs. T. F. Rivers & Sons, Sawbridgeworth. They were far beyond the average size of this variety of Apple.

Mr. J. Walker, nurseryman, 7, High Street, Thame, showed sixty-four bulbs of his exhibition Onion, of great size and well matured. It is a flattish bulb of a light brown colour (Bronze Banksian Medal).

A very nice collection of Pears (fifty-two varieties) came from the Duke of Rutland's garden at Belvoir Castle (gr., Mr. W. H. Divers). Amongst varieties rarely seen were Beurré Dubuisson, a Pear resembling B. Hardy in form and colour (First-class Certificate); Maréchal Valliant, Bellisme d'Hiver, President Mas, Beurré Sterckmann, British Queen, Doyenné d'Alençon, Josephine de Malines, Madame Millet, Soldat Labourer, Winter Nelis, Emile d'Heyst, and Doyenné du Comice. Of extra large size were Beurré Rance and Glou Morçeau. (Silver Knightian Medal).

Lecture on Raising New Chrysanthemums.

In commencing, Mr. Shea said that seed-raising had given him great pleasure, and would give the same to others who pursued the work with determination, and upon scientific and definite methods, but at the outset it would be well to consider what one had to compete against, and not to ignore the fact that France and the greater part of the Continent, besides China, Japan, and the United States of America, in addition to the trade and other growers in our own country, were all doing the same thing, and thus one individual's chance of raising anything that shall gain the world's notice, as well as interest ourselves, was but small. In addition, whilst the climate of France and other countries was just that required for such a purpose, that of our own was distinctly against the endeavour, and a climate like that of sunny France had to be provided as nearly as possible in the houses here during December, January, and February. On the other hand, we gained indirectly in this country by being obliged to keep our plants inside, and therefore they are not subjected to the visits of insects and such injurious agencies as work outside.

To commence in a small way, a greenhouse would be wanted about 12 feet by 8 feet, and it must be built in such a manner that dripping and damp can be eliminated. The paths must be cemented, and on an incline, to ensure that all water pass quickly away. Ventilators should be so arranged that the air has to pass over the hot-water pipes upon entering the house, and, indeed, every means that can be used to keep a warm, moving, dry atmosphere, should be adopted.

In selecting plants as subjects to work from and upon, the seed-raiser must not choose overgrown plants that have been cultivated for exhibition blooms. A double flower is not required, as the essential organs are destroyed or impaired by excessive cultivation. The variety may be the best double possible, but a flower with a more or less open centre is required. The construction of the flower was then described. Mr. Shea said that the greatest care was required that the pollen be conveyed to the stigma at exactly the time the latter is in a ripe state to receive it.

That was where, in the majority of cases, the mistake occurred. The organs appeared to be ready long before they are, and then the peculiar means nature had provided in the Chrysanthemum and other plants was described, whereby self-fertilisation was rendered infrequent, Mr. Shea saying that the anthers have opened, and the pollen is all scattered before the two lobes of the style have opened at all, so that if the stigma of one plant is fertilised, it will almost be sure to be so by the pollen of another plant. The correct time, then, for effecting pollenisation must be known, and when both anthers and stigma are ready, the process of taking a camel's hair brush and touching the anthers of the plant to be used as the male parent, and conveying the pollen to the stigma of another plant was a simple matter. It should be repeated each day for a week, and about noon was the most suitable time. The lecturer had never known in his experience a case so treated that had failed.

The next important question would be, how to ripen the seed. Aphis, thrips, and other insects, beside bad atmospheric conditions, were enemies that would have to be contended with, and in regard to the former, the house must be fumigated just as often as the plants required it. When the seed has formed, Mr. Shea has found that the practice of some American raisers of cutting off the petals was not advisable in this climate. They would serve as a safety-valve to carry off any excess of sap, and they should be left until they are withered and then removed, or they may harbour insects.

In regard to raising double varieties, Mr. Shea had found that the seed from the circumference will produce the highest percentage, and seed from the centre, or near it, the greater proportion of single varieties. The same phenomena occurred in the cross-fertilisation of the Begonia. The lecturer had only three singles amongst his seedlings this season by following such a method. The best means Mr. Shea knew of determining when the seeds were ready to be taken away was by touching the disc with the fingers, in order to see if the seed would fall. The centre of the discs are cut out, to avoid single varieties, as soon as the heads are collected. Suggestions were then given as to the selection of varieties for crossing, and Mr. Shea said it was impossible not to keep the shows in view, and it was essential that flowers of large size should be raised. Mid-season flowers would be most popular; and to obtain them, he would cross a grand late variety with an early one of the same degree of excellence. The habit, constitution, and height of the plants must be taken into consideration, and the beauty of the flowers must not be allowed to lead the hybridiser to use as a parent-plant one growing to an enormous height. Mr. Shea instanced a variety that runs 13 feet or more, and said he kept it until it reached 11 feet, and then threw it away. Refinement in the blooms was also something to aim at. Large flowers of coarse types should be avoided, and in the matter of colour, any that are washy should not be used as parents or sought after. To raise Chrysanthemums from seed, a great deal of patience was required, and a certain amount of intelligence, but it would bring a large amount of pleasure, and would lead the experimenter on to attempt the production of sports by artificial means, and before them all lay the goal which, if Mr. Shea himself was not successful in reaching, he hoped others may, viz, the honour of raising a blue Chrysanthemum!

KENT COUNTY CHRYSANTHEMUM.

October 31, November 1.—At the annual exhibition held at Blackheath, a high quality of bloom reigned throughout the classes. There were more entries than last year, and competition was keen. In the class for eighteen incurved and eighteen Japanese distinct, there were seven competitors. The leading position was taken by Mr. S. B. Wheadon, gr. to R. J. Collier, Esq., Hawthorn, Bickley. He had fine flowers of Primrose League, E. Molyneux, Golden Dragon, Avalanche, and Princess; whilst incurved flowers were good in Lord Alcester, Baron Hirsch, Lord Wolseley, Mrs. Heale, and Violet Tomlin. A good exhibit was the 2nd prize lot of Mr. C. Payne, gr. to C. J. Whittington, Esq., Elmhurst, Bickley. Mr. W. Wells, Earlswood Nurseries, was unfortunately disqualified for showing in stands larger than allowed. He should have secured 1st honours but for this oversight. This exhibitor had the best Japanese bloom in the show (Mdlle. Thé èse Rey), and the premier incurved bloom being a grand Madame Darier. Mr. S. B. Wheadon was 1st for twenty-four Japanese distinct, who, amongst other fine flowers, had J. Shrimpton, Mdlle. Marie Hoste, Etoile de Lyon, W. H Lincoln, and Col. B. Smith; 2nd, Mr. R. Leadbetter, with a good lot of flowers. Six competitors entered for twelve Japanese blooms, and here again Mr. Wheadon was victorious; 2nd, Mr. C. Twinn, gr. to G. W. Bird, Esq, West Wickham, a very good lot. For the special prizes offered by the President of the Society, H. F. Tiarks, Esq, for twenty-four blooms, eight Japanese, eight incurved, and eight reflexed, the 1st position was won by Mr. R. Leadbetter; 2nd, Mr. C. Payne; 3rd, Mr. F. Moore. Mr. R Leadbetter was 1st for twelve incurved, the best of which were Baron Hirsch, Empress of India, Refulgens, and Madame Darrier; 2nd, Mr. T. Osman, gr. to L. J. Baker, Esq, Chertsey. Twelve reflexed, not less than six varieties, were best from Mr. Leadbetter; 2nd, Mr. Tomalin. For twelve Japanese or large-flowered Anemones distinct, Mr. R. Leadbetter was again 1st; 2nd, Mr. A. Tomalin.

The 1st position for twelve Pompons was taken by Mr. J. Knapp, gr. to F. W. Amsden, Esq., Croydon, here were good flowers of Adela, Presette, Astarte, Mdlle. E. Dordan, and Prince of Orange; 2nd, Mr. A. Tomalin. For six Japanese of any white variety, excluding Avalanche, the 1st place was taken by Mr. R. Filkner, gr. to Miss Alexander, with Puritan; 2nd, Mr. J. Pearce, gr. to Mrs. Wainwright, with Elaine, six Japanese, one variety (coloured); and Mr. C. Payne was 1st for six blooms of a coloured variety, showing good Viviand Morel; 2nd, Mr. P. Waterer, with W. Seward. Mr. C. Payne was 1st for six incurved, showing Baron Hirsch; 2nd, Mr. W. Amies, South Ashford, Kent, with Mons. Bahuant. The two following classes were reserved for exhibitors who had not taken prizes in previous years. Mr. J. Knapp was 1st for six Japanese, with Col. W. B. Smith, W. Seward, and Sunflower; 2nd, Mr. G. Norris, gr. to T. Bevan, Esq., Greenhithe.

For six incurved, 1st, Mr. G. Norris; 2nd, Mr. E. Russell. The premier position for hand bouquet of Chrysanthemums was taken by Mr. C. J. Gatehouse, nurseryman, &c., Lewisham; 2nd, Mr. F. Wells, gr. to F. G. Arbuthnot, Esq., Bexley.

Epergne or vase.—A beautiful exhibit gained 1st prize here to Mr. D. B. Crane, Woodview Terrace, Highgate; a good 2nd being Mr. C. J. Gatehouse.

In the competitions for flowers grown within a radius of 3 miles of the place of exhibition, the most successful exhibitors were Mr. J. Rhoden, gr. to J. Vavasseur, Esq.; Mr. T. Couldray, gr. to Mrs. Levy; Mr. J. Pearce, gr. to Mrs. Wainwright; Mr. E. H. Meggs, gr. to H. Pain, Esq.; and Mr. J. Bury, gr. to C. Bayes, Esq.

A very interesting section, bringing out some fine flowers, was that devoted to amateurs who are not assisted by a gardener. Dr. G. Walker, Wimbledon, showed remarkably well; as did Mr. James Moore, Greenwich; Mr. H. H. Needs, Horsell, Surrey; Mr. J. Rose, Plumstead; and Mr. R. J. Worthington.

For well-arranged and flowered groups of Chrysanthemums, the successful competitors were Mr. F. Fox, gr. to Mrs. Penn, Lee; Mr. J. Fulford, gr. to J. Wythes, Esq., Bickley; and Mr. J. Williams, nurseryman, Lewisham. And for a group of flowering and foliage plants, Mr. J. Lyne, gr. to H. F. Tiarks, Esq., and Mr. A. Tomalin were successful.

There were also classes for table plants, Primulas, &c., and Messrs. Lyne and Judge gained the special prizes for any plant in flower other than a Chrysanthemum, the best being Cattleya labiata.

Fruit was also well shown, and there were good miscellaneous exhibits by the trade.

Messrs. H. Cannell & Sons had good flowers of Chrysanthemums and French Cannas; Mr. C. J. Gatehouse, pretty wreaths of Chrysanthemums; Messrs. John Laing & Sons had a collection of Apples, and a well-arranged group of flowering and foliage plants; Mr. Williams, Lewisham, exhibited a good group of Chrysanthemums; Messrs. J. Peed & Sons, fruit.

WEST KENT.

November 6, 7.—The seventeenth annual show was held in the Public Hall, Bexley Heath, on the above dates. Cut flowers were better represented than plants, the competition in the latter not being keen, save in the cottagers' classes.

The best twenty-four cut blooms, consisting of incurved and reflexed Japanese and incurved proper, in equal proportions, came from Mr. A. Tomalin, gr. to S. White, Esq, the best of the Japanese being Mdlle. Marie Hoste, Viviand Morel, Chas. Davis, and Etoile de Lyon; the incurved comprising blooms of medium size, in good condition. Mr. J. Wakeham, gr. to Mrs. Bean, who was 2nd, had also a good exhibit, but scarcely so large or so bright.

For twenty-four incurved blooms, in eighteen varieties, Mr. A. Tomalin was also 1st, the Queen family being the chief feature.

The 1st prize exhibit of twenty-four Japanese, in eighteen varieties, was a particularly good one, comprising the best kinds, the blooms very bright and fresh; these were shown by Mr. Simon, gr. to W. Mann, Esq. Not many points behind was the next stand, from Mr. Wakeham; here the flowers were not so full.

For twelve reflexed, two excellent stands were staged, comprising Cloth of Gold, Cullingfordi, and The Christines, Mr. A. Tomalin being 1st, and Mr. E Russell, gr. to T. Pim, Esq, 2nd.

The large-flowered Anemone class was a strong one, there being but little to choose between Mr. A. Tomalin's stand, who was 1st, and Mr. E. Russell's; and with a few more days to develop them, the latter would have won.

The best six blooms of one white variety of incurved went to Mrs. Heale, shown by Mr. A. Tomalin; and the 1st for six of any coloured variety to Lord Alcester, also from Mr. Tomalin. The best half-dozen pure white Japanese were of Mdlle. Marie Hoste, large and even; and the best of any coloured variety were superb blooms of Chas. Davis, the exhibitors being respectively Mr. A. Tomalin and Mr. J. Wakeham.

Plants consisted of groups and specimens, the best of the former in the larger class being staged by Mr. J. Wakeham, Danson Park, whose plants bore some extra fine blooms, whereas those of his antagonist were getting stale; in the smaller class a very creditable group was arranged by Mr. H. J. Nobes, gr. to C. Holme, Esq. The best-trained plants came from Mr. E. Russell, who was 1st for both dwarf plants and standards.

Some good fruit was shown, notably the three bunches of Mrs. Pince Grapes from Mr. J. Wakeham, and the Pears from Mr. E. Russell.

Vegetables also were good. The cottager's exhibits of vegetables and Chrysanthemums both as plants and cut blooms were particularly good.

SEVENOAKS AND WEST KENT CHRYSANTHEMUM.

November 6, 7.—The tenth annual exhibition was held in the Club Hall on the above dates, and the show was, on the whole, a good one. Mr. S. Cooke, gr. to D. B. Crawshay, Esq., Rosefield, was 1st for a tastefully-arranged group, and was closely followed by Mr. Hughes, gr. to J. Dixon, Esq., Edenhurst. For six blooms, one variety, Mr. R. Potter, gr. to Sir Mark Collet, Bart., St. Clere, was 1st, and Mr. Hughes 2nd.

In the class for twelve Japanese blooms, distinct varieties, Mr. Hughes led, and was followed by Mr. Potter. Mr. S. Cooke was 1st for twelve Japanese, in not fewer than eight varieties; and 2nd, Mr. Tebay, gr. to Mrs. Rycroft, Everlands.

Twelve incurved blooms, distinct varieties, were best from Mr. A. Gibson, gr. to T. F. Burnaby Atkins, Esq., Halstead Place; Mr. Hughes 2nd. Twelve incurved blooms, in not fewer than eight varieties, were best shown by Mr. S. Cook, Mr. Tebay being 2nd.

Ferns were well shown by Mr. Hough, gr. to M. Lambarde, Esq., Beechmont, and Mr. Hughes. Table plants were best from Mr. Hancock, and Primulas and Poinsettias from Mr. Latter, gr. to Mrs. Tooth, Park Farm.

Mr. Potter led with Black Grapes and cooking Apples; and Mr. R. Edwards, gr. to G. H. Field, Esq., Beechy Lees, was 1st for dessert Apples, and four dishes of Pears.

Collections of vegetables were numerous, and Mr. Edwards was 1st in a class for twenty-four of six varieties, Mr. Cooke being 2nd. Prizes in class 25 were offered by Mrs. Seale, Vine Nursery, Sevenoaks, and Mr. Edwards was again 1st; Mr. Heath, gr. to Mrs. Petley, Riverhead, being 2nd. Prizes in class 26 were offered by Mr. Webber, Tonbridge, and the 1st prize fell to Mr. Farmer, gr. to J. S. Norman, Esq. For prizes for a collection of vegetables, offered by Messrs. Carter & Co., Mr. Rivers, gr. to Miss Northey, was 1st, and Mr. Huntley, gr. to the Rev. Curtis, was 2nd.

Groups for effect, 1st, Mr. Heath; 2nd, Mr. Read, gr. to Admiral Miller, Fernside. Incurved trained plants were best from Mr. Hilton, gr. to J. Drummond, Esq.; and Mr. Farmer; and Japanese trained plants by Mr. Heath and Mr. Huntley. In the Pompon class for trained plants, Mr. Huntley led, and was followed by Mr. Hilton.

For twelve cut Japanese blooms, Mr. Heath was 1st; 2nd, Mr. Emery, gr. to G. Christy, Esq.

Mr. Heath was 1st for Ferns, showing grand plants of Adiantum Farleyense. Mr. Hilton led with table plants, and Mr. Huntley with Primulas.

Messrs. Terry, Clarke, Butler, and Galloway were the most successful competitors for collections of vegetables. Mrs. Seale, Vine Nursery, had a very fine arrangement of Dahlias, Palms, grasses, bouquets, wreaths, &c.; and Mr. Ryder, gr. to C. Young, Esq., The Thorns, a group of Orchids.

WATFORD CHRYSANTHEMUM.

November 6, 7—The Watford Chrysanthemum Society held their ninth Annual Show in the Clarendon Hall, Watford. The show was one of the best that has been held by the Society, and there were 40 more entries than in the preceding year.

In the open class for a miscellaneous group, the 1st prize was won by Mr. H. H. Gibbs, M.P. (gr., Mr. Beckett), and for a smaller group Mr. C. R. Humbert (gr., Mr. Ashdown) was 1st. The exhibit in the latter class secured the silver cup for the best group in the show, and Mr. Colchester's special prize. The 2nd awards were gained by Mr. G. J. Beer (gr., Mr. Plumb), and Mr. W. K. D'Arcy (gr., Mr. Tidy).

For cut blooms, Mr. H. H. Gibbs was again successful in obtaining two 1st prizes, offered for twenty-four incurved and twenty-four Japanese varieties, Mr. T. F. Blackwell being 2nd in both cases. The other principal prize-takers in the open classes for cut-blooms were Mr. C. Van Raalte, Mr. J. Larkin, Mr. Gilclan, and Hon. A. Holland Hibbert. Mr. W. K. D'Arcy won the premier award for Black Grapes, Mr. H. H. Gibbs, M.P., gaining 1st prize for White Grapes, and also obtained a similar success for a collection of vegetables.

Two of the special prizes for blooms were obtained by the latter gentleman, and the special awards for Mushrooms went to Mrs. Robins and Mr. S. Tapnell Holland.

In Division II., open to members only, Mrs. Robins (gr., Mr. Wilson), was 1st, for a miscellaneous group, the exhibit also taking a silver cup and the silver medal offered for best exhibit in the show. The Right Hon. Lord Esher (gr., Mr. Brown), took 2nd place. The other leading winners in this division for cut blooms were, Mr. C. Van Raalte, Mr. A. Henty, Mr. G. J. Beer, Mr. W. K. D'Arcy, Mr. J. Larkin and Mr. Bosanquet. The chief awards for twelve bunches of Pompons and Anemone Pompons went to Mr. R. Henty (gr., Mr. Brown), with Mr. H. H. Gibbs, M.P., as 2nd.

Messrs. Scrivener & Co., as in former years, were again the most successful in the wreaths and crosses, winning the three first prizes, as well as taking 1st for the best bouquet of Chrysanthemums. Mr. Kettle and Mr. Darby each took 2nds in these classes.

Amongst other 1st prizes taken by Mr. H. H. Gibbs, M.P., were those for table plants, collection of fruit, dishes of Pears, six Cyclamen pots and collection of vegetables. Mr. D. Hill obtained the leading award for Apples, Mr. S. T. Holland taking a like prize for six Primulas; and Mr. T. F. Halsey, M.P., won 2nd in the latter class and 1st for vegetables, as also did Mr. Gilclan and Rev. F. H. Hodgson. The Dowager Duchess of Bedford secured 2nd for twelve table plants.

The chief prizes in the classes for members not employing more than three gardeners were as follows. The best prizes for groups went to Mr. C. Braithwaite (gr., Mr. Wearing), and the Right Hon. Viscountess Malden (gr., Mr. Wilks); whilst the similar awards for cut blooms were given to Mr. W. F. D. Schreiber, Mr. E. Mawley and Mr. R. Debenham. The other leading trophies fell to Dr. Brett, Mr. D. Hill and Mr. S. Taprell Holland.

In Division IV., for members with one gardener, the group prizes were taken by Mr. C. Braithwaite and Mr. W. E. Moore (gr., Mr. Hall), whilst for blooms Mrs. Part gained three 1st prizes (also two 1sts for table plants and Primulas); and Mr. Rowlands a 1st and 2nd as well as 1st for a collection of vegetables.

The amateur prizes for Chrysanthemums were awarded to Mr. G. Dilks and Mr. J. Woodgate, and for cut blooms Mr. J. Fox secured two 1st places.

The cottager's classes were fairly well sustained, the most successful in the ladies' class was Miss K. Mead, who secured 1st prizes for six buttonholes (gent's) and three sprays of flowers for ladies' dress, and 2nds for six buttonhole bouquets of violets and single stand of cut flowers and foliage.

TORQUAY CHRYSANTHEMUM.

November 7.—If not quite so large in extent as in some previous years, the recent exhibition was an interesting one, and as usual the place of meeting was the Bath saloons. Groups of Chrysanthemums and of miscellaneous plants were numerously staged, and the premier honours fell to Mr. J. Hill, gr. to Rev. H. Rutherford, Redcliffe, Torquay, who had a lot of well-grown plants nicely arranged. Mixed groups were seen to advantage in those of Mr. Satterley, gr. to Mrs. Matthews, Braddon Villa, Torquay; and Mr. Slowman, gr. to Captain Fane Tucker, Braddon Tor, Torquay, the prizes going in the order of the names. Orchids in three specimens were best shown by Mr. J. Medland, gr. to Morton Sparke, Esq., Rooklands, Torquay; Cypripedium Spicerianum, Vanda cœrulea, and Maxillaria grandiflora being capital plants in good condition.

Mr. Medland was likewise first for one Orchid. Mr. Satterley had the best lot of dinner-table decorative plants.

Cut blooms seemed to show a falling-off in point of numbers.

Mr. Veale, gr. to Rev. H. Simms, Newton Abbot, was 1st for thirty-six Japanese and incurved varieties in equal numbers. His blooms were of a creditable character. Mr. J. Symes, gr. to Col. Halford Thompson, Teignmouth, had the premier stand of twelve incurved varieties. Mr. Veale had a similar stand of Japanese varieties, and Mr. Satterley was awarded highest prize in the local class for the same number of the last-named varieties.

Anemone-flowered varieties were excellently shown by Mr. Veale, in stands of six blooms. Mr. Bridson, Dartmouth, had grand examples of the Anemone-flowered Delaware in the class set apart for six blooms of any one variety.

Single-flowered varieties were well-shown by Mr. T. Wilkinson in the class for six blooms of any one variety, Admiral Sir T. Symonds being shown in faultless condition.

Not the least interesting features of the exhibition were found in the non-competitive section. Messrs. R. Veitch & Sons, Exeter, had a very good representative exhibit of stove and greenhouse plants, hardy shrubs, and fruit. Messrs. B. Smale & Sons, Torquay, of Chrysanthemums; Messrs. Curtis & Sandford, also of Chrysanthemums; Messrs. Beachey, Violets in pots; Mr. Fitzherbert, Cockington, Torquay, Cyclamens; The South Devon Fruit Farm, Cucumbers, Tomatos, Apples, Pears, and Grapes. We can only speak in terms of admiration of the arrangements generally.

EALING HORTICULTURAL.

November 7.—The seventeenth autumn show held in the Victoria Hall was a fairly good one, groups and cut blooms of Chrysanthemums making pretty and attractive features. The best group came from Mr. Wickenden, gr. to R. Dawes, Esq., Edmondscote; and the 2nd from Mr. Rickerd, gr. to T. Lilley, Esq, The Croft. For a smaller group, the 1st prize was well won by Mr. C. Long, gr. to E. P. Oakshott, Esq., Orchard Dene.

Mr. C. Long was 1st for twelve incurved blooms, and Mr. Wickenden was 2nd.

Very fine were the flowers in the class for twelve Japanese. Mr. Edwards, gr. to W. Owen, Esq., was 1st, and Mr. Long 2nd. Twelve bunches of Pompons, Messrs. Edwards and Rickerd being 1st and 2nd.

For three plants (incurved, Japanese, or reflexed), Messrs. Rickerd and Edwards were 1st and 2nd respectively. In the open class for nine incurved blooms, the 1st prize (Silver Medal) was gained with some very fine flowers by Mr. C. Edwards; the same exhibitor taking 1st honours for six blooms, followed by Mr. Merridew.

Mr. Edwards was the 1st prize-winner for six large-flowered reflex, and six large-flowered Anemone blooms, in each case being very closely followed by Mr. C. Long. The rest of the classes included some for table decorations, floral arrangements, fruit, &c.

BOURNEMOUTH AND DISTRICT CHRYSANTHEMUM.

November 7, 8.—A most successful show was held on the above dates, the exhibits were more numerous than there was proper space for, and several of those for competition were far too crowded. In this direction there is need for improvement, as although the committee give size of boards, &c. to be used, in more than one class the space allotted to competitors did not allow of proper staging. The challenge cup and prize for thirty-six blooms went to Mr. J. Carpenter Garnier, Rooksbury Park, Fareham (gr., Mr. N. Molyneux). President Borel, C. Davis, International, G. C. Schwabe, were most noticeable. The National Chrysanthemum Society's certificate for the best stand also went here. A good 2nd was found in Mr. W. Baring, Salisbury. For twelve Japanese Mr. Baring was 1st, and also for six Avalanche in a well contested class; but Mr. J. Carpenter Garnier was in front for twelve of incurved varieties. Mrs. Trevor Goff was successful with "Mrs. Heale" in a class for six incurved; a stand of "Hero of Stoke Newington," from Mr. F. Richards, being close.

Mr. Ingram, Parkstone Nursery, secured the silver cup for a group of plants, fresh and bright blooms being found of all varieties represented. A second cup and the National Chrysanthemum Society's certificate was given to Mr. Fenwick for a smaller group of much merit; Mr. W. Petch winning in one of 40 feet, and Mr. C. H. Mate in one of 30 feet. It would be difficult to overrate these, but pressure of space prevents us from giving fuller notice. The 2nd prize winners were so close in the majority of cases that their defeat was an honour.

For three bunches of Black Grapes, Mr. J. W. Mitchell, gr. to J. W. Fleming, Esq, Romsey, was 1st, Mr. J. Chalk, gr. to G. Read, Esq., Salisbury, beating him in a similar number of White Grapes.

Mr. T. Tyler, gr. to N. Bond, Esq., was 1st, for two bunches of Black, while Mr. Elliott Lees, Esq, M.P., won for two of White Grapes and for a dish of any variety of Grape, and for dishes of Apples and Pears.

Vegetables were good, and many classes were well contested; a few of the most prominent names were Mr. H. Reeves, who was 1st for a collection, and also won the special prize offered by Messrs. Sutton & Sons. Mr. T. J. Hankinson, Mr. J. J. Armfield, and Mr. H. Whitcher were 1st in their respective classes.

Various forms of decoration were well represented, 1st prizes going to Miss Watkins, Messrs. G. Watts & Sons, and Mr. T. K. Ingram. The last-named was most prominent among the non-com-

petitive exhibits, and made a showy stand. Messrs. Watts & Sons had Conifers as a leading feature; Miss Watkins, Orchids; and Mr. C. H. Ratsch a shower bouquet, baskets of Chrysanthemums and many other designs.

ISLE OF WIGHT CHRYSANTHEMUM.

November 7, 8.—The tenth annual exhibition of this Society was held on the above dates at Newport. Generally the show was a good one, though the entries were fewer than last year. The Japanese blooms were very good, considering the damp weather, but the incurved flowers were of inferior quality. Specimen plants were excellent, but groups were only fair; the quality of the blooms being good, but the arrangement faulty, and the plants were too large for grouping tastefully. Epergnes and bouquets, baskets of autumn foliage, berries, &c., were good. A good collection of Dahlias was staged by Mr. Matthews, Carisbrooke Cemetery, and Mr. Williams, Gatcombe. A collection of Apples and Pears, also a small group of Orchids and Ferns, were staged by Mr. A. E. Cave, for exhibition only.

ISLE OF THANET CHRYSANTHEMUM.

November 7, 8.—This exhibition was held in the Hall-by-the-Sea, Margate, and was a most extensive one in every respect. In addition to Chrysanthemums, the mixed groups and other plant classes, as well as fruits and vegetables, were good. For the best group of Chrysanthemums, Mr. Cornford, gr. to H. Powell Cotton, Esq., Quex Park, Birchington, won in a most creditable manner, the blooms being large and fresh with no overcrowding. Mr. Broomer, gr. to R. H. Clark, Esq., Westwood, Ramsgate, came in a good 2nd, with a better finished group, but the blooms on the whole were not so fine. For a mixed group of stove and greenhouse flowering and foliage plants, Mr. Cornford was again 1st. The chief feature in the group being a profusion of Cypripedium insigne, with Cattleyas and Oncidiums, as well as light-coloured Bouvardias. Mr. Bing, gr. to J. Bailey, Esq., Margate, followed in this instance with a bright group.

For four trained plants of incurved varieties, for six of any variety, and for four Japanese, the competition was not so close, but the winners of the 1st prizes all showed well. For twenty-four cut blooms, Japanese and incurved, in equal numbers, Mr. Tedd, The Gardens, Ulcombe Place, Staplehurst, was 1st by only a few points, his strongest being the incurveds of which M. Bahuant, Empress of India, C. B. Whitnell (extra fine). Alcester, Lucy Kendal, Madame Darrier, Violet Tomlin, and Cherub (a very fine bloom), were the best; and of the Japanese, G. C. Schwabe, Sunflower, Etoile de Lyon, Miss Dorothea Shea, and Beauty of Castlewood; Mr. D. Fairweather, gr. to J. A. Miller, Esq., Bifrons Park, Canterbury, was an excellent 2nd.

For twenty-four incurved varieties, Mr. Cornford was 1st with a first-class stand of blooms, Princess of Wales, Miss Haggas, M. Darrier, Mrs. Coleman, Violet Tomlin, Empress of India and Queen of England, all being of fine colour and form; Mr. Bing who was 2nd, had smaller, but very neat and well finished blooms. Mr. Cornford was 1st for twelve incurved varieties, with similar sorts in good condition. The finest stand in this class was disqualified for staging both Golden Queen and John Lambert, which are by the National Chrysanthemum Society official catalogue deemed synonyms; Mr. Roberts, gr. to J. Sebag Montefiore, Esq., East Cliff, was 2nd. The best half-dozen incurved came from Mr. Standing, gr. to W. Gay, Esq, Grove House; and the three best of one variety, from Mr. Bing, whose choice was Golden Queen. In the class for twenty-four Japanese, Mr. Roberts was 1st, in a keen competition; Mr. Miller, gr. to J. T. Friend, Esq., Northdown, was a close 2nd. Mr. Cornford was again 1st for twelve Japanese in variety, staging a good selection. Mr. Miller followed. Mr. Miller was more fortunate for six varieties, winning with fine flowers of Sunflower, Colonel Smith, and others. For three of one variety he was also easily 1st with Charles Davis, of extra colour and size. Mr. Cornford following. The last-named won for twelve reflexed varieties, having very good flowers; and Mr. Bing followed. Mr. Cornford had also the best twelve large-flowered Anemone. For twelve bunches of Chrysanthemums, three blooms to a bunch, Mr. E. Hawkins, gr. to Sir R. Wright, was 1st, showing each bunch loosely arranged, the flowers very fresh and of decorative size. An excellent class was provided for five plants of Chrysanthemums in 6-inch pots suitable for table decorations, the 1st prize going to plants well suited to the purpose. The amateur classes were, in addition to the foregoing, a very noteworthy feature of the show.

EDINBURGH BOTANICAL.

November 8.—This Society held the first meeting of its fifty-ninth session on the above date, at 5, St. Andrew Square, Professor F. O. Bower, F.R.S., the President, taking the chair. The private business of the Society was principally that of the election of office-bearers for the session of 1894 95, the members whose names appeared on the balloting-sheet being voted for unanimously. Several finely-finished models illustrating Phyllotaxis, and others showing the three positions of ovules, for teaching purposes, were exhibited by Professor Balfour, F.R.S.; while from the Museum of the Royal Botanic Garden, fasciated inflorescences of Uraria crinita and Tamus communis were shown. The communications of the Society was commenced by the President, who for his address gave a paper, with lantern illustrations, on the Reduction of Chromosomes. At the conclusion of the paper, a vote of thanks was proposed by the Rev. David Paul, M.A., to Professor Bower for his interesting paper, this being seconded by Professor Balfour. In the absence of the writer, Professor Balfour read a paper upon the occurrence of Cystopteris montana, in Stirlingshire, by A. Somerville, B.Sc. In his report on the vegetation in the Royal Botanic Garden, Mr. Lindsay, the Curator, gave a list of plants flowering in the rock garden, during the months of August, September and October. A report on the meteorological observations in the garden, was given by A. D. Richardson. In his notes on plants in the plant houses, Mr. R. Harrow, mentioned two plants raised from seed forty-five years old, namely Cassia mimosoides v. Wallichiana, and Ipomœa coccinea. These were originally received from the Botanic Garden, Saharapur, in 1849, and presented by Mr. W. Loudon, one of the Fellows of the Society, to the garden amongst fifty five packets of seeds, the two species under notice only germinating. The President at the close of the meeting read a list of the number of members now upon the books of the Society, which on comparison with previous years shows a favourable increase.

CIRENCESTER CHRYSANTHEMUM.

November 8.—This exhibition took place in the spacious Cornhall of this picturesque Gloucestershire town on the above date, and the result must have been very gratifying to the promoters, as the hall, with its approach, lobby, and ante-chamber, were full of praiseworthy exhibits, autumn-flowering plants, fruit, and vegetables finding a place in the schedule of prizes.

Groups of Chrysanthemums and foliage plants, and also of other plants, both foliaged and flowering, were arranged round the sides of the hall. The 1st prize for Chrysanthemums went to A. Cator, Esq., Coates (gr., Mr. D. Elkins), a striking Palm being in the centre, surrounded with Chrysanthemums possessing blooms of high quality, and faced with small Ferns, Palms, &c. In addition to the 1st prize, the Silver Medal of the National Chrysanthemum Society was also awarded to this group. The 2nd prize went to Colonel Chester Master, The Abbey (gr., Mr. W. Taylor). All the plants of Chrysanthemums were grown in a natural manner. In the class for a single specimen, fine examples of Viviand Morel took the leading prize. The best came from J. Taylor, Esq., Rendcombe Park (gr., Mr. H. R. Saunders); Mrs. W. Brewin (gr., Mr. G. Bignell), was 2nd.

Mrs. W. Brewin secured the 1st prize for six plants of Japanese, having well-grown and bloomed examples of Viviand Morel, Bouquet Fait, Source d'Or, La Triomphante, &c.; Mr. J. Taylor being 2nd.

Three plants of Japanese, the same of incurved, and also singles, brought a good competition. Smaller groups of Chrysanthemums and of stove and greenhouse plants were also staged; and there were classes for Chinese Primroses, Poinsettias, Cyclamens, &c., all being of a highly creditable character.

An open class for thirty-six blooms of Chrysanthemums, eighteen incurved and eighteen Japanese, brought a good competition, the 1st prize being taken by Mrs. Bulley, Marston Hill, Fairford (gr., Mr. G. Price), for an excellent collection, among the Japanese being Charles Davis, W. Seward, Mdlle. Thérèse Rey, Van der Heede, Mrs. C. H. Payne, Mdlle. Marie Hoste, Primrose League, W. Tricker, Beauty of Exmouth, Gloire du Rocher, Alberic Lunden, Florence Davis, &c.; and of incurved, Jeanne d'Arc, Madame Darrier, M. R. Bahuant, Mrs. Robinson King, Violet Tomlin, John Lambert, Baron Hirsch, Refulgens, &c.; 2nd, Mrs. C. Hooper, Stroud (gr., Mr. R. Fawkes), who had capital blooms also, though a little smaller.

With a dozen varieties of incurved, and also in the class for twelve Japanese, Mrs. Bulley took the 1st prize, with excellent examples.

Six Japanese, one variety, were represented by some fine blooms of Avalanche from Mrs. Bulley, who was again 1st; Mr. A. Cator coming 2nd with brilliant E. Molyneux. Mrs. Bulley was also 1st with half-a-dozen blooms of one variety, having Jeanne d'Arc; Mr. J. L. Burgess coming 2nd, with Lord Wolseley.

With eighteen Japanese, Mrs. Bulley and Mr. A. Cator were 1st and 2nd, both with excellent blooms.

Epergnes of Chrysanthemums were very good indeed, and a popular feature. Mrs. Sare, the Fleece Hotel, was 1st; and Mrs. Wearing a very good 2nd.

Baskets of Chrysanthemums and foliage made a very interesting feature, Mrs. Sare being again 1st, and Mr. Dyer 2nd. Equally pleasing were baskets of autumn foliage; the Hon. Mrs. Wilmot was 1st. Mrs. Sare also had the best bouquet.

Some very good Grapes, Apples, and Pears, were shown; also Potatos, baskets of vegetables, &c, but time did not admit of gathering particulars. It should be mentioned that an interesting collection of fifty dishes of Apples and Pears, staged by Messrs. J. Jefferies & Son, nurserymen, Cirencester, was highly commended.

The arrangements were perfect in the hands of the Hon. Sec., Mr. H. Frank Sare, and an excellent working committee.

BRIXTON AND STREATHAM HORTICULTURAL.

November 8, 9.—This suburban society held its annual exhibition in the Town Hall, Streatham, on the above dates. There was a perceptible falling off in the cut-bloom classes, and in those for groups and specimens of Chrysanthemums, but the miscellaneous classes were well filled, particularly those for Orchids, Ferns, Palms, and other foliage plants.

The best group, both for quality and effect, was set up by Mr. Mursell, gr. to Mrs. Barton, consisting of the best whites, yellows, and bronzes, of the Japanese section in beautiful harmony, the front plants being scarcely more than 1 foot in height.

The best six specimens were admirable examples, staged by Mr. Weston, gr. to D. Martineau, Esq.

The best three specimens were very fresh and bright, and came from Mr. Swain, gr. to E. Jones, Esq. For three standard Pompons, Mr. Swain was again 1st, with well-bloomed plants of medium size.

In the cut-bloom classes, with twenty-four incurved, Mr. Poulton, gr. to C. J. Cayley, Esq., was easily 1st, showing an even stand of fresh flowers.

Mr. Mursell won the 1st prize for twenty-four Japanese, with a grand lot of blooms, large, fresh, and in good variety, the best being Madame Thérèse Rey (extra fine), Sunflower, Tribune, Excelsior, G. W. Childs, and Thos. Wilkins; Mr. Owden, gr. to A. Morris, Esq., was a good 2nd.

Mr. Poulton was 1st for twelve varieties, the best of which in a good lot were Madame Hoste, Col. Smith, and Mrs. F. Jameson; Mr. Gray, gr. to L. Hanson, Esq., was a close 2nd.

For six varieties, Mr. J. W. Stevens, gr. to M. Voss, Esq., was 1st. Some good stands of Pompons were staged, the best coming from Mr. Cherry, gr. to Mrs. Gabriel, rubra perfecta, and W. Westlake being the best; Mr. Guyett following closely for 2nd.

For twelve varieties of broad-petalled Japanese incurved, Mr. Mursell was again 1st, showing a strong lot, Mons. Panckoucke, Pearl Beauty, and Edwin Molyneux being his best. With twelve blooms of any Japanese varieties upon stems not less than 15 inches in height, no wires to be used, Mr. Mursell could not be beaten; Mr. Poulton followed with a good stand. The last-named exhibitor took 1st for twelve of any section, open to single-handed gardeners only. A special Award of Merit was made to Mr. Mursell for an extra exhibit of Madame Thérèse Rey, very fine blooms. For the most tasteful arrangement of Chrysanthemums in a basket, Miss C. M. Crook, Palace Road, Streatham, was 1st, showing a beautiful combination of bronzy foliage with a Japanese variety of a similar shade; Miss E. Whittard was 2nd.

Orchids were extensively shown and in excellent

condition. The best six came from Mr. Ranson, gr. to J. T. Gabriel, Esq., Cattleya Dowiana, C. Bowringiana, and C. labiata being extra good. Mr. Fulbrook, gr. to B. Baker, Esq., had the best three, and Mr. Mursell the finest specimen Cypripedium insigne with about thirty flowers.

A vote of thanks was accorded to J. A. Whittard, Esq., of Clapham Park, for a miscellaneous collection of stove and greenhouse plants, and a Silver Banksian Medal to his gardener, Mr. H. Wright.

TADCASTER PAXTON.

November 9.—This Society held its third annual show of Chrysanthemums, flowers, fruit, plants, and vegetables in the Town Hall, Tadcaster, on the above date, and in the number and quality of the exhibits, it was a distinct success. Mr. T. Fielden, of Grimston Park, exhibited (not for competition) a magnificent group of Chrysanthemums, and a splendid collection of Apples and Pears, showing kinds suitable for the northern climate.

In the class for groups of Chrysanthemums arranged for effect, Mr. T. J. Padman secured 1st; Mr. H. Bromet, who was 2nd, had by far the better flowers, but his arrangement was bad; Masters R. and H. Colley, aged respectively thirteen and nine, were awarded 3rd. The show was opened by Mrs. Fielden, of Grimston Park. Mr. Clayton, of Grimston Gardens, and Mr. McIntosh, of York, were the judges.

DEVON AND EXETER HORTICULTURAL.

November 9.—What the committee are proud to describe as the one hundred and eightieth exhibition of this society was held on the above date, and may be described as a good average one in point of quality, though the exhibits were less numerous than at the last autumn show. Had the fixture been a week later it would have suited some exhibitors better, but, on the other hand, a wet November in Devonshire, with its natural humidity of climate, so charges the atmosphere with moisture that growers have had the utmost difficulty in keeping their blooms from damping off. Pears were well represented, but Apples were not up to the standard of recent years, either in size or colour.

Chrysanthemums, Groups.

In the premier class for plants covering a circle of not more than 9 feet diameter, and consisting of not fewer than eighteen varieties, Mr. W. Brock, Parkerswell (gr., Mr. Rowland) was 1st, and Mrs. Sim, Knowle (gr., Mr. Williams) 2nd. The two groups were well put together, but differed greatly in style, Mr. Brock's being exceedingly dwarf, the plants in it ranging from 1½ to 4 feet in height, and forming a beehive-like mound of pretty and well-furnished Chrysanthemums, fringed with Adiantums, and crowned with a magnificent Palm—Kentia Belmoreana—which gave a dignified finish to the group. Mrs. Sim's group beat Mr. Brock's in regard to quality of bloom, and contained some exceedingly well-grown plants, but being taller—3 to 5 feet—it was lacking in colour at the sides owing to want of flowers. The crown of Areca lutescens was rather light, and the colour too pale for giving a finish to a mass of colour. Although quite dissimilar in appearance, the 2nd ran the 1st very close as regarded the effect made.

In Class II., for a group of Chrysanthemums in pots, no fewer than 12 varieties, arranged with foliage plants in a circle with a diameter of nine feet, taste in arrangement to be the primary consideration, Mr. Brock was an easy 1st; Lady Duckworth, of Knightleys (gr., Mr. Bartlett) being 2nd. In this class Mr. Brock's resources in the matter of glass helped him greatly, his Crotons, Bamboos, Palms, Asparagus, Poinsettias, and other showy plants culminating with a grand Seaforthia elegans, which in the judges' eyes gave him many points over his opponents.

In the class for miscellaneous groups, not more than 12 Chrysanthemums in 6-inch pots, arranged for effect on a stand 7 feet square, and raised 1 foot from the floor, the centre plant not to exceed 10 feet in height, Mr. Brock and Lady Duckworth again carried off the honours, the former winning easily. The premier group was comprised of Bouvardias, Poinsettias, Cyperus variegatus, Calanthe Veitchi, Cattleya maxima, Cypripedium Spicerianum, Crotons, Richardia, and a fine crown of Cocos plumosa, the outer edge being fringed with Panicum variegatum. Lady Duckworth's group had some very good Poinsettias, Draccenas, and Acacias, and two very large and handsome Ricinus zanzibarensis.

Table plants were an indifferent lot; Primulas only fair; but the Cyclamen from Mr. Thos. Turner, Cullompton (gr., Mr. Madge), were very good indeed. Bouvardias, Violets, Solanums, and Poinsettias were of average quality, Violets being rather above the average in bloom.

Cut Blooms.—Thirty-six Japanese, distinct. The judging of this class was rendered doubly difficult by a knotty point arising as to the identity of a bloom in Mr. Hammond Spencer's entry, which was labelled Beauty of Teignmouth, the judges finally deciding that it was Duke of York. There being another bloom of Duke of York in this exhibit, it was disqualified on the ground that only 35 distinct varieties had been staged. It was, unquestionably, very hard on Mr. Foster, Mr. Hammond Spencer's gr., for this same variety had been shown in London as Beauty of Teignmouth. At the same time, the strong resemblance to Duke of York was there remarked upon, and the doubt expressed as to whether there was any practical difference. When looked at casually, the two blooms seemed to be distinct varieties, but a minute comparison showed the points of resemblance; and as shown in this stand the judges reluctantly came to the conclusion that there was no alternative but to disqualify. Mr. Vincent Stuckey, Langport (gr., Mr. Lloyd), took the President's Prize, a Silver Cup, and the certificate of the National Chrysanthemum Society, the 2nd prize going to Miss Fripp, Teignmouth (gr., Mr. Stiles), and 3rd to Mr. Henry Hill, market gardener, Whipton. In the winning entry were fine blooms of Duke of York, Madame Calvat, W. H. Lincoln, Mdlle. Thérèse Rey, Waban, white Louis Bœhmer, Mr. A. H. Neve, Madame Capitant, Beauty of Castlewood, International, and D. B. Crane. In the 3rd prize lot was Stanstead White, to which was awarded the special prize for the best Japanese bloom in the Show. It was undoubtedly a magnificent bloom, very fresh, and indeed hardly at its best. In this class Mr. W. Cross, Sidmouth, staged a fine specimen of Hairy Wonder.

For six white Japanese, Sir John Shelley, Bart., Shobrooke Park (gr., Mr. Mairs), was 1st with Beauty of Exmouth; Mr. W. H. Fowler, Taunton (gr., Mr. Hawkins), being a good 2nd with fine blooms of Mdlle. Thérèse Rey. In the six yellow Japanese, Sir Wm. Walrond, Bart., Bradfield (gr., Mr. Heath), was 1st with W. H. Lincoln, Mr. Hammond Spencer coming in 2nd with the same variety. For six of any other colour, one variety, Sir Wm. Walrond was first with Viviand Morel, Mr. W. H. Fowler 2nd with E. Molyneux.

The incurved classes were comparatively weaker, the 1st—for 18 blooms—going to Miss Fripp, who staged nice blooms of Brookleigh Gem, Lord Alcester, Empress of India, Prince of Wales, and Mrs. S. Coleman. Anemone flowers and Pompons were rather uneven, and nothing very special in point of quality or number.

Grapes were shown in fine condition, though there were not any very heavy bunches.

Apples were not up to the mark. The 1st prize for 24 dishes, distinct, was awarded to Lord Poltimore, Poltimore Park (gr., Mr. Martin), whose collection was made up of the kinds usually seen at exhibitions. In the 2nd prize collection, won by Mr. W. F. Richards, Beaumont House (gr., Mr. Bawden), were Lucombe's Pine and Hicks' Lord Nelson, of splendid colour. A very good collection staged by Sir John Davie, Bart., Creedy Park (gr., Mr. Seward), was disqualified owing to there being two dishes labelled King of the Pippins. This was obviously an error in naming, and as the exhibitor declared the other dish to be Beauty of Wilts, and therefore distinct, it was suggested that the judges would have been within their rights in correcting the name and overlooking the evident slip, in whatever way it arose. Other critics declared the two dishes were, as named, King of the Pippins. Indeed, one of the striking features of the exhibition was the number of those who were disqualified in both fruit and flower classes for showing contrary to schedule.

Pears were very good. Sir John Shelley would have taken premier honours, but was disqualified, for instead of having six dishes dessert and three culinary as required, he staged five dessert and four culinary. Curiously enough, the next best lot—Sir John Davies—were disqualified for a similar reason. The result was that Sir Wm. Walrond came in 1st, and Sir T. D. Acland, Killerton (gr., Mr. Garland), was 2nd. The Catillacs shown by Mr. Joseph Ham, Budlake, were awarded 1st prize, the five fruit weighing over 9 lb. The Pitmaston Duchess staged by Mr. Trehawke Kekewich, Peamore (gr., Mr. Abrams), were grand fruit, while the Doyenné du Comice shown by Sir Wm. Walrond were of glorious colour. Both took 1st prizes in their respective classes.

Among the Pears staged which are not now often seen, were Knight's Monarch, Forelle, and the Black Pear of Worcester.

Apples packed for market (in boxes) were an interesting class, and showed a great advance in regard to packing, grading, and general attractiveness. The Amateur's Classes were creditable, the chief prize-takers being Mr. G. C. Crabbe, Mr. G. B. Lansdale, and Mr. W. Letheren.

Ornamental baskets of autumn foliage and berries were a pretty show, the 1st prize won by Miss Rowdon of Tiverton being an artistic production.

Trade collections were numerous and highly creditable to the firms represented, among whom were Messrs. Robert Veitch & Son; the Exeter Nurseries Co.; Mr. W. J. Godfrey, Exmouth; Jarman & Co., Chard; Mr. Watkins, Hereford; Bunyard & Co., Maidstone; Stevens & Son, Alphington, &c.

Col. Halford-Thompson exhibited a collection of plants grown in Jadoo Fibre, without earth; Mr. Stiles, Teignmouth, showed a new telescopic Chrysanthemum-tube, which seems to combine simplicity with efficacy. Blooms of the new Green Chrysanthemum, "Ethel Amsden," (a sport from Viviand Morel) were shown by Robert Veitch & Son.

The President of the Society, the Hon. Sir Stafford Northcote, Bart., C.B., M.P., presided at the luncheon. The arrangements were carried out by the hon. secretary, Mr. G. D. Cann, and a committee, in a highly satisfactory manner.

HAMMERSMITH HORTICULTURAL.

November 9.—What is the tenth autumn exhibition of this extra-urban district came off on the above date, bringing some creditable groups and cut blooms from local cultivators of Chrysanthemums. Mr. L. Woodhouse, St. Peter's Grove, showed a well-arranged group, and other groups were constructed by Mr. Bromley and Mr. Thompson. The competition for the best twelve Japanese blooms resulted in the highest prize being unawarded; whilst Mr. Wood, gr. to Mrs. Sanderson, secured the 2nd. In the six-bloom class, Mr. J. Addison was 1st with excellent specimens. Here, Mr. Wood was again 2nd. Amongst amateur competitors Mr. Tolton carried off the prize for six Japanese and six Anemones, in eight varieties; Mr. Botwright being 2nd. Messrs. Tolton, R. E. Wilson (Bromley), Botwright, and Thomson were successful in various sections, whilst Mr. T. Pitt, Secretary to the Society, secured several 1sts. Chinese Primulas were nicely shown by Messrs. Wood & Addison. Vegetables of much excellence, and some small lots of fruit and Tomatos formed part of the show.

KINGSTON AND SURBITON.

November 13, 14.—The annual exhibition of this Society was held on the above dates at the Drill Hall, as usual. Classes generally were well filled, some of the cut bloom classes bringing sharp and considerable competition. Incurved blooms were remarkably good—probably none better have been seen this season, whilst Japanese flowers were not at their best, though there were plenty of fine flowers. The reputation of the Society for its annual exhibitions was, on the whole, admirably maintained.

Plants.—Of these there were miscellaneous groups of little interest at this season of the year, the prettiest coming from Mr. F. Hopkins, gr. to Mrs. Wodderspon, Walton-on-Thames, though colour was lacking. Mr. H. Bress, gr. to W. A. Aston, Esq., Epsom, who was placed 2nd, had some good Dendrobiums and double-flowered white Primula sinensis in his group; Mr. A. Ratcliff, gr. to J. B. Johnstone, Esq., Kingston, was 3rd.

Chrysanthemum Groups were of the usual formal and very uninteresting order. Mr. G. Mileham, gr. to A. T. Miller, Esq., Leatherhead, was 1st; Mr. J. Peed, gr. to R. L. Bond, Esq., Surbiton, 2nd; and Mr. Forbes, gr. to D. Nicols, Esq., Surbiton, was 3rd. This is a class that much needs improving.

Trained Plants.—These were fairly good, some grand specimens coming from Mr. J. Swan, gr. to G. Murray Smith, Esq., Weybridge, who had Sunflower, Mr. Stevens, and Madame Lacroix, amongst Japanese; and Pink Christine, Mr. G. Glenny, and Mrs. Rundle, incurved. All some 3½ feet across, being full of bloom. Mr. S. Peed was 2nd.

In the class for three plants, Mr. Swan was the

only exhibitor, having Stanstead Surprise, Maiden's Blush, and Sunflower. With three standards, Mr. F. Knight, gr. to A. F. Perkins, Esq., Holmwood, was a good 1st, having Stanstead Surprise, Mrs. Rundle, and Viviand Morel. Mr. Swan was again 1st, with four large trained Pompons, well-flowered plants of Black Douglas, Mrs. Astie, St. Michael, and Marie Stuart.

Other plants were plentiful, Chinese Primroses especially being good. With six of these Mr. W. Mease, gr. to A. Tate, Esq., Leatherhead, and Mr. Mileham were placed equal 1st, the former plants being more compact, but both were large and finely flowered. The varieties were Marchioness of Exeter and White Lady. The best six Bouvardias came from Mr. Peed, and the best nine table plants from Mr. McGregor, gr. to Dowager Lady Hay, Putney Hill, all elegant and well coloured. There were other plants we cannot now notice.

Cut Blooms.—Again, as usual, the chief interest in this direction centred in the contest for the Challenge Vase, a fine silver tankard valued at 25 guineas. This was the seventh of these fine prizes, and that of last year was won for the first time by Mr. Flight, Twyford, Hants. This time Mr. Flight did not compete. The competitors numbered four, and their flowers were so even in many respects that a very long time was consumed in making the awards. That comes of setting five men to do only two persons' work. Eventually the cup this year was won by Mr. Higgs, gr. to J. B. Hankey, Esq., Leatherhead, with a very fine lot of flowers, which consisted of old favourites and new varieties. Mr. Jas. Quarterman, gr. to C. E. Smith, Esq., Cobham, was 2nd; and Mr. G. Hunt, gr. to P. Ralli, Esq., Ashtead Park, 3rd.

Incurveds.—Mr. Mease was an easy 1st with twenty-four very fine blooms in that class, having Lord Alcester, very fine; C. B. Whitnall, Empress of India, M. R. Bahuant, &c. Others had Robinson King, John Doughty, Emily Dale, Lucy Kendal, &c., good; Mr. W. Jinks, gr. to W. M. Grant, Esq., Cobham, was 2nd; and Mr. Higgs, 3rd.

In the class for twelve blooms, Mr. Coomber, gr. to W. Purre, Esq., Teddington, was 1st, having capital flowers, chiefly of varieties already named. Mr. F. King, was 2nd; and Mr. Elliot, gr. to P. W. Graham, Esq., East Molesey, was 3rd. Mr. Quarterman had the best six blooms; Mr. Tomlin, gr. to Mrs. Goldingham, Chertsey, coming 2nd. With six blooms of one sort, Mr. Mease was 1st with very fine Golden Empress, a superb lot of blooms, one of which was selected as the Premier incurved bloom in the show. Mr. J. Plowman had the best bunches in trebles of the three members of the brindle family.

Japanese Blooms.—In the class for twenty-four blooms, Mr. Mease was again 1st with a fine lot for the season, having Viviand Morel, Primrose League, Etoile d'Lyon, Viscountess Hambledon, E. Molyneux, Sunflower, Robert Owen, &c.; and Mr. Standing, gr. to Mrs. Good, Worthing, was 2nd; and Mr. Jinks 3rd.

With twelve Blooooms.—Mr. G. Holden, gr. to Mrs. C. W. Izod, Esher, was 1st; Mr. Coombs being 2nd; Mr. Elliot 3rd. Some capital blooms were in the respective stands.

In the class for six blooms, Mr. Quarterman was 1st. For six blooms of one variety, Mr. Hopkins was 1st with nice E. Molyneux; Mr. Springthorpe, gr. to W. Bevan, Esq., Kingston, came next with Etoile de Lyon, the new Golden Gate from Mr. Hunt being 3rd. The premier Japanese bloom was a very fine Mdlle. Thérèse Rey, shown by Mr. F. King. There were many others, and local classes, which we cannot refer to, also of decorative stands, bouquets, &c.

Fruit—The best four dishes of Grapes came from Mr. Davies, gr. to J. P. Chappell, Esq., Teddington, who had good black Alicante Grapes. Sutton's Monarch Melon, Doyenné du Comice Pears, and King of the Pippin Apples; and Mr. C. J. Waite, gr. to the Hon. Col. Talbot, Esher, was 2nd, with three bunches of black Grapes. Mr. Elliot won easily for Mr. Graham with grand clusters of Gros Colmar; the same variety from Mr. Newman, gr. to J. A. Turk, Esq., Chertsey, coming 2nd; and excellent Alicantes came from Mr. Griffin, Coombe Bank. In the white Grape class, Mr. Simmonds, gr. to W. Arvard, Esq., Twickenham was 1st with medium-sized but beautiful Muscat of Alexandria; Mr. Springthorpe being 2nd.

Apples were plentiful, the best six dishes coming from Mr. W. Adkins, gr. to W. R. Monro, Esq., Coombe Warren, Mère de Ménage, Bramley's Seedling, Wellington, Blenheim, Fearns, and King of the Pippins, being the varieties; Mr. Will Taylor, Hampton, was 2nd; and Mr. G. H. Page, Ham House Gardens, 3rd. The best four dishes of Pears came from Mr. Sage, who had good Doyenné du Comice, Marie Louise d'Uccle, Beurré Bachelier, and B. Rance; Mr. Measures 2nd. The finest basket of six kinds of vegetables came from Mr. Waite, whose samples were first rate.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending November 10.	Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 +	33	0	+ 320	— 45	7 +	196	43·3	7	32
1	5 +	33	0	— 72	+ 20	3 —	178	30 8	29	34
2	4 +	43	0	+ 42	— 75	4 —	183	23·4	23	31
3	5 +	46	0	+ 72	— 140	1 —	177	22·5	42	34
4	5 +	43	0	+ 67	— 136	2 +	170	22 9	31	31
5	5 +	62	0	+ 155	— 147	1 +	171	27·0	39	35
6	6 +	59	0	+ 53	— 71	8 +	183	41·8	25	32
7	5 +	55	0	+ 214	— 138	4 +	180	31·4	20	32
8	4 +	57	0	+ 147	— 90	11 +	183	36 9	26	37
9	4 +	40	0	+ 58	— 39	1 +	200	32·6	29	30
10	4 +	54	0	+ 81	— 81	6 +	183	36 9	28	32
*	5 +	85	0	+ 329	— 18	13 +	191	32·4	27	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending November 10, is furnished from the Meteorological Office:—

"The *weather* during this week was again very unsettled and changeable. Frequent rains were experienced in nearly all parts of the Kingdom, alternating with considerable intervals of bright sunshine.

"The *temperature* continued much above the mean, the excess ranging from 4° to 6°. The highest of the maxima were recorded either on the 4th or 5th, and ranged from 61° in the 'Channel Islands,' and 60° in 'England, S.,' to 54° in 'Scotland, N.' The lowest of the minima occurred towards the end of the week, when the thermometer fell to 29° in 'England, S.W.,' to 32° in the 'Midland Counties,' and to between 33° and 40° in most other districts; in the 'Channel Islands' the lowest temperature was 47°.

"The *rainfall* was less than the mean in 'Scotland, E.,' 'England, N.E.,' and 'England, E.,' but again exceeded it in all other districts; in 'Scotland, N. and W.,' 'England, S.W.,' 'Ireland, S.,' and the 'Channel Islands,' the excess was large.

"The *bright sunshine* exceeded the mean in nearly all districts, the excess in 'England, E. and S. and in Scotland, E.,' being large. The percentage of the possible duration ranged from 42 in 'England, E.,' and 59 in 'England, S.,' to between 20 and 31 in most other districts; in 'Scotland, N.,' however, the percentage was only 7."

MARKETS.

COVENT GARDEN, *November* 15.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Erica, various, doz.	9 0	12 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, various, doz.	4 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	2 6	5 0
Azaleas, doz. sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 6	6 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	2 6	4 0
Gardenias, per doz.	3 0	4 0
Geraniums, scarlet, per 12 bunches ...	4 0	6 0
— 12 sprays ...	0 6	0 9
Gladiolus, doz. bun.	18 0	24 0
Hyacinths (Roman), doz. sprays ...	0 9	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	3 0	5 0
Lilies of the Valley, doz. sprays ...	1 6	3 6
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	1 0	1 3
Orchids:— Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	2 6	3 6
— Czar (French), per bunch ...	1 6	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, Cooking, p. sieve	4 0	6 0
— Dessert, half-sieve	2 6	3 6
Grapes, 1st quality, black, English, per lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	3 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb. ...	25 0	27 6
Pears, Dessert, half-sieve	3 0	6 0
Pine-apples, St. Michael, each ...	2 0	6 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Cauliflowers, p. doz.	1 0	1 6
Cucumbers, per doz.	3 0	4 0
Mushrooms, per lb.	1 0	...
Onions, per bush. ...	1 6	2 0
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 6	0 7

Potatos.

Supply during the past week rather short. Prices keep firm for all kinds, with a tendency to rise values for the cheaper kinds. *J. B. Thomas.*

SEEDS.

London: *November* 14.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market ill-attended and uninteresting. American Clover seed proves disappointing in quality. Some little German Red has been bought here; White continues extremely scarce. Canadian Alsyke is attractively cheap. Trefoil and Rye-grasses neglected. Bird seeds steady. Haricots advancing. White Runners brisk; Scarlet Runners promise to be much dearer. Peas steady. Linseed flat. Mustard and Rape seed unchanged.

FRUITS AND VEGETABLES.

Borough and Spitalfields: *November* 13.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.*; Savoys, 3*s.* to 4*s.*; Cauliflowers 5*s.* to 7*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* 6*d.* to 1*s.* 9*d.*; Parsley, 1*s.* to 1*s.* 2*d.* per dozen bunches; Horseradish, 1*s.* 2*d.* to 1*s.* 3*d.* per bundle; Onions, foreign, 1*s.* 9*d.* to 2*s.* 6*d.* per bag; do., English, 2*s.* to 2*s.* 9*d.* per cwt. Apples, 3*s.* to 8*s.* per bushel; Pears, 2*s.* to 4*s.* 6*d.* per half sieve.

Farringdon: *November* 15.—Quotations: Parsnips, 45*s.* to 50*s.* per ton; Carrots, 35*s.* to 40*s.* do.; Celery, 8*d.* to 10*d.* per roll; Onions, English, 70*s.* to 80*s.* per ton; Brussels Sprouts, 9*d.* to 1*s.* 3*d.* per half-sieve; Cabbages, 6*d.* per dozen; Cauliflowers, 1*s.* do.; Leeks, 9*d.* to 1*s.* do.; Beetroots, 2*s.* per cwt. Horseradish, 1*s.* 3*d.* per bundle; Apples, American, 15*s.* to 18*s.* per barrel; do., English, 5*s.* to 7*s.* per bushel; Tomatos 4*d.* to 5*d.* per lb.

Stratford: *November* 13.—The market has been well supplied with every description of produce during the past week

and a brisk trade has been done at the prices mentioned below:—Cabbages, 1*s.* 6*d.* to 2*s.* per tally; Savoys, 1*s.* 6*d.* to 3*s.* do.; Cauliflowers, 6*d.* to 1*s.* per dozen; do., 2*s.* to 3*s.* per tally; Celery, 7*d.* to 1*s.* per roll; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Brussels Sprouts, 9*d.* to 1*s.* 3*d.* per half-sieve; do., 1*s.* 6*d.* to 2*s.* per flat; Turnips, 1*s.* 6*d.* to 2*s.* 3*d.* per dozen bunches; do., 25*s.* to 40*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; do., cattle-feeding, 18*s.* to 25*s.* do.; Parsnips, 6*d.* to 10*d.* per score; Mangels, 12*s.* to 17*s.* per ton; Swedes, 15*s.* to 20*s.* do.; Onions, English, 60*s.* to 75*s.* do.; do., Dutch, 2*s.* to 2*s.* 6*d.* per bag; do., Valencias, 6*s.* to 6*s.* 6*d.* per case; Apples, English, 2*s.* to 6*s.* per bushel.

POTATOS.

Borough and Spitalfields: *November* 13.—Quotations ranged from 60*s.* to 100*s.* per ton.

Stratford: *November* 13.—Quotations:—Magnums, Dark-soil, 55*s.* to 60*s.*; do. Light-soil, 60*s.* to 70*s.*; Bruces, 60*s.* to 70*s.*; Imperators, 55*s.* to 80*s.*; Main Crop (Scotch), 75*s.* to 85*s.*; Kidneys, Main Crop, 60*s.* to 75*s.*; Bruces, 60*s.* to 70*s.* per ton.

Farringdon: *November* 15.—Quotations:—Beds: Sutton's Abundance, 80*s.* to 90*s.*; Main Crop, 80*s.* to 90*s.*; Reading Giants, 60*s.* to 70*s.*; Bruce, 60*s.* to 70*s.*; Magnums, 60*s.* to 65*s.* per ton. Essex: Sutton's Abundance, 75*s.* to 80*s.*; Bruces, 70*s.* to 75*s.*; Magnums, 70*s.* to 80*s.*; Stourbridge Glory, 75*s.* to 80*s.*; Imperators, 65*s.* to 70*s.* per ton.

London Averages: *November* 14.—Main Crops, 80*s.* to 100*s.*; Snowdrops, 80*s.* to 90*s.*; Magnums, 65*s.* to 80*s.*; Hebrons, 80*s.* to 90*s.*; Early Rose, 70*s.* to 80*s.*; Champions, 60*s.* to 70*s.*; Regents, 70*s.* to 80*s.*; Black lands, 55*s.* to 65*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 10, and for the corresponding period last year:—1894: Wheat, 18*s.* 4*d.*; Barley, 23*s.*; Oats, 13*s.* 7*d.* 1893: Wheat, 27*s.* 4*d.*; Barley, 29*s.* 3*d.*; Oats, 18*s.* 1*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 128*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 6*s.* to 112*s.*; do., inferior, 36*s.* to 60*s.*; Mixed, 90*s.* to 110*s.*; and Straw, 22*s.* to 38*s.* per load.

The Colours of Flowers.—At the Atlantic City Convention of the Society of American Florists, an interesting paper was contributed by Mr. F. S. Matthews, of Boston, on "Comparative Colours and their Relation to Flowers." The speaker claimed that "flowers possess the next best quality of colour to that which we see in the rainbow," and that, if petals were arranged in imitation of the prismatic colours, they would be found brilliant enough to match the tints of the rainbow. The colour fire might be gone, but the colour purity would remain. Pure blue, peacock-blue and green are the only tints that could not be obtained. Without agreeing absolutely with this sentiment, it is certainly true that the colours of flowers have a depth and brightness not to be easily imitated by any pigments of the artist; that the scarlets of certain Poppies, Cannas, and Nasturtiums, for instance, are, if not absolutely pure, brilliant in their intensity, and hard to be paralleled by Art. A systematic standard or shade-card compiled according to spectrum analysis, and stating definitely what proportions of blue and green were to be considered as "peacock;" what depth of tone constituted respectively mauve, purple, violet, &c., would, if universally adopted, save much difference of opinion and uncertainty as regards the naming of the colours of flowers. At present no two persons agree in their definition of a shade: one will term a blossom pale crimson, which by other observers is considered to be dark pink, claret, or some different variety of red. Mr. Matthews includes in his article a warm defence of brilliant magenta, as developed in certain Orchids and Cinerarias, considering the prejudice some feel against it to be due to the fact that "it is too rich and deep when seen in all its purity for any but colourists and lovers of colour to understand!" As a colour it is certainly brilliant—so brilliant that surrounding tints in combination with it frequently produce a perfectly excruciating discord. This disadvantage it is which prevents magenta blossoms from taking a prominent place for decorative purposes.

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Asparagus Sprengeri: *Erfurt.* Asparagus Sprengeri was described by Regel in Act. Hort. Petrop., xi., 302 *J. G. B.*

Books. Standard Work on Fruit: *H. O. N. The Herefordshire Pomona.* Enquire of the publishers, Messrs. Jakeman & Carver, High Town, Hereford.

Botanical Names: *C. J. G.* The botanical name of Convolvulus major is Ipomœa purpurea; of Prickly Spinach, Spinacia oleracea var. spinosa; of Chou de Barghley, Brassica oleracea var.; and of Locust, Ceratonia siliqua.

Celery: *W. P. & S.* White Plume is the name of the variety. It has whitish variegated leaves, which are fit in the unblanched state for garnishing uses; but, if it be required for salad or stewing, it must be as well blanched as ordinary Celery before it is safe, or even pleasant to partake of it.

Celery: *Curiosity.* Probably eel-worms; send entire plant with roots.

Changing Colour of Doronicum Harpur Crewe's Var: *R. C.* We do not see how this can be done without having recourse to some kind of dyeing by absorption through the stem. Cross-breeding might result in some changes of colour.

Gardenias Losing their Leaves: *Constant Reader.* Your method of cultivation is scarcely the right one to follow at this time of the year. The night temperature is 5° too high, and the other conditions are more those of growing plants. The roots are probably infested with eel-worms, or they are otherwise in bad order. Kindly send leaves and roots for inspection.

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Diseased Beech: *R. V. & Son.* The wound on the Bark sent is like those which Nectria ditissima starts with, and there are hyphæ in the tissues which might well belong to that fungus. Such wounds, originating in various ways, are apt to become damp, and give a nidus to bacteria and other fungi, and at certain times of the year quite a mass of a slimy mixture of bacteria and fungi may ooze from them. There is evidence of this being the case here. *H. Marshall Ward.*

Hot-water Pipes in the Greenhouse: *L. G. P.* To blacken them, mix lampblack with boiled linseed oil, and paint them over once or twice.

India Rubber Plant losing some of its leaves: *A. N., Peckham.* This may be due to natural causes if the oldest leaves only fall; but, if young and old leaves fall off, it is a sign that the treatment afforded is not right, or the gas burnt in the room is having an injurious effect on the plant. This plant is apt to lose its leaves if exposed to low temperatures, but this is scarcely likely to be the case, this mild autumn. See that the drainage is in good order; and do not afford more water than will keep the soil moderately moist, *i.e.*, let the plant go without water till the soil has become somewhat dry, then water thoroughly, letting the water pass freely away; and do not let it run into a pan or saucer in which the plant may be standing. This practice of putting saucers under Palms, Aspidistras, Dracænas, Ficus, &c., is not a good one, even in the height of summer, when evaporation from the leaves and the soil is greatest, capillary attraction in the water tending to keep the soil in a constantly wet condition; and as a wet soil soon sours, the roots become affected, and the whole plant suffers in some way. Without seeing your plant, and being told of the kind of treatment followed, we are unable to give more definite advice.

Lath or Bamboo Splint Blinds: *Thea.* Excellent for all kinds of flowering plants, if they are not fixtures; and over ferneries or fern houses they may remain fixed on the roof from April to the end of September. Shelters roofed and walled-in with these blinds are capital places for retarding plants either in or out of bloom. They will not keep out rain when so employed, and that is their only disadvantage. If made with good, well waxed twine or whip-cord, they will last for half-a-dozen years without needing repairs; and with wire, if the splints are varnished, or oil-coated annually, ten years will not see the last of them.

Names of Fruits: *W. Parker.* 2, Beurré de Capiaumont; 16, Verulam; 19, Glou Morçeau; 17, Doyenné du Comice; 48, Duchesse d'Angoulême; 68, and others not known.—*M. H. B.* 1, Belle de Bruxelles; 2, Van Mons Léon Leclerc; 3, Verulam; 4, Beurré Rance. Apples, small one Colonel Vaughan; large, not sure of.—*A. Chapman.* 1, Beurré d'Aremberg; 2, Vicar of Winkfield; 5, Duchesse d'Angoulême; 4, Doyenné d'Alençon.—*H. S.* Most probably Beauty of Kent.—*T. Matheson.* 1, Uvedale's St. Germain; 2, Not known.—*W. Drummond & Son.* 1, Summer Bergamot; 2, Probably Aston Town; 4, Rymer. It is difficult to name your northern fruit.—*F. C. W.* 1, Fondante d'Automne; 2, White Doyenné; 3, Beurré Bosc; 4, Duchesse d'Angoulême; 5, Josephine de Malines; 6, Crassane.—*C. W. Strickland.* We do not recognise your Pear.

Names of Plants: *J. C. S.* 1, Clavaria fusiformis, Sow. (small); 2, Calocera viscosa, Fr.; 3, Clavaria rugosa, Fr.; 4, Polyporus chioneus, Fr.; 5, Russula Queletii, Fr.; 6, Agaricus (collybia) maculatus, Fr., *M. C. Cooke.*—*E. D. L.* Asters: 1, cordifolius elegans; 2, diffusus horizontalis; 3, Novæ Angliæ var. pulchellus; 4, vimineus.—*W. Laing.* 1, Aralia monstrosa; 2, Asplenium Adiantum nigrum acutum; 3, Davallia Tyermanni; 4, Polypodium venosum; 5, Koehleria cristata; 6, Davallia bullata.—*Jack.* 1, Aspidium Fortunei; 2, Lastrea serra; 3, Nephrodium (Aspidium) molle corymbiferum; 4, Aspidium caryotideum; 1 and 4 are commonly known in gardens as Cyrtomium.—*T. H.* Cupressus Lawsoniana.—*Inverness.* The leaves used for surgical purposes are those of Scrophularia nodosa.—*T. S. C.* 1, Pernettya mucronata; 2 Lonicera japonica, probably.—*J. W.* Bambusa Metake of gardens, properly called Arundinaria japonica.—*J. A.* We do not undertake to name florists' varieties; send them to someone who grows them largely.

Portraits of Chrysanthemum Fanciers: *W. C.* As you wish to obtain purchasers for the above, you should advertise the fact.

Sowing Seeds of Daffodils and Tropæolums (Hardy): *W. C. F.* Sow now in sandy loam, and keep the seed-pans in a cool pit, the soil being kept merely moist, one watering at the time of sowing being sufficient for a period of four weeks, if the pans are covered with a piece of slate or tile, as they should be, to exclude mice and light.

Spotted Leaves: *N. F.* The effects of drip, probably. There is no fungus at present visible.

"The American Florist": *P. P.* It is published at 322, Dearborn Street, Chicago. Communications should be addressed to American Florist Co., P. O. Drawer 164, Chicago. Price in Europe, 2 dols. yearly.

Wooden Plant Tubs: *Thea.* Make them with removeable sides if square; char the surface on the inside, and afford the outside one coat of redlead and two coats of dark green or slate coloured oil paint.

Communications Received.—Cassell & Co.—W. L., Trinidad.—W. T.—U. D, Berlin.—C. de B., Antwerp.—H. C., Geneva.—C. N., Antibes.—H. F.—A. C.—T. R. R.—A. J. N.—W. J. S.—A. J. H.—T. T.—A. P.—E. H. J.—H. C. P.—P. W.—D. C. P.—W. S. T.—R. L. H.—A. D. W.—J. McL.—B. W.—W. D.—J. L.—R. E.—J. D.—W. B. H.—M. S.—W. Lunt.—J. H.—J. A. Martin.—H. M.—J. McP.—J. W.—J. H.—A. E.—R. W. P.—J. H. S.—E. C.—W. H.—J. B.

Specimens Received.—J. F.—A. C. Y.—T. S. C.—F. W., Peterborough.—H. Cannell & Sons.

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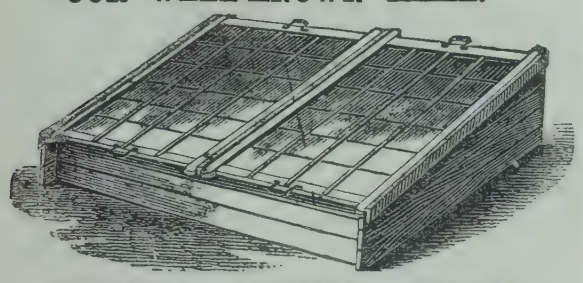
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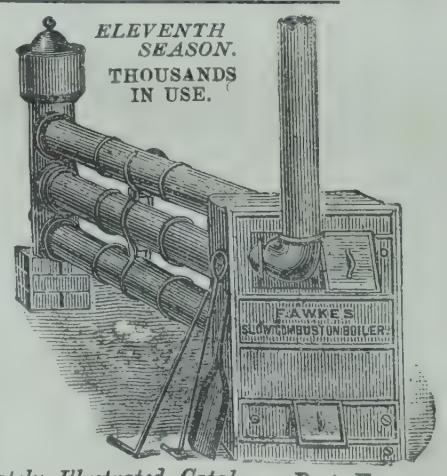
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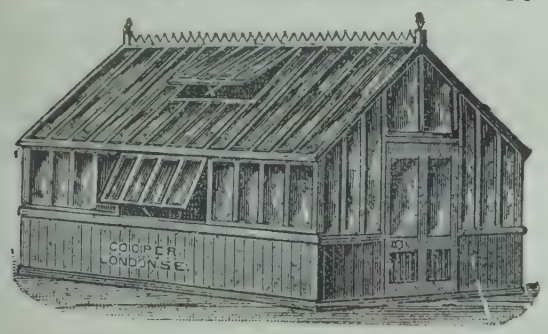
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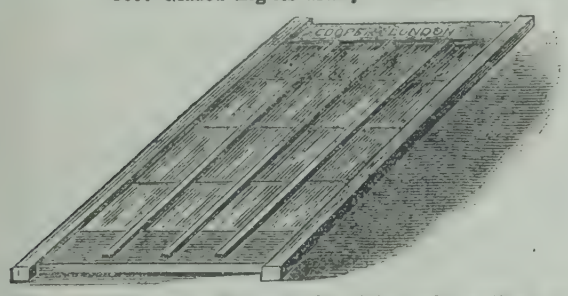
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10 ft. ...	7 ft. ...	7 ft. 6 in.,	4 ft. 6 in. ,,	5 0	...	6	15
12 ft. ...	8 ft. ...	8 ft.,	5 ft. ,,	6 0	...	8	0
15 ft. ...	10 ft. ...	8 ft. 6 in.,	5 ft. ,,	8 10	...	12	0
20 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	12 0	...	16	0
25 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	16 0	...	21	0
50 ft. ...	10 ft. ...	9 ft.,	5 ft. 6 in. ,,	30 0	...	40	0
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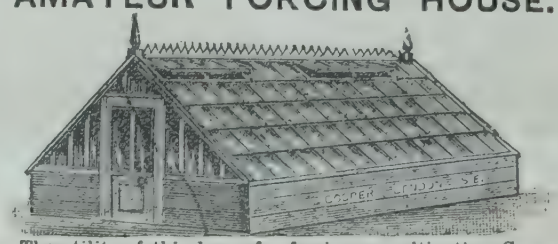


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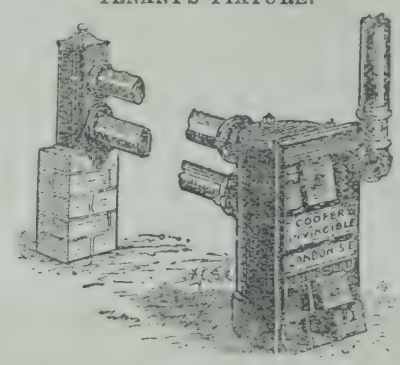
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Most Efficient and Cheapest in Existence.

Made in six sizes: No. 1, to drive 75 ft.. £1 15*s.*; No. 2, 100 ft., £3; No. 3, 200 ft., £4 10*s.*; No. 4, 275 ft., £7; No. 5, 375 ft., £7 15*s.*; No. 6, 500 ft., £9; of 4-in. pipes.

TENANT'S FIXTURE.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

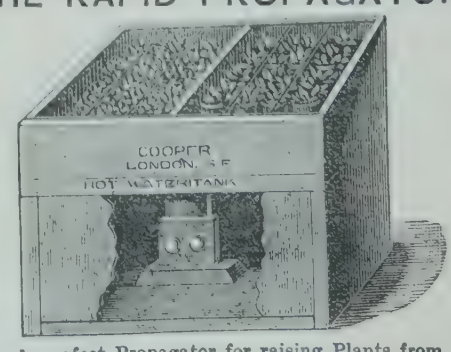
Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 15*s.*; 9 ft. by 6 ft., £3; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3 5*s.*; 15 ft. by 10 ft., £4 5*s.*; 20 ft. by 10 ft., £5 5*s.*; 25 ft. by 10 ft., £6 5*s.* See page 186 in List.

COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. The temperature can be regulated to a nicety to suit all requirements, being raised 15 degs. to 45 degs. above that of the outside. From 16*s.* complete. For full particulars, and prices of other sized Heaters, see ILLUSTRATED LIST, post-free on application.

THE RAPID PROPAGATOR.



The only perfect Propagator for raising Plants from seeds, slips, or cuttings:—

1 ft. 8 in. by 1 ft. 6 in.	£1	0	0
2 ft. 6 in. by 1 ft. 10 in.	1	4	0
4 ft. by 2 ft.	2	8	0

THE GARDENERS' CHRONICLE

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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
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AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

If set across three Columns the lowest charge will be 30*s.*

Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line* (*about nine words*) *or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

Births, Deaths, and Marriages, 5*s. each insertion.*

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Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to A. G. MARTIN.

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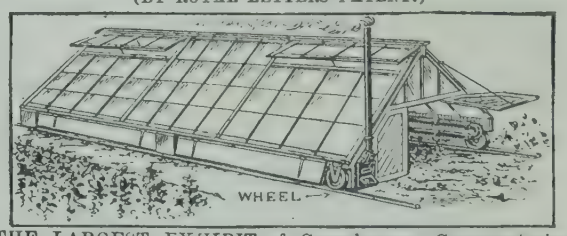
ORCHID PEAT: Best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of—WALKER AND CO., Farnborough, Hants.

EPPS'S Selected PEAT,
For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED PEAT.
(Trade supplied on best terms).
A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch by any Rail or Steamer. Prompt and Special Quotations for delivery to any Station.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood and Wareham. Address all letters to London Wharf.

GLASS! CHEAP GLASS!
In Stock Sizes.
15 oz., per 100 ft., 8*s.* 6*d.* { 12×10, 18×12, 18×14, 24×14
21-oz., „ 12*s.* 9*d.* { 14×12, 20×12, 18×16, 24×16; 16×12, 16×14, 20×16, 24×18, &c,
1½ × 3 Prepared Sash Bar at 5*s.* per 100 feet.
Paints and Varnishes at Low Prices. Flooring, 5/9 per square; Matching, 4/9; 2×4, at ½*d.* per foot run; 2×7 at 1*d.*
Horticultural Work of all descriptions, Ironmongery, &c.
CATALOGUES Free. **THE CHEAP WOOD COMPANY,**
72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

ORCHID BASKETS, RAFTS,
BOATS, and CYLINDERS,
AND ALL GARDEN SUNDRIES.
SEND FOR A PRICE LIST
From the Largest Manufacturer in the Trade,
H. G. SMYTH,
21, GOLDSMITH ST., DRURY LANE, W.C.

TRAVELLING GREENHOUSES.
(BY ROYAL LETTERS PATENT.)


THE LARGEST EXHIBIT of Greenhouses, Conservatories, Frames, and Hothouses on wheels and rails at the
Horticultural Travelling Structures Co., Ltd.,
2 & 3, White St. (Moorgate St. Station), **London, E.C.**
Special terms to Market Gardeners. Saves shifting plants, souring of soil, and 25 other advantages. Prize Medal, Antwerp, 1894.
THE MOST ECONOMICAL HOUSE.



ILLUSTRATED CATALOGUE FREE.
W. JONES' Treatise, "Heating by Hot-water,"
Second Edition, 216 pages and 96 Engravings,
2*s.* 6*d.* nett, per post, 2*s.* 10*d.*
JONES & ATTWOOD
STOURBRIDGE

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TELESCOPE CHRYSANTHEMUM CUP & TUBE
(Patent No. 8788).
☞ IS PERFECT IN EVERY RESPECT. ☜
Send for Illustrated Circular and Sample to
W. E. TIDY, BROCKHAMPTON NURSERIES, HAVANT, HANTS

GARDENING APPOINTMENTS.

MR. WATKIN JONES, late of Cloverley Gardens, Whitchurch, as Gardener to W. T. CHEW, Esq., Pell Wall, Market Drayton.

Mr. W. COUSENS, late of the Rectory Gardens, Wicken, Newport, Essex, as Gardener to D. REID, Esq. of Shootfield, Sundridge, Kent.

CATALOGUES RECEIVED.

M. BRUANT, Boulevard St. Cyprien, Poitiers, Vienne, France—Fruit Trees, Ornamental and Forest Trees, Conifers, Roses, &c.

HAAGE & SCHMIDT, Erfurt—Floral Novelties (seed) for 1895.

DICKSONS, Chester—Forest and Ornamental Trees, Evergreens, &c.

W. L. LEWIS & Co., Southgate, London, N.—Orchids, with prices.

FRANK CANT, Braiswick Nursery, Colchester—Roses.

CHAS. LORENZ, Erfurt—Novelties for 1895.

BEN REID & Co., Aberdeen—Forest Trees, Roses, &c.

TECHNICAL HORTICULTURE.
COUNTY COUNCIL LECTURES.
PAXTON'S COTTAGERS' CALENDAR
OF GARDEN OPERATIONS.
Will be useful to Lecturers and Students in the above subject.
Price 3d.; post-free, 3½d.
41, WELLINGTON STREET, STRAND, W.C.

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EPPS'S
GRATEFUL—COMFORTING.
COCOA
BOILING WATER OR MILK.

ALL ACCIDENTS,
RAILWAY ACCIDENTS,
EMPLOYERS' LIABILITY,
INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE CO.,
64, CORNHILL, LONDON.

ESTABLISHED 1851.
BIRKBECK BANK,
SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.
TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.
SAVINGS DEPARTMENT.
For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.
BIRKBECK BUILDING SOCIETY.
HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.
BIRKBECK FREEHOLD LAND SOCIETY.
HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.
The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

PARTNERSHIP offered in a FRUIT-GROWING ESTABLISHMENT in the Midlands. Capital required about £1000.—Write, "SQUARE," 41, Wellington Street, Strand, W.C.

PARTNERSHIP WANTED, in a SMALL MARKET NURSERY (Glass only), near London. Principals only dealt with.—CAPITALIST, 41, Wellington Street, Strand, W.C.

WANTED, as FOREMAN in a private establishment, a married Man, without family, not under 28; must have had good experience in Fruit and Plant-houses. Wages 25*s.* a week, with house, coals, and light.—Apply HEAD GARDENER, The Cedars, Harrow Weald.

WANTED, some time in December, a young married MAN, to take charge, under Head Gardener, of Stove, Fernery, Greenhouse, Vinery, and Forcing Pits. Must be good Melon Grower and Propagator. Wages 22*s.* per week and Cottage. None need apply whose character for conduct and ability will not bear strictest investigation.—Address, stating age, how long in last situation, and references, Mr. TRIM, The Maples, Bonchurch, Isle of Wight.

WANTED, a steady young MAN, as Second in the Houses. Must be well up in Growing Cut Bloom and Pot Stuff for Market. Wages, 20*s.* per week.—Apply to W. G. HODGE, F.R.H.S., The Royal Florist, Plymouth.

WANTED, a Young MAN, for Outside Nursery Work. Quick Planter, with experience in Valley Roses, Hardy Bulbs and Flowers, and Knifework.—State particulars of experience, age, wages, to TURNER BROS., Hale Heath Nursery, Hale, near Liverpool.

WANTED.—A competent MAN, accustomed to Grow for Market, to take charge of Vineries and Peach Houses. Married, with no children, or single Man. Wages 18*s.*; cottage and fuel.—TODDINGTON ORCHARD CO., Winchcombe.

WANTED, for a large Seed House in the South of Ireland, an energetic ASSISTANT, with a thorough knowledge of the Farm, Garden, and Flower Seed Trade.—Apply, stating experience, and salary expected, age, &c., to No. 8, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a strong LAD for Garden, and make himself useful; Clean Boots, Knives, and Pumping. One preferred with knowledge of Garden-work.—State age, experience, and wages.—CECIL GRIMSHAWE, Aspley Grove, Bletchley.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

GARDENER (HEAD).—Age 31, married; thoroughly experienced in all branches. Excellent character from Gentleman giving up; references forwarded.—J. KEMP, Warley Road, Brentwood.

GARDENER (HEAD); age 34, married.—Advertiser begs to offer his services to any Lady or Gentlemen requiring a really practical and scientific man; life experience in first-class establishments. Thoroughly competent in all branches. Very highly recommended.—J. C., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Mr. G. H. SAGE, Gardener to the Earl of Dysart, Ham House, Richmond, would be pleased to recommend a Man thoroughly experienced in all branches to any Lady or Gentleman requiring the services of the above; married.

GARDENER (HEAD WORKING).—Age 37, married (one child, girl, aged 6); thoroughly experienced; good character; total abstainer.—B., 2, Limes Villa, Avenue Road, Bexley Heath, Kent.

GARDENER (HEAD, or FOREMAN).—Age 34; Churchman, married, no family. Highest references. At liberty when suited. Moderate wages.—GARDENER, Parsonage, West Farleigh, Maidstone.

GARDENER (HEAD WORKING, or good single place).—Age 26, unmarried; twelve years' experience in all its branches; highest references; prefer Midlands or North.—H. FIELDEN, Purbrook, Cosham, Hants.

GARDENER (HEAD WORKING), where two or three are kept. Age 27; married when suited. Life experience Inside and Out; highly recommended. Been in good establishment.—G. COLEMAN, Clare Lawn, Sheen.

GARDENER (HEAD WORKING).—Middle age, married, no family; good all-round. Life experience. Four years in present situation.—E. TOUGH, 3, Louisa Place, Osborn Street, Slough.

GARDENER (HEAD WORKING), where two or more are kept.—Age 29; good all-round experienced man. Country preferred. Good reference.—FOREMAN, Ember Nurseries, Thames Ditton, Surrey.

GARDENER (HEAD WORKING), where two or three are kept.—Age 29; fifteen years' practical experience in all branches. Nearly two years' character, five previous.—GARDENER, 95, Henslowe Rd., East Dulwich, S.E.

GARDENER (HEAD or SINGLE-HANDED).—Age 26, married. Eleven years' practical experience in the management of Fruits, Flowers, Vegetables, &c.; under glass; outside. First-class references; abstainer.—DOIG, The Grove, Birtley, Chester le Street.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, single; thorough practical knowledge in the general routine of Gardening in good places.—H. ELLIOTT, Manadon, near Plymouth.

GARDENER (HEAD, or SINGLE-HANDED).—Age 24; ten years' experience in Gardening. Leaving through no fault. Excellent references. Total abstainer.—H., 15, Calton Road, Dulwich Village, S.E.

GARDENER (SINGLE-HANDED).—Age 23, single; well understands Glass, Fruit, Flower, and Kitchen Garden, Forcing, &c.—G. M., 12, Cobden Road, Sevenoaks, Kent.

GARDENER (SINGLE-HANDED).—Age 25, single; eighteen months in present situation. Six and and a half years previous. Good references.—M. MERILION, Clarence House, Horncastle.

GARDENER, Single, or where two are kept.—Age 28. A Gentleman wishes to recommend a good man as above. Two and a half years' good character. Understands Vines, Peaches, Melons, &c.—A. HOARE, Bailiff, Wolvers, Reigate, Surrey.

GARDENER (UNDER), or JOURNEYMAN. Age 21; seven years' experience, Inside and Out. Good references. Abstainer.—J. G. WILSON, Alton, Staffs.

PROPAGATOR and GROWER (German).—Age 26; Inside or Out. Hard and Soft-wooded Plants. Grower of Market Plants.—R. GRAVENTHEIN, Station Cottage, Barnham Junction, Sussex.

To Nurserymen.

GROWER in a Nursery (age 24); ten years' experience with flowering and foliage plants, Vines, Cucumbers, Tomatos; good references.—J., 41, Wellington Street, Strand, W.C.

ROSE-GROWER.—Inside or Out; eleven years' experience in London and Provincial Nurseries. Experienced in forcing pot Roses for cut blooms.—ROSIERE, 237, Wandsworth Bridge Road, London.

TO NURSERYMEN.—Young Man well up in propagating and growing Roses, Clematis, &c., also general Nursery work. Eleven years' experience.—X. Y., Mr. E. Myson, Great Parndon, Harlow.

FOREMAN PROPAGATOR and GROWER of Hard and Soft-wooded Plants; twenty years in leading Nurseries; can be well recommended.—H. JONES, Cambridge Road, Godmanchester, Hunts.

TO FRUIT GROWERS and Others.—Wanted, a situation as FOREMAN, by a thorough practical middle-aged man, life experience in Fruit culture, both outdoors and under glass. Expert budder and grafter, successful exhibitor, has been in present situation as Foreman for thirteen years on Lord Sudeley's Fruit Farm (since its formation), thoroughly understands Land and Planting. Excellent character from present employer and others.—SHEPPARD, Toddington, Winchcombe, R.S.O.

FOREMAN (INSIDE, or GENERAL).—Age 28. Mr. G. R. GEORGE, Gardener to Earl Sondes, Lees Court, Faversham, wishes to recommend his late Foreman and Decorator as above. Three years as Foreman previously.—Present address, G. W. RAYMENT, Poles Park, Ware, Herts.

FOREMAN, in the Houses, in large establishment.—Age 29, single; good character from last situations in large establishments as Foreman.—W. WRIGHT, Tilbury Hill, Halstead, Essex.

FOREMAN, or GROWER.—General Stuff for Market; Palms special. Good experience in leading London Nurseries.—Mr. JOHN FLOYD, 3, Turnford Villas, Turnford, Herts.

JOURNEYMAN (FIRST).—Mr. BELLWOOD, The Gardens, Horsley Towers, Leatherhead, can with confidence recommend F. Hampshire, age 25, to any Gardener requiring the service of a good man as above. Five years excellent character.—Address as above.

JOURNEYMAN, in the Houses.—Age 22; disengaged owing to breaking up of establishment. Excellent character. Life abstainer.—FREDERICK WISE, Vicarage Road, Whitley, Reading.

JOURNEYMAN.—Age 21; abstainer; six and a-half years good practical experience. Can be well recommended.—J. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN in Houses.—Age 22; six years Inside and Out; two years in present situation. Excellent characters from past and present employers.—Aspley Gardens, Teddesley, Penkridge, Stafford.

JOURNEYMAN; age 21.—G. HENLEY, Gardener to Sydney Morris, Esq., Writham Hall, Thetford, can confidently recommend Walter Nichols as above. Six years' experience in all branches.

JOURNEYMAN (UNDER).—MR. G. BAYLEY, The Gardens, Belmont, Mill Hill, London, N.W., will be pleased to recommend W. Simmonds, as above. Age 18.—Alma Cottage, Mill Hill, London, N.W.

JOURNEYMAN (FIRST); age 22, Inside.—G. MITCHELL, Head Gardener, Tilgate Forest Lodge, Crawley, Sussex, will be pleased to recommend a young man; six years' experience; good character.

£5 to Head Gardener who can place Advertiser in a good establishment.—Age 21; five years' experience Inside and Out.—J. G., 28, Olinda Road, Stamford Hill, N.

IMPROVER'S PLACE wanted by a Youth of 19; four years' good experience, Inside and Out. Good character. Total abstainer.—F. BEAUMONT, The Central Schools, Bournemouth.

IMPROVER, under Glass, or in a Florists' Business; or, GARDENER (UNDER).—Age 19; knowledge of Seed and Bulb Trade, two years' experience in each.—A. E. COX, Mr. W. Green, Manea, Cambs.

TRAINING in HARDY FRUIT CULTURE.—Wanted, by a Young Man (nearly 20), before starting in business. Has had two years' experience as grower under glass. Small salary accepted, or, for exceptional advantages in training, assistance in indoor work given free.—BROOKS, Post Office, Folkestone.

HANDY-MAN.—Situation wanted, as above Experienced in Pipe and Boiler Fitting.—H. E., 4, Endell Street, Long Acre, London, W.C.

SEED TRADE.—Young man wishes a situation as ASSISTANT SHOPMAN, either Wholesale or Retail. Age 22; six years' experience, and good reference.—WILLIAM B. WILSON, Jun., Ashby Bank, Corstorphine, by Edinburgh.

SEED TRADE.—Advertiser, age 22, with six years' experience in London and Provincial Houses, desires re-engagement. Thorough knowledge of Farm Seeds.—"BUSINESS," *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SEED TRADE.—Young Man, age 23.—Abstainer; nine years in present situation, and has a thorough knowledge of Agricultural Seeds, seeks re-engagement where this would be of service, and where he could learn the Garden Seed Trade.—SEED, 41, Wellington Street, Strand, W.C.

SEED TRADE.—ASSISTANT SHOPMAN, age 24. Nine years' experience in London and provinces, Wholesale and Retail. Excellent references.—Apply to ROBERTS, Prestwold Gardens, Loughborough.

SEED AND BULB TRADE.—Young Man seeks re-engagement, has had three years' experience in London house.—WARD, 20, Lamont Rd., Chelsea, London, S.W

TRAVELLER, by a smart, energetic Man, of good address, in the Seed, Bulb, Plant, Nursery Stuff, or Sundries, wholesale or retail, connection among the leading firms in Kent, Surrey, and Sussex. First-class testimonials. Age 25.—PERCY BUNYARD, 52, Clarendon Road, Croydon.

SHOPMAN.—Twelve years' experience in the Seed, Nursery, and Floral trade; excellent references.—J. H., Mr. Fulker, Stationer, Boscombe, Bournemouth.

ROCK BUILDER, FERNERY FITTER, and HANDY MAN.—Knowledge of Ferns, Aquatics, Fish, &c. Good recent testimonials.—W. J. C., 125, Portobello Road, Bayswater, London, W.

TO FLORISTS.—Man, age 24, wants situation. Life experience under Glass; used to Wreaths and Crosses. Excellent references. London.—C. DENNIS, 13, Boulter Street, St. Clement's, Oxford.

TO FLORISTS.—A young Man, age 20; four years' experience in Indoor Market Nursery Work and Cut Flowers. Good references.—G. MACKNESS, Holmedale, Church End, Finchley.

"'BY THE QUEEN'S COMMAND,' I once performed at Windsor before Her Majesty and several members of the Royal Family; and, oh, it was the most delightful experience I have ever had." The speaker was an enthusiastic young actress, as popular as she is beautiful. "The honour was certainly a great one," we murmured. "Yes," she responded quickly, "but it was not only that; Her Majesty was so kind, you know. It really did you good, the way she treated you." That is just it. Proper treatment is all we want. Nine-tenths of the sickness we suffer might be cured if we only had proper treatment. If you are ill, or feel out of sorts, seek relief from the true friends of the sick and suffering—HOLLOWAY'S PILLS and OINTMENT.

BY SPECIAL APPOINTMENT TO H.R.H. THE PRINCE OF WALES.

MACKENZIE & MONCUR

HOTHOUSE BUILDERS AND HEATING ENGINEERS.

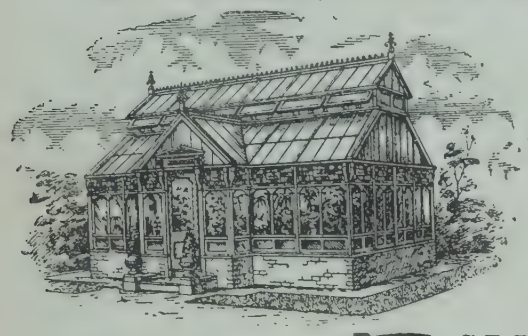
LONDON—50, Camden Road, N.W.
EDINBURGH—Upper Grove Place.
GLASGOW—43, St. Andrew's Cross.



HORTICULTURAL BUILDINGS of every description erected, either in Wood or Iron, in any part of the Kingdom.

IMPERISHABLE TEAK-WOOD HOUSES A SPECIALTY.

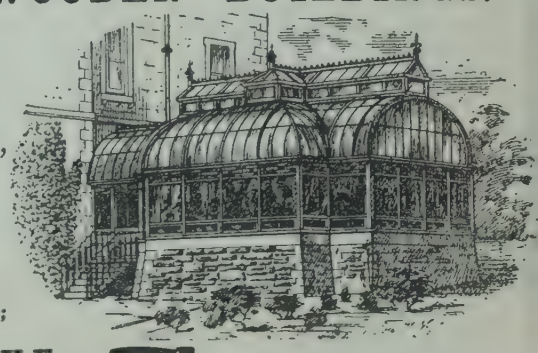
PAVILIONS, SUMMER-HOUSES, and all other kinds of WOODEN BUILDINGS.



HEATING.

PUBLIC BUILDINGS, MANSION HOUSES, CHURCHES, SCHOOLS, etc., heated in the most efficient manner.

AMONGST OUR PATRONS ARE—
H.R.H. THE PRINCE OF WALES; H.R.H. THE DUKE OF YORK;
HIS GRACE THE DUKE OF FIFE;
HIS GRACE THE DUKE OF WESTMINSTER; H.M. BOARD OF WORKS;
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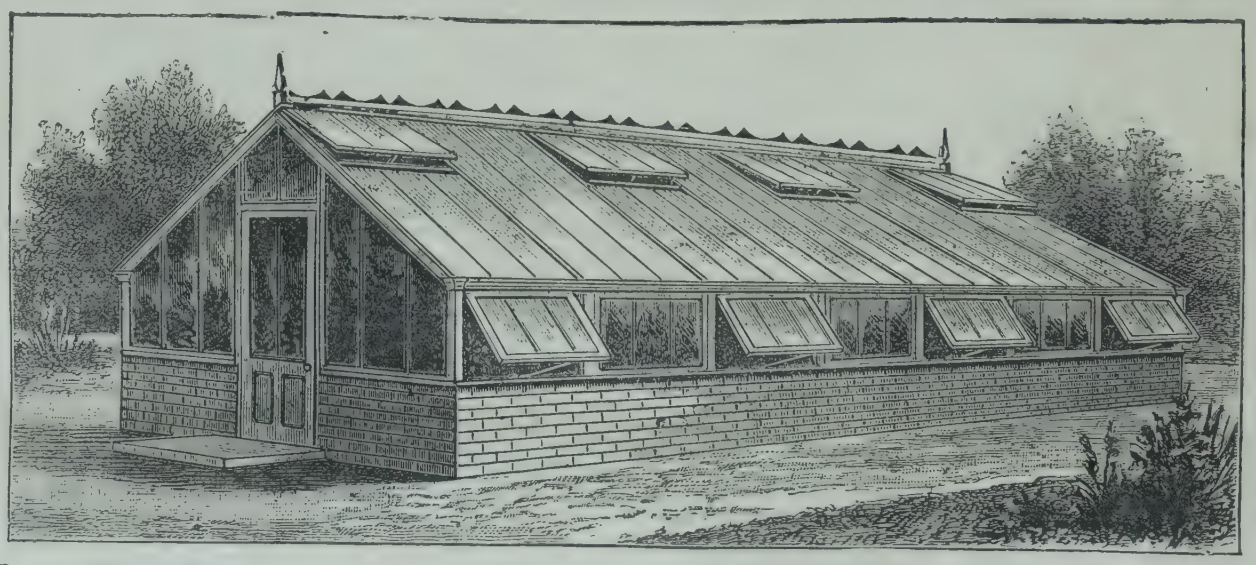
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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On view mornings of Sale, and Catalogues had.

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On view mornings of Sale, and Catalogues had.

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A Large and varied Assortment of rare English and American BORDER PLANTS, containing many of the latest introductions; Home-Grown LILIUMS in variety, CARNATIONS to name, GLADIOLI of sorts, HYACINTHUS CANDICANS, ARUMS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY and THURSDAY NEXT, November 28 and 29.

On view mornings of Sale, and Catalogues had.

Wednesday and Thursday Next.
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On view morning of Sale, and Catalogues had.

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On view morning of Sale, and Catalogues had.

Wednesday Next.

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2396	,,	SPECIOSUM ALBUM
1066	,,	,, RUBRUM
320	,,	,, MELPOMENE
2000	,,	KRAMERI
6800	,,	LONGIFLORUM
780	LYCORIS	SQUAMIGERA
2400	NERINE	JAPONICA

Also 300 Dwarf and 80 Standard ROSES, 1000 Single BEGONIAS, first quality STOVE and GREENHOUSE PLANTS, HARDY BORDER BULBS and PLANTS, English-grown LILIES, CARNATIONS, CALOCHORTI, an importation of LILIUM WASHINGTONIANUM, immense Bulbs; new CALOCHORTUS, PLUMMERÆ FLEXUOSUS (true); Also a few of the lovely HESPEROCALLIS UNDULATA, from Colorado, and never offered before; LILIUM PARRYI, extra-fine roots: a fine collection of German IRIS, from a continental specialist, &c. Also 20 Cases of NARCISSUS, POETICUS, SOLEIL BRILLIANT POLYANTHUS, mixed, LOUIS D'OR, from the Scilly Isles.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, November 28, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

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MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises as above, on MONDAY and TUESDAY, December 3 and 4, at 12 o'Clock each day, 400 Pyramid Apples and Pears, including horizontal and trained, all to name; Victoria Plums, 2000 Gooseberries and Currants, 1200 Hybrid and Tea Roses, all the best sorts, 600 being in pots; 10,000 Strawberry Plants and Runners, 45,000 choice Bulbs to name, consisting of Narcissus Emperor, Empress, Sir Watkin, Horsfieldii, Sulphur Kroon, and other superior kinds; Tulips, Roman Hyacinths, 600 Spiræa Japonica, strong clumps; 5000 Chrysanthemums, best market sorts; Herbaceous Plants, Stove and Greenhouse Plants, Vines, the erection of four span-roofed and two lean-to Greenhouses, comprising 5000 feet of Glass, hot-water Piping, Saddle Boiler, thirty-two Pit-lights, 200 head of Poultry of the leading strains, Ducks, Geese, Turkeys, Pigeons, thirteen patent Improved Poultry Courts and Pens, ten Chicken Coops, and ten Runs, Bay Mare, 14·3 hands, Stanhope Phaeton, Silver and Brass-mounted Harness, light Dray and Cart, 5 acres well won Hay, Garden Utensils, and other sundries.

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ABSOLUTE CLEARANCE SALE of FRUIT TREES, PLANTS, BULBS, and OTHER STOCK, by order of Mr. John Turtle, the Nursery having been let.

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May be viewed three days prior to sale. Catalogues had on the premises, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

Ealing, W.

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May be viewed. Catalogues had on the Pemises; at the Royal Vineyard Nursery, 36, Hammersmith Road, W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

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On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 30, Imported and Established ORCHIDS from various owners.

On view morning of Sale, and Catalogues had.

Thursday Next.

36 DRACÆNAS, 36 ARALIAS, 36 CAMELLIAS, 24 ARAUCARIAS, 100 AZALEAS for open ground, 200 A. MOLLIS, and 50 PALMS from Belgium; STOVE and GREENHOUSE PLANTS, ORNAMENTAL PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 29, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Tuesday, December 4.
An Importation of
Twenty-one Cases of CATTLEYA TRIANÆ,
received direct, in splendid condition, for Unreserved Sale.

MESSRS. PROTHEROE & MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, December 4, at half-past 12 o'Clock.

On view Morning of Sale, and Catalogues had.

Every Day.
DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit the Trade and Private Buyers. Also ROMAN HYACINTHS, SCILLAS, DAFFODILS, LILIUM HARRISI, &c.

On view mornings of Sale, and Catalogues had.

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WANTED, a NURSERY and MARKET-GARDEN BUSINESS, chiefly glass. London district. Principals only.—116, Sandy Lane, Shaw, Oldham.

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NOVEMBER 28, 1894.

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100,000 FRUIT TREES,

CONSISTING OF

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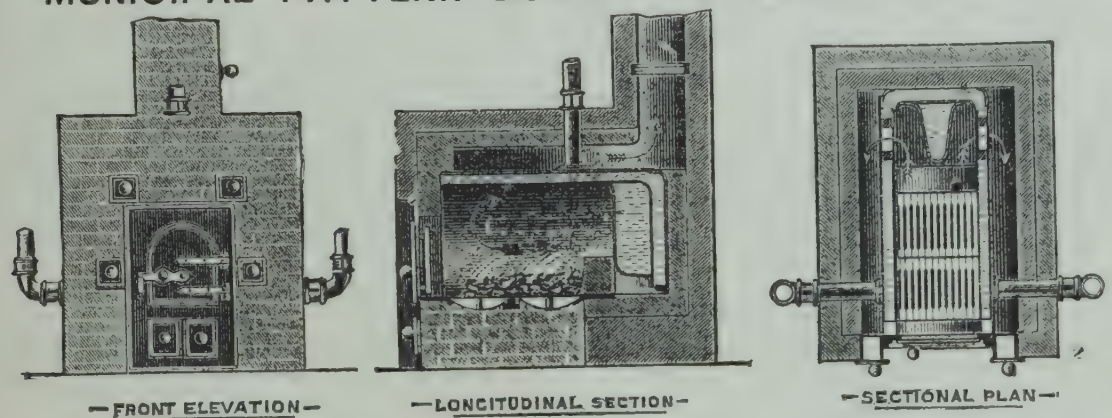
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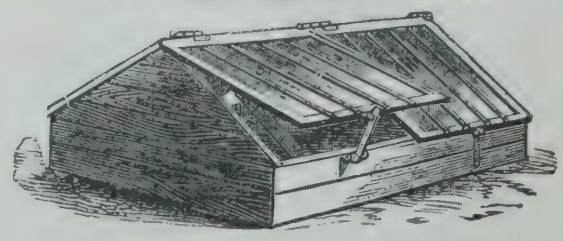
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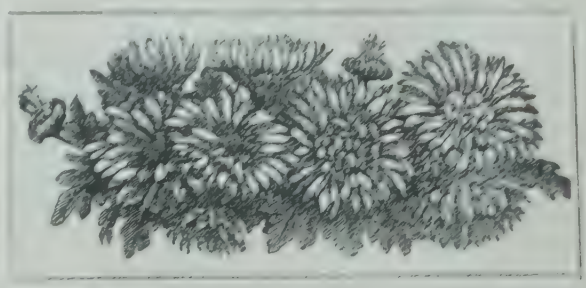
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THE
Gardeners' Chronicle.
SATURDAY, NOVEMBER 24, 1894.

COREA.

WHATEVER may be the ultimate results of the war now raging between the Japanese and Chinese, its more immediate effect will be to open up to civilisation an exceedingly interesting country. The interest of a country or place is governed perhaps to a considerable extent, and in a proportionate ratio, to our ignorance concerning it; and this is certainly the case as regards Corea. When the botanist and scientific explorer generally has completed his survey of the Hermit Kingdom, there will be, in this planet at all events, but few more worlds for him to conquer; when the shores of beautiful Yaloo, and the still more beautiful country of Corea itself, shall have been explored, a Flora of the entire world will be possible, however likely it is to be undertaken by any one man or committee of men. That this remarkable country will yield to science and to horticulture such a number and variety of garden plants as ROBERT FORTUNE introduced from China and Japan is a contingency which can scarcely be hoped for; that it will give to European cultivators many new and beautiful plants is very certain.

Some idea of Corea may be gained when it is stated that the country extends from about 34° to 42° 25′ N. latitude, and from 124° 35′ to 130° 50′ E. longitude. Native statistics tell us that the country is 1000 English miles long, and 460 miles broad, but these figures are regarded with suspicion. The nearest and most probable estimate places the area of the country at 79,400 square miles. As the area of Great Britain is 83,826 square miles, it will be seen that Corea is far from the insignificant spot which newspaper readers generally imagine. The chain of mountains running through this peninsula from north to south are covered with forests, which have, for the most part, never been explored, and are little known even to Coreans themselves. The country, like Morocco, is extremely rich in mineral wealth, gold, silver, copper, iron, and coal, being abundant. But mining is strictly prohibited, and even the peaceful employment of Potato culture is, or was until lately, visited with penalties. The chief crops are Rice, Wheat, Millet, Rye, Tobacco, Cotton, Hemp, and Ginseng. The last-named, it may be mentioned, is the highly esteemed roots of Panax Schinseng, and is said to restore exhausted animal power, and, in fact, the Aurum potabile and Elixir vitæ of a North Asiatic existence. Water Melons, the Yam (Dioscorea batatas), and the Date Plum (Diospyros kaki) play very important parts in the domestic economy of Corea, as they do in China and Japan.

That gardening, in anything like the sense in which the word is understood in this country, exists in Corea, can only be conceded in a purely courteous spirit. The Chinese fashion prevails

where there is any attempt at all at display. But the Chinese are by nature gardeners, and have, to a certain degree, availed themselves of some of the advantages of their intercourse with foreign nations. The Corean is an intellectually inferior Chinaman, who has remained encumbered with all the drawbacks of a hoary antiquity. There are no wheeled vehicles in the country, and transport from one part of the country to another is almost exclusively carried on by porterage. The chief business is a question of barter, for the coinage system is almost entirely limited to one coin. Within a short period, and in spite of themselves, the Coreans will be as much in favour of advancement as the Japanese themselves, for it is no longer possible for the Hermit Kingdom to stem the onward current of civilisation and commercial enterprise.

Poor and apathetic as are the Coreans, the matter of gardening is not by any means a neglected quantity with them. It, however, is almost exclusively confined to the Lotus pond, after which everything else is a subsidiary feature; and it is in this respect that Corea differs so widely from both China and Japan. Corea is in herself a vast wild garden of hills and dales, and the Corean has not attempted to either improve or to modify Nature. The Lotus pond varies greatly in shape, but it generally takes the form of a circle, and may, in extent, be anything from a little basin to a broad sheet of water. "Sometimes its banks are only what still remains of bordering earth; sometimes they are encased in stone settings, layer upon layer, of large granite blocks. But always, if the pond be of any size at all, there stands in its centre a singular island. This islet is perfectly circular, and in the middle of it there rises a solitary tree. In finish it is treated like the borders of the pond, left plain when they are plain, stone-capped if they are so. The tree is usually a fine old specimen of a plant, which is nearly always deciduous and not evergreen; its branches spread out beyond the confines of its little home and overhang the water. It is a pretty sight, the lone tree on the round islet; but this, on the first look, is lost sight of, for the way its singular symmetry piques the curiosity. It has a preternaturally artificial effect. It looks like one of the trees from a child's Noah's ark. It utterly despises apparently the *ars celare artem*, the attempt to deceive you into even a momentary belief that it grew there of itself; and it courts and wins attention from its very effrontery." Such is the description given by Mr. Percival Lowell, who was formerly foreign secretary and counsellor to the Corean special mission to the United States of America.

The finest example of the Lotus pond in Corea is at the entrance of the Old Palace at Söul, which was erected, so far as can be now gathered, about 500 years ago, and which is now quite in a state of dilapidation and neglect. "Two stone causeways span the narrowest part of the pond, joining the central island to the grounds without," but it differs from the ordinary Lotus pond, in that the solitary tree has given way to a superb building supported by forty-eight monolithic columns.

The Lotus pond is the one recreation of the Corean. The pond itself is nearly invariably so thickly inhabited by aquatic plants that access to the central island by means of a rudimentary kind of boat is tedious and difficult. The pond itself is densely stocked with carp, which is one of the dainties of Corean tables. The solitary-looking tree is planted in the centre that the Corean may be protected from the rays of the sun when engaged in angling after carp, and it is in such places that the richer or official classes dream away their existence. It is to them what the weekly prayer-meeting is to the country dissenter, and the occasional story-telling conclave is to the nomadic Arab, the one and almost only species of peaceful excitement which, to each of these communities, is an absorbing passion. The Corean Lotus pond is an ideal place for contemplation, and it is here that the oriental echoes in substance Tennyson's words:

"How sweet it were, hearing the downward stream,
With half-shut eyes ever to seem
Falling asleep in a half-dream!
To dream and dream like yonder amber light,
Which will not leave the myrrh-bush on the height;
To hear each other's whisper'd speech;
Eating the Lotus day by day,
To watch the crisping ripples on the beach,
And tender curving lines of creamy spray;
To lend our hearts and spirits wholly
To the influence of mild-minded melancholy."

Indebted, as the Coreans are, to China for their literature, and to a certain important degree for their language, it is natural that they should have derived nearly all their tastes from the same source. The few phases of gardening which find expression in Corea, are taken from its great helpless neighbour, whose utter defeat is at the present time superinducing a commiseration which is synonymous with contempt among European nations. In one form or another the Lotus or aquatic garden is in great favour in China. In Corea, again as in China, rockwork is an extremely popular species of gardening. The rocks used in this manner are huge boulders from 2 to 5 feet in height. They are, as Mr. Lowell points out, "either planted in the ground, or else they rest upon slabs of polished stone. The material of which the rocks consist is not over hard, for it has been honeycombed, evidently by the action of water, into most fantastic shapes. From these shapes it is at once evident that the rocks were not indigenous where they are at present found, even in those instances where no pedestal betrays the handiwork of man. They suggest at first from their dignified position, some religious intent, but this instinctive tribute to their sanctity is a misconception. They are put up simply for purposes of ornament."

Nature has been lavish in her gifts to the Corean lover of gardens, for he may press into his service an extensive quantity of very beautiful flowering shrubs, whilst the flora is rich in very showy examples of the Compositæ, Cruciferæ, and Labiatæ families of plants, and a number of Cacti are indigenous to the Hermit Kingdom. Probably the two features of Corea which will most impress themselves on the visitor, more especially interested in horticulture, are the scraggy and weird Pine-trees (whose one object in life appears to be a desperate endeavour to dispose itself in the most fantastic shapes), and the Chrysanthemum. The latter is here grown to great perfection. The Chrysanthemum festival is one of the most popular of annual celebrations, and those who can afford it cultivate this favourite plant under oiled-paper frames. It is only within recent years that English growers have discovered the great secret of securing the finest flower-heads by growing a single flower on each stem; the Coreans have for centuries practised this system. When the owner of a crop of unusually fine plants, he invites his friends to a feast, in which the display of his Chrysanthemums plays an important part.

Beautiful as is our own spring season, it is a poor affair when compared with that of Corea, where it knows none of the fickleness and uncertainty of our less-favoured clime. The season of the poets begins towards the end of January, or early in February, when it is heralded by the pinkish-white flowers of the Plum-tree, which is followed at intervals as regular as possible by the Cherry-tree, to see which has been truly described as in itself "a sensation;" the Wistaria, the Tree-Pæony, the Iris, and so on, until the summer clothes the country with a new covering; indeed, the whole country is a marvel, which, with the new pro-Japanese constitution which is to be inaugurated in January next, will offer an entirely new field for the scientific enquirer and tourist generally. *W. Roberts.* [The reader interested in Corea may be also referred to the account given by Mr. James H. Veitch of his journey in Corea, as given in our columns in 1893, Nov. 4, p. 556.]

NEW OR NOTEWORTHY PLANTS.

IMHOFIA DUPARQUETIANA, *Baill., in Bull. Linn. Soc., Paris*, p. 1132.

DR. BAILLON, in a part of the *Bulletin of the Linnean Society of Paris*, just received, gives an account of a remarkable new Nerine, collected by Duparquet in the desert Kalihari region of South Africa. It has lorate leaves, which reach 1 foot in length at the time of flowering, a peduncle as thick as a man's little finger, an umbel of about twenty flowers, with pedicels 4 inches long, a perianth 2 inches long, with a very short tube and flat narrow white segments, with a carmine keel; stamens nearly as long as the perianth-segments, and a subglobose ovary, with two ovules in each cell. It has not yet been introduced in a living state, but would be well worth the attention of Messrs. Leichtlin and O'Brien. Dr. Baillon, following Kuntze, calls the genus we know as Nerine by Heister's name, Imhofia. He also describes a new Calliphuria (C. Castelnæana) from the Pampas of Sacramento in Peru, which is nearly allied to C. tenella, Baker, and a very curious Saprophyte Irid (Geosiris aphylla, Baillon) collected by Luntz in the mountains of Madagascar. Its station is near Ampaimadima, in the sandy forests, at an elevation of about 3000 feet above sea level. He has examined the type specimens of Kunth's Hymenocallis Bonplandi, and finds, as I supposed, that is really a Eucharis. It is nearly allied to E. candida, and would be well worth introducing. *J. G. Baker.*

ECHINOPSIS DECAISNEANA.

THIS is one of about thirty species which constitute the genus Echinopsis of some botanists, but which is regarded only as a subgenus of Cereus by others. They possess a good distinctive character in their short, more or less spheroid stems, regular angles, short tufts of spines, and in the exceptional length of their flower-tube. The species figured is a good example of the whole. Out of flower an Echinopsis may be likened to a Melon ridged longitudinally, painted green, with little bosses of spines and wool stuck at regular intervals along the ridges—a plant of totally unattractive aspect. But in flower it is "a horse of another colour." Each flower is six inches across, of the most delicate satiny texture, white, creamy-yellow, yellow, rose, or rosy-red, and deliciously fragrant. In the species here figured the flowers are white. They last only about two days, just long enough to make one appreciate them. I quote what Dr. Lindley said of one of the best-known species, viz., E. Eyriesii:—"Independently of the large size of the flowers, they are remarkable for the rich delicate odour they exhale at night, at which time the glorious blossoms expand. When young, they resemble long sooty-grey horns, covered over with a thick shaggy hairiness, and would never be suspected to conceal a form of the utmost beauty, and a clear and delicate complexion. When the hour of perfection has arrived, and the coarse veil of hair begins to be withdrawn by the expansion of the unfolding petals, one is amazed at the unexpected loveliness which stands revealed in the form of this vegetable star, whose rays are of the softest white."

I do not know any plant which will produce such a large display of blossom in proportion to its size as these Echinopsis will do under suitable conditions. The plant represented in the figure was grown by Mr. Shane, of Vancouver. Growers of Cacti will agree with me that it is scarcely possible for such a specimen to be cultivated in this country. If we could flower Cacti freely, there is little doubt that they would soon become favourites, as the two genera that do flower freely with us, viz., Epiphyllum and Phyllocactus, are already. I know a good collection of Echinopsis which rarely produce blooms. They flowered better last year than usual, but then the summer was a record one. Possibly better results are obtainable by some special kind of treatment than we have got to yet. I read last year an account of some plants of Echinopsis grown in the town of Grimsby which flowered exceptionally well, and which

were grown planted out in the open air from June to October, then lifted, and kept in boxes in a room and kept dry, well-aired, and in a good light till planting-out time came round again. Ten degrees of frost did not hurt them when they were dry. This treatment is simple enough, and the results, as recorded, are far better than anything I have ever seen done under pot-culture. We planted a set of ours out this year, and they have grown very well, and if they flower freely next year after such a sunless summer as we have had, then the Grimsby method will be a big step forward. Probably we coddle our Cacti a great deal more than is good for them. Mr. Cannell and Messrs. Carter & Co. are almost the only English nurserymen who deal in Cacti; but in France, Germany, and the United States there are many nurseries devoted to them. In the catalogues of two French nurserymen, viz, MM. C. Simon and P. Rebut, I find over thirty species of Echinopsis alone offered. Lovers of such plants please take note. *W. W., Kew.*



Fig. 79.—Echinopsis decaisneana. (see p. 624.)

EDWARD LEEDS,

THE RAISER OF THE LEEDS' VARIETIES OF NARCISSUS.

(*Continued from p.* 562.)

Leeds' first plate of his own Longford seedlings was published in 1851, eight years after the date of the Dean's publication. It would occupy all the intervening years to ripen the seeds, to grow the bulbs, and to flower them. The connection is thus evident.

Mr. Leeds' new Narcissi are figured in the *Magazine of Botany*, vol. iii., 1851, p. 1691. The plate contains three fine forms:—1. N. poculiformis elegans; 2. N. Leedsii; 3. N. major superbus. These were the first fruits of his labours in hybridisation. The Editor says:—The fine forms raised by Edward Leeds of St. Ann's, Manchester, a gentleman who has been for many years engaged in cross-breeding this tribe of plants, and who has originated many new and beautiful varieties; and he gives the following account of their origin:—

"The var. poculiformis elegans was obtained from N. poculiformis (montanus) crossed with N. angustifolius (or poeticus). N. Leedsii chiefly differs from incomparabilis in colour of the margin of the lip. It was from major, crossed with poeticus. The latter has communicated to it a deep orange ring. N. major superbus, a seedling from Ajax maxima. There is no end," he adds, "to the varieties and endless forms that may be obtained. . . . The late Dean of Manchester (Dean Herbert) in his papers on this tribe, mentions N. montanus as being difficult to obtain seed from. I have three crops of seedlings from this, crossed with long and short-tubed kinds. It will cross with Ajax of all sorts—with poeticus and angustifolius, and I think with the rush-leaved species. Calathinus never seeds with me, but fertilises the long-tubed species. Bicolor seeds occasionally, but not freely. I have varieties from this with angustifolius, poeticus, and poculiformis, also pumilus; they are all very distinct and curious Moschatus and tortuosus seed pretty freely; they will cross with poeticus, poculiformis, and any of the long-tubed kinds, and the produce is always beautiful. I think much remains to be done in the production of fine hybrids of this beautiful tribe of plants, and it may be mentioned that these are not ephemeral productions, like many modern florists' flowers, but will last for centuries with very little care, as the common kinds have done in our gardens." He then gives the following cultural directions:—"To obtain good varieties, it is needful the previous season to plant out sorts of some of each kind in pots, and to bring them into a greenhouse in spring, to flower, so as to obtain pollen of the late-flowering kinds, to cross with those which otherwise would have passed away before these were in flower. With me the plants always seed best in the open ground. When the seed-vessels begin to swell, the flower-stems should be carefully tied up and watched until the seeds turn black. I do not wait until the seed-vessel bursts, as many seeds in that case fall to the ground and are lost, but take them off when mature, with a portion of the stem, which I insert in the earth in a seed-pot or pan provided for their reception. I place them in a north aspect, and the seeds in due season are shed, as it were naturally, into the pot of earth. I allow the seeds to harden naturally for a month on the surface before covering them with half-an-inch depth of sandy-soil. The soil should be two-thirds pure loam, and one-third sharp sand, the drainage composed of rough turfy-soil. In October I plunge the seed-pots in a cold frame facing south, and the young plants begin to appear in December and throughout the winter, according to their kinds and the mildness of the weather. It is needful in their earlier stages to look well after slugs and snails. The seedlings should be protected from frosts, but should have abundance of air. . . . When the bulbs are two years old, prepare, in an open airy situation, a bed of good loam, mixed with sharp sand, in which the bulbs should be imbedded; plant the roots in rows, 3 inches apart. . . . They will stand three years in this bed. A few will flower the fifth year, but the greater portion not until the seventh."

In the same volume, p. 289, is a second plate, containing, 1, N. aureo-tinctus; 2, N. incomparabilis expansus; 3, N. bicolor maximus; and of these the last continues to hold its own against all comers, as the most symmetrical and perfect in form and colour of all the Daffodils.

In this careful way did Leeds proceed with his work, and these six varieties were, I believe, all that were published to the world in his lifetime. They were the beginning of a great series, and the full fruition is only now appearing.

Mr. Barr corresponded with Leeds from 1868 to 1874 on Daffodils, and during the whole time he knew that the seedlings were for sale, and did his best to find buyers; but, as in the case of his Crocus Leedsii, his efforts were a failure. At last it came to Mr. Barr's ears that Leeds had made a will, and provided, in the event of the Narcissi not being sold while he lived, they were to be destroyed at his death, and knowing that he had many fine seedlings, he made a grand effort, and became the possessor of all the Narcissi under name and number, viz., 24,223 bulbs, besides a lot of small ones, not yet flowered. Mr. Barr thus rescued from destruction as fine a lot of garden treasures as these Islands possess, and as fine a result of hybridisation as is on record. Whether Mr. Leeds fully realised the greatness of his work, Mr. Barr cannot say, but he remarks in one of his letters to me, in speaking of Leeds and Backhouse of Wolsingham: "I could be eloquent on the work of these two men, as day after day, and year after year, I followed their work step by step, and how one thing came out of another, till the work of these men came to be part and parcel of myself. Edward Leeds was indeed a great man, and I hope you will do him the fullest justice."

In Barr's supplementary catalogue of the Daffodil Conference of 1884, an extraordinary number of the Narcissi are marked with the letter L, which indicates that they were raised by Edward Leeds. They may be summed up as follows: Ajax or trumpet group 32, bicolors 12, lorifolius 2, moschatus 3, incomparabilis 65, Barri 7, Leedsii 21, Humei 4, Nelsoni 6, or a total of 152 varieties, all presumably excellent and distinct. Not only are they numerous, but they are of great merit. Space will only admit of a few examples: In the Ajax group, we find John Nelson, one of the finest deep yellow trumpet Daffodils; Captain Nelson, Hudibras, Her Majesty, Volutus, a very beautiful sort now called J. G. Baker, and Major superbus, figured during Mr. Leeds' lifetime. In the bicolor group, bicolor maximus, now called grandis, also figured in his lifetime, the most symmetrical of all the Daffodils, the perianth containing two perfect triangles of purest white, and with a very fine and richly-coloured tube; Albidus, Prof. M. Foster, Dean Herbert, and W. Robinson. In the moschatus group we have cernuus pulcher, Marchioness of Lorne, and Wm. Goldring; and when we came to the incomparabilis group, we find our favourites, Frank Miles, Edward Hart, Leedsii, Princess Mary, Harpur Crewe, sulphureus, splendens, and many others. There are also gems in the Barri and Humei groups. The Leedsiis are all his own, and the curious Nelsonis, with the tube of Macleayi.

Many of these varieties Mr. Leeds never saw in bloom, and but for Mr. Barr we should not have possessed them. They remain a joy to us all, and a monument to the raiser and to Mr. Barr, who has so successfully continued and completed his work.

Mr. Leeds' Garden at Longford Bridge.

After the publication of Dean Herbert's note, Mr. Leeds rummaged Europe for Narcissi for his garden. Every nurseryman's catalogue was looked over, and every variety obtained that he could hear of. Mr. Glover was a frequent visitor at Longford, and familiar with all his proceedings. He was frequently with him when busy with his Narcissi, and recollected the beds where they were grown, and the methods followed by Mr. Leeds. He had many of the Trumpet varieties, tazettas, poeticus, corbularia, biflora, incomparabilis and poculiformis. Mr. Glover frequently saw him crossing them with pollen, the later sorts being raised in pots under glass so as to have them in bloom when the earlier sorts were in flower at their natural time of blooming. He used to remove the stamens the moment they appeared, and then wait until the pistil was ripe, when the pollen was applied. The petals were then tied with matting, and thus the bees were prevented from interfering with the fructification. He remembered several beds of seedlings with hundreds of varieties, and Mr. Leeds was never tired of descanting on their beauties. He attended to them himself, and never allowed anybody else to touch them.

Mr. Findlay, who is the present curator of the Manchester Botanical Gardens, remembers Mr. Leeds very well in later life, and describes him as an enthusiastic botanist who devoted much time to the hybridisation of Daffodils. He was much annoyed, and reasonably so, at the want of appreciation on the part of the floricultural world for his seedling Daffodils, and told Mr. Findlay that he had almost made up his mind to dig a hole and bury the bulbs out of sight. Mr. Findlay says that Leeds had a deep, glowing childlike enthusiasm for nature as set forth in the vegetable world. He always thought him destitute of malice or guile; firm in his attachments; in short, the "fine fat fellow that he was." At the time Leeds commenced his Narcissi culture, Mr. Ashton was his gardener; he was followed by Mr. Hilton, who was with him three or four years, and was succeeded by Mr. Hollingworth, who remained with him until his decease. Hollingworth says the seed latterly was not always gathered, and when gathered it was not always sown, as he became indifferent to the subject. He used to say when he crossed any flowers, that they would come in for someone else. He noted the crosses when made on a slip of paper and put it in his pocket. For the last five years he was quite an invalid. He had then a large collection of florist Tulips, and when they were in bloom and he unable to walk, he would sit in his bathchair by the beds on sunny days and admire them, saying it was the finest sight in creation. He died in 1877, and was buried in Bowdon churchyard. He left word that all his papers, seeds, &c., were to be destroyed, which was done by his widow.

I first became acquainted with Mr. Leeds' garden shortly after his death. A friend told me of a beautiful Crocus (Leedsii) which he had obtained from an old garden at Longford Bridge. I had then become aware of the Leedsii Daffodils, but not of their origin, and when I found that Leeds of Longford was the great florist who had raised them, I was not long in seeking out the place. It was on the turnpike road from Manchester to Altrincham, near the river Mersey, on flat alluvial soil, I found a plain roomy cottage, with extensive outbuildings, quite hidden from view from the road by huge overgrown Rhododendrons, Box, and Laurels, 15 to 20 feet high. I found Mr. Leeds' old gardener, Hollingworth, in possession of the place—Mrs. Leeds having removed to London. It was early spring, and the garden was ablaze with Daffodils—growing by thousands, almost wild. One could still trace the old beds, and Hollingworth had a few special beds of choice sorts which he had for sale. There were huge Pæonies, many lovely varieties of Scillas nutans and S. campanulata, of every shade of blue, lilac, pink, and white, the results of Mr. Leeds' careful crossing. In the rear of the cottage were some greenhouses, and brickwork pits filled with small pots of Alpines, which had overgrown the place, making mats of Sedums and Saxifrages. In the greenhouse was a large lot of seedling Amaryllis, which had been carefully crossed. The rockeries were built up of brick, tier upon tier. There were four of them, each 100 feet long, about 10 feet broad, and 4 feet high, the spaces between the bricks were filled with Alpines and hardy plants, and now covered with rank overgrowth. At one place the Veronicas had prevailed, at another the Saxifrages had gained the ascendency. There were large clumps of the most beautiful Orobus vernus I had ever seen. Hardy Geraniums had grown into huge masses, and Fumarias formed lovely purple bosses. Of the smaller Irises, there were large clumps. Creeping plants had trailed over the walks, and in the borders were thickets of huge growers. Telekias, Asters, Campanulas, Delphiniums, Veratrums, Heracleums, and other giants, in rank profusion, the fittest only having survived. On closer inspection the rockeries were found to contain choice treasures, hidden away amongst the overgrowth, and these were carefully marked down when in bloom, and removed when the proper time came. Such was the place when I first saw it, and I always considered it a fortunate thing that I was thus accidentally led to it. For months I carefully noted and removed the choice plants and Narcissi to Brockhurst, where they now abound and constantly remind me of Leeds of Longford.

In May, 1883, I visited it for the last time. The scene had changed. The old garden had gone. All the Rhododendrons and Laurels were cut down. The cottage was newly-painted, and had a new tenant without a soul for flowers. The garden was being trenched for Potatos, and a surveyor was at work with poles and chain laying out the land in building plots! *Wm. Brockbank, Brockhurst, Didsbury*, 1894.

THE GATHERING AND PACKING OF ORANGE AND LEMON CROPS IN SICILY.

The following notes on the gathering and packing of the Orange and Lemon crops in Sicily, are from a recent report to the Foreign Office on the trade of Palermo. The produce and exportation of these fruits, besides being a most important item of external trade to Sicily, has, it is said, also from the numerous foreign markets to which they are sent, challenged the attention of foreign exporters and producers, owing to the intrinsic good quality of the fruits, and the success attained in their preservation during the longest voyages. Many enquiries have been made in Sicily on this subject, and information obtained on the best and most advantageous mode of packing. Indeed, it is stated that the practical knowledge of the Sicilians as to the most suitable method of gathering and packing Oranges and Lemons has often been recognised, and they have been occasionally hired for the purpose in Greece. The proper season for picking Lemons depends mainly on their destination, and on the degree of irrigation. Thus the first crop is gathered towards the commencement of October, on those plantations which are suitably and plentifully watered. The limit of weight as fixed by experience, and under which the fruit is not considered ready, is 3½ oz. The October fruit is exported forthwith, as it cannot be kept for further maturation. The second crop is picked in November, and comprises fruit which can be preserved for the most part up to April, until then it is usually stored in special warehouses and then sorted carefully. The third picking takes place in December in the same manner, and under the same conditions as that of November. The two last crops are gathered in January and February, and are forthwith shipped, for the fruit under these two gatherings cannot be preserved for any length of time.

The fruit, in whatever season collected, ought never to be under weight, namely, under 3½ oz., and should be carefully packed in cases made of beech or other light wood of a similar kind, divided into two equal parts by a partition and of various sizes; those containing from 300 to 360 Lemons each are the smallest, and are mostly destined for the United States, Hamburgh, and Trieste; those containing from 400 to 420 Lemons are shipped for French ports; and finally, those containing between 420 and 490 to the United Kingdom. In all cases the Lemons should be properly wrapped in tissue-paper, and the fruit most carefully sorted previously; the mouldy or otherwise damaged fruit set aside, and the pedicle cut off, but not torn away.

These remarks apply generally to the gathering, sorting, and packing of Oranges. With respect, however, to the proper season for picking, it must be observed that the Orange-trees growing on the same site are gathered at once and not in successive pickings. The suitable time depends again on the locality, and varies with the height above the sea-level on which the trees have been grown. Thus the fruit in the lowlands is ripe for use in the month of November, that on the uplands in December and January, and finally, that on the mountains matures between February and April. The cases in which the fruit is laid contain each from 160 to 300 Oranges, and are shipped to all parts of the world, and almost always reach their destination in a good state of preservation.

Orchid Notes and Gleanings.

CATTLEYA LABIATA.

In the Orchid collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, there is, at the present time, a single specimen of a fine variety of this species carrying more than one hundred expanded blooms. Such a plant flowering at this season may well compete with any stove or greenhouse plant for showiness and the lasting qualities of its flowers.

Erlscliffe, Bowdon, Cheshire.

Visiting Mr. G. S. Ball's garden on the 6th inst., I was struck with the collection of Orchids which is being got together by him. Amongst the many well-grown plants seen on entering one of the houses was a goodly collection of various Orchids, on the front stage there being a remarkably healthy lot of Odontoglossums, many of them throwing up some fine flower-spikes; amongst others, O. crispum, O. Andersonianum var. maculatum, with two very strong much-branched spikes; O. Pescatorei, O. cirrosum, in good health. Hanging from the roof were some fine panfuls of Sophronitis grandiflora, the plants just beginning to flower; Lælia præstans also in hanging baskets was doing well; plants of Masdevallia bella, and M. Chimæra, were observed in robust health, carrying numerous flowers. When cultivated in this way, these species are very effective objects. On the back stage were seen some half-dozen plants of Masdevallia tovarensis, grand examples of good cultivation; these are growing in 6-inch pots, and have about fifty flower-spikes on each, which in the course of a few days would be a mass of fully-expanded blossoms. In the same house some dozen plants of Cypripedium insigne were observed, of great vigour, and each furnished with from twelve to twenty flowers, no two varieties being alike. Odontoglossum Rossi majus was likewise noted in very floriferous examples. Another favourite Orchid is Trichosma suavis, two fine healthy plants of which were in flower, scenting the entire house in which they stood.

One house contains a mixed collection, the Cattleyas being the principal objects therein; and of C. labiata vera there are some twenty or thirty plants in flower, two being especially noticeable for fine colour, and breadth of the sepal and petals, and the size of the lip. It may well be doubted if any variety is existing finer than these two. Vanda cœrulea was remarked to be very fine, both in size of flower and in colour; this plant has been in flower for six weeks. Lycaste Skinneri alba, a very fine variety, was carrying two flowers; Pleione lagenaria possesses very large pseudobulbs, and on one pan, measuring 12 inches in diameter, filled with

these, 112 open flowers were counted. Plants of Calanthe Veitchii are just beginning to open their first flowers; one plant of Oncidium tigrinum, with many-branched spikes of violet-scented flowers, numbered ninety-two of them open. Cypripedium insigne album, C. i. aureum, C. i. Chantini, C. i. giganteum, are four very distinct varieties that were noted in bloom; also Dendrobium formosum giganteum, with two fine clusters.

One house is devoted to the cultivation of a collection of Ferns, and hanging from the roof I noticed half-a-dozen well-grown Lælia anceps, L. a. Percivalliana, L. a. Dawsoni, with a fine lot of spikes. In the conservatory were some capital Chrysanthemums.

I was taken round the lawn and flower garden by the gardener, Mr. Hay, and noted how well the garden is laid out and kept up. A good lot of shrubs are planted round about the house. In the course of our walk we came to another range of Orchid-houses, filled with well-grown plants of Cypripediums, including C. insigne Sanderæ, with one extra fine flower. The plant was purchased from Messrs. F. Sander eighteen months ago, with only one growth, and it now has six strong growths. *W. H.*

Cattleya labiata Foleyana

is, like all the others of this type, an evergreen Orchid, the pseudobulbs or stems averaging from 6 to 10 inches in height; it produces a rhizome which is about as thick as the little finger. During the young state these pseudobulbs are invested by a greyish membranous sheath, which drops off as they become older, leaving them bare; they then gradually become furrowed. The coriaceous dark green leaves are borne on the tops of these bulbs singly, and often last on the plants for several years; from between these arises a compressed double sheath, which in the darker forms is usually tinted with purple, but in this variety it is whitish-green. The flowers are borne sometimes in pairs, and as many as five have appeared on one spike, which make a very beautiful spectacle. The sepals and petals are of the purest white, the latter very broad, and of fine form, being beautifully undulated; the lip is also of the purest white, excepting the deep orange-yellow stain in the throat, and a small rosy blotch in front of this latter; the margin is nicely crisped and fringed, the whole flower measuring quite 8½ inches in diameter. We have no doubt this is the finest white variety of C. labiata that has yet flowered, and it has been greatly admired by all who have seen it. This variety will succeed best with either basket or pot culture, in a nice compost consisting of good brown peat fibre and sphagnum moss, which should have good drainage. During the growing season, which is the spring and summer months, a liberal supply of water will be necessary; but after the growths are mature, sufficient just to keep the plants in a plump and healthy condition will be all that is required. This plant is specially valuable on account of the season in which it opens its lovely flowers, which is during October and November, when Orchid blooms are exceedingly scarce, more especially white ones. *Orchid Album*, vol. xi., part 125.

Broughtonia sanguinea

is well deserving a place in every collection, on account of the brilliant and distinct colours of its flowers, which last a long time in full beauty if they are not sprinkled with water from the syringe. If given the proper treatment, this plant is very easy to grow. We find it succeeds best when placed on a wooden block, with a very small quantity of sphagnum-moss around its roots, only just sufficient to keep it moist being necessary; it should then be placed in a light position close to the glass, where it can obtain plenty of sunshine, which is very essential to induce it to bloom freely. It requires an occasional dipping in water, and the syringe should be used often, which will also keep the atmosphere in a nice moist condition. As this is a native of the tropics, it is only natural that it must have plenty of heat under cultivation; it should, therefore, be grown at the warm end of the Cattleya-house, or among the East Indian Orchids. *Orchid Album*, vol. xi., part 125.

The Bulb Garden.

PLANTING BULBOUS IRIS.

The beautiful and varied forms of the bulbous Irises that flower during June and July, should be planted without delay. In their great beauty they vie with the more costly Orchids, while in their perfect hardiness and easy culture in the majority of soils they come within the reach of all who have a garden no matter how small. Both the English and Spanish groups are indispensable if it is wished to secure a long succession of bloom. The earliest to bloom are the Spanish kinds, botanically known as I. Xiphium, and for purposes of cutting these are the more largely grown. They include some very chaste and beautiful varieties. That known as Gold Cup or Thunderbolt has enjoyed an extensive popularity. This is also known as the Clouded Iris, on account of the quaint mixture of bronze and gold in the flowers. Others there are with clear yellow flowers, such as William the First, which is one of the best of the yellows, while La Vestale and Queen Victoria are two of the purest white, both rather dwarf, and each of them beautiful. Apart from these there are light and dark blues, purple, dark brown, and bronze, as well as those of porcelain and pearl.

The so-called English Irises, I. xiphioides, or I. Xiphium latifolium, are somewhat dwarfer in habit, and flower fully a fortnight later. In these are included some exceedingly rich shades, pure white, pink, rose, lilac, violet, puce, purple, with maroon, and others nearly black; whilst some are spotted, splashed, or marbled. The flowers of this section are larger than in the first-named group, and the succession they afford alone makes them welcome in our gardens as prolonging the flowering season of one of the most lovely races of hardy plants. In the matter of culture they are easily suited. Select a warm sunny position and a well-drained soil, fairly rich, or if manure has to be added at the time of planting it should be thoroughly decomposed, and be dug in four or six inches below the bulbs. This is an easy matter if beds are being planted, by placing a layer of manure in the trench below the planting level. Where heavy soils exist, leaf-mould and sharp sandy grit may be added freely, and the bulbs may be surrounded with similar material. Plant the bulbs at a depth of 4 or 5 inches, and let this be done at once, as even at the present time roots are being emitted by some of the early kinds in the dry state. Where this happens the bulbs can only be kept dormant by a distinct loss in vigour. *J.*

Fruit Notes.

PEARS.

Mr. Coomber's note on Pears will have been perused with interest by many of your readers, as it shows how sometimes a really good variety is declared to be worthless, when the fault lies in the coldness of the soil, and perhaps a rather sunless season. It shows also the importance of keeping the roots near the surface instead of allowing them to go downwards. Mr. Coomber also remarks on heavy cropping being a cause of poor flavour. I have found this to be the cause here of deficiency of flavour in Pears. The same is noticed in Peaches, &c., when the crop is excessive. I do not know that I ever remember the fruits dropping so much as was the case in my neighbourhood this year, and this occurred long before the fruits were ready for gathering; and the Pears dropped off in some instances to the extent of three-fourths of the original crop, the worst being Beurré Rance, Glout Morçeau, Vicar of Winkfield, Madame Treyve, Alexander Lambert, and Autumn Nelis. Last year our best Christmas Pear was Glout Morçeau, and the fruits kept well, and were clear in the skin, the flesh melting and sweet more like a well-grown Marie Louise; this season, however, Glout Morçeau is very scabby and much inferior. The best Pears this year were Williams' Bon Chrétien, the usual form and the striped variety which keeps longer than the types; Marie Louise, which was very fine and kept well; Triomphe de Vienne, a Pear not nearly as much grown as it should be, as a standard, it is one of our best Pears and a regular cropper; Emile d'Heyst is another excellent Pear, cropping heavily as a standard and espaliers, an excellent Pear. An excellent Pear is Durondeau, which keeps well, has very white melting flesh; Louise Bonne of Jersey was also very good, and the colour was equal to that of last year. Beurré de Amanlis was very satisfactory. Beurré Superfin, Winter Nelis, Pitmaston Duchess, and Beurré Diel were better this year than last—in fact, B. Diel was better than I have known it to be. It is never first rate, it being too gritty. Before gathering any variety of Pear I always cut a few, and if the flesh is rather juicy and sweet I gather them, when, as a rule, they ripen perfectly. Now that the pruning is being pushed on with, I would like to mention, although I am a great advocate for close pruning and keeping the flower-buds as close to the main branches (on walls and espaliers), that there are some Pears, of which the Jargonelle is an example, which bear on long spurs, and it is from the terminal buds on these that the finest fruits are produced. The pruner should bear this in mind, and preserve as many of these long spurs as may be convenient. Some amount of shortening back may be done annually, if only the very longest are selected for this operation. *H. Markham, Mereworth Castle.*

Washington Apple.

This variety was shown some years ago by Mr. Bunyard of Maidstone before the Royal Horticultural Society. It has a good appearance and shape, large size, and bright colour, with a melting flesh and delicious perfume. If my memory serves me right, Mr. Bunyard's fruits were from trees in an orchard-house, and none that I have seen since that time has equalled them. What I should like to know is, which districts this variety does best in, and if the tree is free from canker. It may be that it, like several others, are best suited to orchard-house or wall-culture, but I have no experience of this. *A. Evans, Lythe Hill.*

A TRAVELLERS' NOTES.

(*Continued from p.* 598.)

New Zealand, *June* 26, 1893.—From Napier to Taupo, situated on a lake of the same name, the largest in New Zealand (15 miles by 25 miles), is a two-day coach journey, the night being passed at Tarawera, forty-four miles from the journey's end. The way four strong horses swing the featherweight carriage round the sharpest curves on the hill-sides, often overhanging precipices of several hundred, and even thousand, feet, on a 10-feet road, without any railing or protection of any kind, is apt to be trying. So sharp are the curves, that often the front pair are nearly parallel with the coach. The roads are in bad condition, and frequently very heavy, owing to much rain.

At first a few stations are passed, and innumerable sheep grazing quietly. Along the side of the road Bramble and Briar have obtained the dignity of weeds, though they are scarcely so much feared as Gorse, which all are bound by law to prevent spreading into the public road, or, indeed, off their own property under the penalty of a fine.

Cordyline australis is not uncommon, its light, graceful foliage giving a distinct aspect to the landscape. I have not noted it more than 25 to 30 feet high, though Mr. Kirk has met with it in the King-county 60 feet, and Mr. Colenso mentions one 20 feet 2 inches in girth at the base. The simple straight stems of the young unflowered plants, crowned with one head of foliage 1½ to 2 feet long, look at first very different from the many-branched, round-headed tree, with the smaller crowns characteristic of older specimens. Phormium tenax is most common, dwarfing to more than half its normal size as the higher elevations are reached. Veronica

salicifolia, seeding freely, assumes the dimensions of a large bush; it is found more or less in all parts, and although most common in the lowlands, it is found on the hill-sides. During the journey many ranges are crossed (from the summits of which fine views are obtained), many valleys traversed and mountain streams forded—where it has not been found necessary to make a bridge. Two or three Maori pahs or villages can scarcely be called interesting. The men wear corduroys, the women, in European costume, invariably ride horses straddle-leg.

The land generally, for the 89 miles passed through, is poor—in fact, much of it is quite valueless. Between, however, Tarawera and Runanga is some very fine bush. The prevailing trees are those mentioned in my last letter—Podocarpus dacrydioides and Dacrydium cupressinum. One fine belt I noted, running at a distance of some miles from the road, and parallel with it along the summit of a low undulating range—a line of sombre, heavy hue. Totara (Podocarpus Totara), the next most valuable wood in New Zealand to the Kauri (Agathis australis [Dammara australis]), and of which I shall have something to say when I meet with it in greater quantity further north. Here it is but sparsely represented, nearly all having been cut out. Lomarias, Polybichums, and Gleichenias, are common and in wonderful luxuriance, whilst up the long narrow gulleys all the well-known filmy Ferns are said to be met with. I saw but three Cordyline indivisa—a very fine thing. I hope to meet with more and better specimens.

The shrubbery over the stretch of road indicated, is rich and varied. Makomako, or Wine-berry —Aristotelia racemosa—a tall spreading shrub, has almost a monopoly in one place. Pittosporums are not uncommon, and what I took be Grislinia lucida is occasionally met with.

Most curious-looking, however, of all, is the Horoeka, Pseudopanax crassifolium, also known as Aralia heterophylla and Xylophylla longifolia. The narrow deflexed leaves of the young specimens 2 to 3 feet long, scarcely exceeding ½ inch in width, on a stem often several feet in height, give place in later stages to compound foliage, with three to five leaflets; the margins are sharply toothed, and the colour and general aspect so distinct that Mr. Kirk rightly observes, "It is one of the first trees to attract the attention of the traveller in forest districts."

Bracken Fern, a form of Pteris aquilina, one of the commonest of the world's plants, covers many acres on hill-sides, growing with great vigour, to the exclusion of all else. Beyond Runanga the pumice and lava country is reached, poor land, apparently supporting nought but wild horses. For many miles we drove through a dense growth of Manuka (Leptospermum scoparium), described as "the most common plant in the colony." It covers hundreds of acres, ranging from ½ foot to 30 feet in height, and is said to be very effective from November to January, when it flowers in great profusion; at present the acres of peculiar grey-green is apt to weary the eye.

The Geyser Country.

At Taupo is a good hotel, provided for the tourist season, when it is full to overflowing, this place being the first spot in the great thermal spring country.

The thermal spring district of the north island covers some 1000 square miles. Respecting the safety of residing within its limits, it is considered comparatively safe now, owing to the immense relief afforded by the eruption of 1886. During our time another such convulsion can scarcely be expected.

The scene of the eruption, Mount Tarawera, was but a few miles from where I am now writing (Rotorna). Here a lake disappeared, and the whole face of the country was altered, much being now under 30 to 40 feet of mud. New Zealand's most famous sights, the pink and white terraces, were destroyed. One may still remain, being only covered up, but so altered is the aspect of the land, that it is impossible to fix its site and undertake clearing operations.

The silica incrustations surrounding the boiling pools are often very lovely—quite hard, and of course of great age. Of such were the famous terraces now destroyed. In these hot pools (all are not up to boiling point), the natives, especially the children, bathe all day. As a rule, they are a fine race, but western civilisation is having the usual effect, as its worst aspects only are copied. They are decreasing in numbers, and ultimate extermination seems to be only a matter of time.

I have visited many of the natural vents—those at Wairaki, Wai-a-taupo, Taupo, and Whakarewarewa. These consist of mud volcanoes, alum cliffs, boiling mud ports, boiling springs, sulphur fumaroles, all active, and betokening a subterranean movement and condensed force almost incredible.

Many of the geysers are very fine, and spout at regular intervals, all emitting dense volumes of steam visible for miles round. The best I have seen reach from 30 to 40 feet.

Near the various hotels are baths, alum, sulphur, &c., cold water being laid on to cool that flowing in from the boiling pools. On myself and on many others, these have a weakening effect, though their curative properties are undoubted. It is, however, necessary to have a complaint. I have, happily, not one on hand at the moment.

The country in this district over which I have travelled in coaches some few hundred miles is very poor, the cause being that the volcanoes have not and do not eject lava as in Java, Japan, &c., but pumice —roughly described as a mixture of earth and stone. Forests are almost unknown, all the hills being covered with Bracken growing in profusion. From twenty to thirty miles one goes without seeing a habitation, only meeting a man repairing the road, or a few wild horses.

Large as is the tourist traffic in summer, it is probable railways will never come through the heart of the north island, as they alone could not provide a reasonable return. The roads are bad, and one gets well shaken up in the so-called coaches, in reality little more than buggies.

It is difficult to enjoy this district at this season and during the almost continuous rain we are having.

Of vegetation there is nothing to see, so poor is the land; it will support nothing but Fern and some Flax in the swamps. Native brown-grass grows in strong tufts, but is poor feeding for any but wild horses, or those doing no work.

The tourist accommodation is by no means up to that in Japan. As there, in the season, two and three sleep in a room—or, indeed, anywhere where they can get a roof; whilst the steamers to and fro to Australia have their decks covered. All that inconvenience is escaped at this season. On two occasions I have had the whole hotel to myself, and at present there are but three others here. One is rather too lonely, in fact, and the weather is too bad for anything.

Common plants in the scrub, and especially noticeable in the vicinity of Rotona, are the Mingi, Cyathodes acerosa, and the Tutu (Coriaria ruscifolia). In this district, the former is a dwarf, neat shrub, bearing at this season numerous spherical pink or white fruit, attractive in appearance. The latter attains considerably larger dimensions, and is common on the outskirts of the bush. Its long pendulous racemes of fruit, and deeply venated, almost sessile, opposite leaves on young shoots, many feet in length, are very handsome. Its chief interest, however, centres in its poisonous properties, respecting which Mr. Kirk gives much information in his *Forest Flora*.

From Rotura to Okoroire, from whence the train may be taken to Auckland, the largest city in the colony, is a distance of 30 miles, crossing a range of mountains, attaining at the highest point 2020 feet. The roads, if such they may be called, for in reality they are little more than a clearing, are bad; for miles hidden by a slough of 6 to 12 inches of semi-liquid mud. For the first 10 miles the country is open, soil poor, and almost valueless, covered with Bracken and Manuka (Leptospermum scoparium).

For the second stage of 10 miles the bush is very rich, fine, and varied.

Ferns are in glorious profusion, Lomarias, Nephrolepis, Hymenophyllums, &c. Tree Ferns are most numerous, often rising 15 to 20, and not infrequently to 30 feet. Cyathea medullaris is magnificent, but not common, its immense fronds covering an area of many yards.

Large forest trees are represented by the Rium, Dacrydium cupressinum; White Pine, Podocarpus dacrydioides, and an occasional Matai, Podocarpus spicata. Of the first two I have written, the last named is equal in appearance and of almost equal utility. Good specimens attain a height of 60 to 80 feet, round-headed, and of that dusky green peculiar to New Zealand forests when viewed from a distance. As fine a sight as one can well wish to see are the thickly-wooded gullies and hill slopes passed in this route. Dark massive White Pine and Matai relieved by the weeping yellowish-green Rium, spreading in one broad band, sometimes for miles along steep slopes, a sight obtained to perfection from the winding road skirting the hill on the opposite side of the deep broad gullies.

The wood of Matai is said to be of considerable economic value, and easily worked. Its durability especially from hilly districts, is remarkable.

The Kohutuhutiu (Fuchsia excorticata) is freely met with at an elevation of 2000 feet, and Tawa, Beilschmiedia Tawa, is common. This is a handsome evergreen, with narrow, oblong, thickly-set, glossy, rich green foliage. Mr. Kirk gives its extreme height at 10 feet, and states that it constitutes the greater portion of the forests in many northern districts. In the bush in question this, however, is not the case, and I met with no specimens approaching the height named; as I only saw the margins, this is not to be wondered at.

In portions, the undergrowth consisted almost entirely of the Mako-Mako, or Wineberry, Aristotelia racemosa, a fine shrub, but now somewhat bereft of leaves; added to this, the branches are distant, spreading, and slender, appearing somewhat bare at this season. The large acuminate foliage is of an exceptionally deep glossy tinge.

As handsome a tree as I have yet met with is freely represented on the confines of the bush; the native name is the Rewarewa, often termed Honeysuckle by settlers; to science it is known as Knightia excelsa. It is tall, erect, and rigid, with broad, blunt, stiff foliage, 6 to 8 inches long, added to a fastigiate habit; it attracts immediate notice when first seen; its racemes are said to consist of from fifty to eighty flowers, each about 1½ inch long; these, unfortunately, are not to be seen at this season, but their size and beauty, added to a tree of such unique appearance in New Zealand forests, it need scarcely be said, renders this, when it attains its extreme height of 80 to 100 feet, an exceptional object altogether.

For the first time, I have met with good specimens of that extraordinary plant, the Raba, Metrosideros robusta, one of the largest trees of the New Zealand flora. I have seen specimens at least 100 ft. high. The prevalent notion amongst bushmen and settlers is, that the Raba climbs trees, encircles them, and in course of time squeezes them to death; a most probable conclusion for a casual observer to draw—needless to say it is entirely erroneous. The seeds germinate in the forks of lofty trees, Rium, White Pine, &c., especially in the decaying leaves of the epiphyte Astelia (already referred to). When quite young, it sends forth aërial roots, slight and feeble; these gradually reach the soil below, and in course of time the once threadlike aërial root assumes the appearance and the properties of a stem. From this, usually lying flat against the supporting trunk of the tree in which the individual has made its home, horizontal, lateral roots are given off, encircling the trunk entirely. As this process is repeated to an indefinite extent, in addition to main roots being frequently connected by oblique laterals, it is easy to conceive the death of the enclosed trunk is but a matter of time. Inosculation, resulting in an uneven, rugged cylinder, in diameter many feet, follows. Mr. Kirk states a solid stem is never formed as commonly supposed, and adds that on one tree, and one tree only, viz., Vitex littoralis, it can make no impression, the iron-grain of this tree forcing the root-stems of the epiphyte apart, and sometimes dislodging it.

In addition to its magnificent flowers, described as most glittering in effect, and its peculiarity of growth, the wood has proved of extraordinary durability and toughness, and suitable for bridges and other works requiring those properties it excels in. It forms large round-headed trees; occasionally in the centre and top of the skeleton of the unfortunate individual to which it owes its existence, may be espied rising gaunt and naked, the huge cylinder of inosculated roots enclosing entirely the lower portion for a height 60 to 80 feet. From numerous specimens it is easy to trace this curious phenomenon in its various stages, a sight of exceeding interest.

James H. Veitch.

(To be continued.)

Trees and Shrubs.

AUCUBA JAPONICA VERA.

As an illustration of the fine appearance which Aucuba japonica var. macrophylla attains in a moist shady season like the present, we enclose you a leaf, which, as you will see, measures in its blade 10 inches in length by 4¾ inches in width, fully entitling it to the character of one of our finest evergreen shrubs.

Whilst writing, we may mention that few planters appear to be aware of the value of Aucuba japonica vera as a hardy evergreen. It is certainly hardier than the common variegated Aucuba, and for planting in the vicinity of towns, it is one of the best evergreens that can be used, resisting both smoke and dust remarkably well. *J. Backhouse & Son.*

[The blade of the leaf sent by our correspondent was 10 inches long, stalk 1½ inch. Ed.]

Berberidopsis corallina,

This handsome evergreen climbing shrub is rarely seen outside a nursery or botanic garden. By some it is recommended to be planted at the foot of a south wall, but by so doing I failed twice. In my opinion such a situation is too hot for the free growth of the plant during the summer, or even in spring should a spell of warm dry weather set in. Some succeed with it in a cool greenhouse, but here in the south of England no trouble need be experienced i an eastern aspect is selected, and some care exercised in planting. Soil naturally of a peaty character, or sandy loam, would grow this plant without any trouble. In my case, where the soil is both heavy and much impregnated with chalk, it is useless to attempt to grow plants of the character of this subject. I dug out a hole 18 inches square, put in at the bottom a layer of clinkers as drainage, and filled up the remaining space with peat and partly-decayed leaves, with a liberal admixture of sharp silver-sand. Abundance of water should be afforded during dry weather in the early summer, when growth is being made, as upon doing this depends the quantity of blossoms that will be produced by the current season's shoots. It may not be generally known that blossoms are produced as freely from the present year's growth as from that of last season. The latter commences to bear flowers in June, and continues for some time, the newer growths producing abundant blossoms in August.

If the situation is exposed to east winds during February or March, a little protection while the plants are young, in the form of a temporary light stood against the wall to break the full force of the wind, will prevent many of the leaves falling off, thus rendering the stems bare for a time. *E. M.*

[Some half-a-dozen plants would form a pretty bed on the turf in south country gardens. Ed.]



Fig. 80.—EPI-LÆLIA × HARDYANA.

Abelia rupestris.

According to Mr. Nicholson in his *Dictionary of Gardening*, this deciduous shrub was named after Dr. Clarke Abel, physician to Lord Amherst's Embassy to China in 1817. Here, in south Hants, it is perfectly hardy, planted against a south wall, not requiring the slightest kind of protection, the plant having stood out for the last eight years or more. It is a shrub not often met with, but still a very desirable one for any garden. The small, pink-coloured, sweet-scented, bell-like flowers, are freely produced in pairs at the end of the shoots during September; the reddish-coloured sepals are of a leafy texture. Like many other plants from China, it luxuriates in a peaty soil, and likes an abundance of water during growth, growing then vigorously, and producing a profusion of bloom. *E. M.*

EPI-LÆLIA × HARDYANA.

(LÆLIA ANCEPS ♀, EPIDENDRUM CILIARE ♂.)

This extraordinary bigeneric hybrid, which many lovers of Orchids have, during its progress to maturity, watched with keen interest in the establishment of Messrs. F. Sander & Co., St. Albans, was recently flowered by that firm, and exhibited at the meeting of the Orchid Committee of the Royal Horticultural Society on November 13, when it was given an Award of Merit, and our artist took occasion to prepare a drawing from which the accompanying illustration (fig. 80) is given. These bigeneric hybrids are interesting for the opportunities they afford of comparing the influence of the widely separated plants used in obtaining them, on the progeny. In many cases the reverse of what might be expected is displayed, together with some curious and apparently contradictory features. In the present case although Lælia anceps bore the seeds, the plant has tall thin pseudobulbs more nearly resembling those of Epidendrum ciliare, whose elegant flower-scape is also in a measure produced; but the most marked feature in E. ciliare, its deeply-fringed labellum, is wholly suppressed, except so far as it might have influenced the wavy and irregular edge of the front lobe of the lip of the hybrid under notice, and in which the long well-defined isthmus of the blade of of the lip is a singular feature.

Epi-Lælia × Hardyana is a graceful hybrid. Its flowers have the sepals and petals blush-white tinted with rose on the lower halves. The base of the lip is blush-white, the tips of the side lobes and the front lobe being of a rich crimson-purple.

FORESTRY.

TRANSPLANTING TREES.

In regard to what has been written in a recent issue of the *Gardeners' Chronicle* on this subject, experience bids me say that autumn planting is the best. Some of the advantages are these, that taking

time by the forelock, the work can be got through or well advanced before wintry weather sets in; whereas on the other hand, if it is put off till the New Year is past, inclement weather or other untoward circumstances often occur that so retard the work, that at the advent of spring it is not completed, which means that it must be abandoned for a season, with a consequent loss of a season's growth, or prosecuted to its close, at a serious risk of both plants and labour being lost. Again, a young tree planted in the autumn has the subsequent winter's rain to wash and solidify the soil around the roots, giving to it something of the character of a tree that has been resting during the winter to resume its work in the spring. Further, when the soil is broken up to receive the tree, in the interval that elapses ere growth begins, a cohesive process is going on, tending in the direction of the soil resuming its normal state. Otherwise, not infrequently in stiff soil, the aperture formed by the spade opens up under the influence of the sun, exposing the roots and reducing the chances of success. The exception to the above rule is, when the plants are very small and the roots correspondingly small; in such cases spring planting is preferable, as during hard frosts there is an upheaval of the soil which subsides with the thaw, leaving behind the small plants in a half uprooted state. This is most marked when the ground is bare. The inference from the above would be for the planting of large plants in the autumn, for very small in the spring. With regard to the best months for planting, the adage that it is those in which the letter "r" occurs requires some local adjustment.

In the south of England, it would be well, perhaps, if it could be finished by the end of February, considering that in March there generally prevail cold and drying winds highly detrimental to the roots which would unavoidably be exposed; whereas in the highlands of Scotland it has, under different conditions, been carried on successfully well into May. *J.*

Belgium.

GHENT.

The Royal Society of Agriculture and Botany of Ghent opened, on November 11, its 160th exhibition, devoted specially to Chrysanthemums; but although of equally high quality, the specimens were not so numerous as at Antwerp, elsewhere alluded to. Orchids were also shown in quantities, M. Jules Hye-Leysen showing a fine lot of the true Cattleya labiata, a Vanda cœrulea with two spikes, one with sixteen, the other with eleven flowers, of very deep blue. The same gentleman also showed a Lælio-Cattleya Hyeana ×, a natural hybrid, presumed to have originated as a cross between Lælia grandis tenebrosa and Cattleya labiata autumnalis. Numerous Cypripediums were also shown.

Brussels.

The last meeting of the Orchidéenne was remarkable for the exhibition of Cattleya gigas var. Leopold II., and of some twenty supposed natural hybrids between Catasetum Bungerothi and C. macrocarpum. The Cattleya just mentioned was grown by Mr. Knight, in the garden of H.M. the King of the Belgians at Laeken, and was awarded a diploma of honour by *acclamation*. The perianth segments are pure white without spots; the lip is very large, with two broad yellow blotches, bordered with lilac at the throat. The column is ivory-white, emerging, as it were, from a base of a purple colour, veined with white and yellow. The free border of the lip is fringed, and of a rich velvety-purple.

The Catasetums were very varied in form and colour, some ivory-white, others greenish-white, or yellow; some very large some concave, some flattened and spreading, some campanulate, &c.

M. Cogniaux is engaged in the study of these interesting forms, and the result of his investigations will be awaited with interest. Various Cattleyas, Cypripediums, Odontoglossums, &c., contributed to the success of this exhibition.

Cattleya labiata alba.—M. Peeters has at this time a white form of C. labiata in bloom. In bud, the sepals are white, slightly tinged with green. *C. de B.*

The Week's Work.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

PALM-HOUSE.—Though not the best time for repotting Palms, still, the fact of their being less readily injured than many other stove plants allows of this operation being performed at this season. The same soil as before directed may be employed as well as the general treatment, save that less water at the roots is required at this season. The present is a good time for cleaning by washing or sponging all plants in this structure. I am in favour of sponging where the necessary time can be afforded. If the plants are not very dirty, soft-soap and water will suffice. If scale and red-spider have established themselves, Murray's Electric Mildew and Insect Destroyer should be applied to get rid of these.

ZONAL PELARGONIUMS.—These plants are now at their best, and require to be watered carefully, keeping them rather dry than wet at the root, and withholding all manurial aids as these tend to the premature decay of the flowers. Decayed leaves and flowers should be removed daily, and the house well ventilated, keeping at the same time a slight heat in the hot-water pipes. Plants past their best, if not already cut down, should be attended to, removing them to cooler quarters, and keeping them dry at the root for a considerable time.

HYDRANGEA HORTENSIS may be removed to a cold frame, plunging the pots in coal-ashes to winter, a slight protection being afforded them in hard weather.

CAMELLIAS.—Those plants with the most prominent flower-buds should receive waterings of diluted cowdung, with a small quantity of soot added to it, and if the plants are portable they should be brought into the conservatory as soon as the flower-buds begin to show colour, their removal giving the gardener a chance of washing the pots and tubs, and sponging the leaves with soft-soap and water, a matter which should receive attention in any case before Camellias come into bloom—good foliage being a great attraction in this plant.

THE CONSERVATORY.—With the introduction of the foregoing, a fresh arrangement will become necessary and desirable, and the Poinsettias, Calanthes, Cypripedium insigne, Richardias, Lily of the Valley, Hyacinths, and Tulips in bloom, may be added to the other occupants, and will assist in making a nice display. These plants will make it advisable to increase the temperature of the house a little, 55° by night, with a rise of 5° by day, with air admitted whenever it is prudent to afford it. Always at this season afford whatever water is necessary in the early part of the day, mopping up what flows from the pots and tubs, or is spilt on the floor.

RICHARDIAS.—If single crowns were potted up, their roots will have fairly filled the pots—a time when manure-water may be afforded with advantage, say once a week, continuing to do this for a time, and when it is seen that the plant responds to this stimulus, it may be afforded twice a week. The principal stock of this plant may be placed in a cool, airy house, and fumigation with Tobacco resorted to once a fortnight.

STATICE PROFUSA.—This plant may now be cleaned, repotting those which need it, providing them with new stakes, using a somewhat rich soil, to which may be added Thomson's Vine and Plant Manure, at the rate of a 6-inch potful to a wheelbarrowful of soil.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maidin Erlegh, Reading.*

MORELLO CHERRY.—If the pruning and training of the trees of the Morello on walls have as yet not been attended to, advantage should be taken of mild weather to attend to these matters, it being preferable to attend to them now rather than in spring-time, when there is always a risk of rubbing off the then prominent bloom-buds. Pruning will consist chiefly in cutting out as many of the naked shoots as there are young ones to replace them, the object being to keep the tree furnished throughout with bearing wood, but not to crowd it. The ground being in such a moist state, wide boards or trellises should in all cases be laid down for the men to stand upon whilst doing the work. The pruning and nailing having been finished, apply some strong kind of insecticide with a syringe for the destruction of black aphis, which the mild weather has not quite destroyed.

SWEET CHERRIES.—With the other kinds of work alluded to in former Calendars carried out up to the present date, the pruning, nailing or tying, and dressing of the Cherries other than Morellos may be prosecuted. Provided the summer pruning was duly performed, but little pruning will be required beyond shortening the leading shoots, removing dead spurs, &c. If any trees are infested with the brown-scale, so common on the Cherry, the branches should be loosened from the wall, and dressed with Fir-tree oil, or some other kind of insecticide, using a half-worn paint-brush in doing so. If the black-aphis be present on the trees, it will show itself in the present mild weather, and it can be destroyed either by syringing with strong insecticide as recommended in the case of the Morello Cherry, or by going over the shoots separately with a small paint-brush, getting the liquid well round about the buds. Sweet Cherries are such capital additions to dessert that no labour is ill-bestowed in trying to have them in good condition, and so that the season of the sweet Cherries may be prolonged as much as possible, besides obtaining suitable sorts, they should be planted on walls of different aspects, as well as grown as bushes or pyramids in the open ground. The proper soil for the Cherry is a strong loam on a naturally well-drained substratum of limestone, chalk, &c.; and in preparing stations for trees these items should be borne in mind, substituting mortar-rubble for chalk or lime where lime does not exist in the staple. The following are good varieties to plant in gardens—Early: Frogmore, Early Bigarreau, Governor Wood, and Knight's Early Black. Midseason: Cleveland Bigarreau, May Duke, and Black Tartarian. Late: Bigarreau Napoleon—which, all points considered, is the most valuable Cherry that is grown.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

PLANTS IN BLOOM.—Amongst Orchids now in bloom, the lovely forms of Dendrobium Phalænopsis are those most conspicuous at the present time, and those plants which are in flower should be arranged at that part of the warm house where the ventilators are more or less open at all times, or, if convenient, they might be placed in the Cattleya-house, the drier air of which would be even more suitable for them. Previous to placing recently-imported plants of the above Orchid with others, they should be thoroughly examined for a destructive beetle which is common to them. The presence of these insects is indicated by small holes found in the pseudobulbs; and the only effectual means of extermination is to cut off the bulbs so pierced, and forthwith burn them. It is not advisable to place the newly-imported pieces in a growing temperature at present. Amongst other plants in flower at the present time is Cœliopsis hyacinthosma, a species not generally known, but all the same well worth attention from the amateur, and especially where botanical species are appreciated. The sweet Hyacinth-scented flowers of wax-like texture are much admired at Burford; and the plant is of easy culture. The flower-spikes issue from the base of the plant as in a Stanhopea; it is, therefore, necessary to suspend it from the roof in a shallow basket. Owing to the spikes protruding from below, no crocks can be used for drainage, and the material for it to root in should consist of rough peat and sphagnum-moss. The temperature that suits it is that of the East Indian-house. Like most other species of Orchids, it requires watering copiously whilst growing, and when at rest it may be kept rather dry. Another rare Orchid of similar characteristics now producing its flower-spikes is Schlimia trifida, but, unlike the preceding one, it requires an intermediate temperature to grow it satisfactorily.

ODONTOGLOSSUM CORONARIUM.—This species, although not very rare, is too seldom seen in flower. It is now fast pushing up its flower-spikes with us, and should be at the warmest part of the house, in a position where the greatest amount of light can reach it. It is a plant that at all times requires moisture liberally supplied at the root, and should have plenty of living sphagnum moss growing on the surface of the soil, in and to which the roots penetrate freely. Another charming little plant now in bloom is Angræcum distichum, one of the smallest-flowered species, which, if only on account of the delightful fragrance of its numerous snow-white flowers, well deserves a place in collections. Like Angræcums generally, the East Indian-house is the most suitable place for it. The handsome winter-flowering species, A. sesquipedale is fast pushing up its flower-spikes. A small yellow species of thrips is apt to infest these, which

may be got rid of by fumigating the house, failing this, a whole year's inflorescence may be disfigured. If fumigation be objected to, occasionally dust the spikes over with strong Scotch snuff. Growing in the same house are Oncidium papilio and O. Krameriannm, which do well if suspended in small baskets close to the roof-glass. For some weeks past these plants have produced a number of their remarkable butterfly-like flowers. All Orchid growers know that the spikes continue to produce a succession of blooms for a very long period; but if they are allowed to do so unchecked the plants become exhausted; therefore their flowering season should not be unduly prolonged, the spike being cut clean away after a certain number have opened.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

PINE-APPLES.—During the dark days, the temperatures of the house and pits and the beds in which the plants grow will need careful attention. It is not good practice to starve the plants, and hope for the production of well-formed good-flavoured fruits. Those of the Queen family which it is intended to start for early fruiting at the end of the month of December should not be subjected to a lower night temperature than 60°, or day temperature of 70°. Air should be admitted on fine days, but not so as to lower the warmth, the bottom-heat being kept steady at 80°. Watering will be but little required, although much dryness of the soil ought to be avoided. If plunged in a deep bed of tan and leaves, and not given much fire-heat, the plants will keep in good condition for several weeks at this time of the year without any water being afforded the soil in which they are growing. The danger of too great a degree of dryness at the roots is premature fruiting. The air of the house may be kept rather dry, and instead of damping and steaming the pipes, and keeping the evaporating-troughs full of water, moisten the walls and floors. Early-potted suckers, well established in their pots, should now be afforded a night temperature of 55° to 60°, day temperature 65° to 70, with a good circulation of air on mild days, and the bottom-heat not higher than 75°. These plants must be kept rather on the dry or resting side. Late-potted suckers will require a warm moist temperature until they are well rooted, when a small amount of air should be admitted. Plants of Smooth Cayenne, Charlotte Rothschild, and Black Jamaica, now with fruits swelling off, require a liberal supply of tepid water at the root; Smooth Cayennes, if well rooted, requiring more than the other varieties. The bottom-heat may be kept at about 85° night temperature, of the house at 65° to 70°, and day at from 80° to even 90°, when the latter figure can be obtained by the aid of sun-heat. Do not damp or syringe the plants overhead, but moisten the floors once or twice daily, steaming being omitted. At this season the roof of the house or pits may be covered with canvas when the air is frosty, covering being less injurious to the Pines, and less burdensome to the pocket than hard forcing.

EARLY PEACH-HOUSE.—Clean, train, and top-dress all borders without delay, and if Peaches are required in May, the house may now be closed, affording the border, if dry, a thorough soaking of clean tepid water. The temperature should not fall below 40° for a period of a fortnight, as little fire-heat as possible being employed during that time; afterwards an increase of 5° by night, to 55° to 60° by day with sunshine, may be permitted. Syringe the trees twice daily with tepid water, and afford air on fine days, always advancing slowly. After growth has advanced a little, and the envelopes of the flowers show signs of expanding, the warmth being increased, always given freely; but sudden changes of temperature, such as are brought about by admitting cold air in large volume, must be carefully avoided by the cultivator.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

BEDDING PLANTS.—To keep these plants in good condition throughout the winter strong growth should be promoted, and with this intent the lights should be pulled off the pits in bright open weather, and provided there is no danger from frost or heavy rain they may be left off so long as it is safe so to do. The same practice should be carried out as far as possible where they are stored in vineries, and by having both top and bottom ventilators open both night and day, and should dull or wet weather occur, a small amount of fire-heat may be used occasionally, so as to prevent damping. Remove decayed leaves and flowers, the latter as soon as possible, and any gaps in the cutting-boxes or pots may be filled up, taking care not to disturb the other cuttings more than is necessary.

LAWNS.—Now is the time, when the worms being close to the surface, to apply lime-water to the turf, which will cause them to come to the top, when they may be swept up. This treatment must be followed up if perfect lawns are wished for, the mere rolling of the turf and sweeping up of the worm-casts having no effect whatever in abating the worm-nuisance. Weeds of size should be removed bodily, or in the case of plantains these may be destroyed by thrusting a pointed piece of iron down the centre of the root, first dipping it in a bottle containing oil of vitriol, taking care not to drop it on the grass, and to use strong leather gloves whilst carrying out this kind of work. The keeping of this poisonous liquid under lock and key may here be enjoined. Any uneven parts should now have attention, cutting and rolling back the turves, and filling up the depressions with good fine soil, or removing hillocks, and returning the turves, thoroughly beating and rolling them.

HOLLYHOCKS.—See that these plants are carefully labelled if named varieties are grown, and if they are to remain in the ground a little protection should be afforded them by placing rough leaf soil or strawy manure around them. All the choice varieties it will be prudent to lift and winter in large pots in cold frames. Cuttings struck in July last that have been potted up will also require to be wintered in a cold frame, and these will make good strong plants for next year's flowering.

CHRISTMAS ROSES.—If strong clumps exist and these are throwing up their flowers, hand-lights should be placed over them, resting the lower part on three bricks, thus admitting sufficient air, the flowers are thereby kept clean, the flower-stalks are longer, and the plants are protected from the weather.

NARCISSUS.—To ensure a supply of cut flowers in the early spring, some beds of the earliest varieties should be planted. If a part of a warm border can be spared for them, blooms will be obtained at least a fortnight earlier than from bulbs in the more open quarters. Although somewhat late in the year for bulb planting, they may yet be planted, selecting the largest bulbs, and planting them in soil of good quality, which, if it be light, will be so much the better; and if heavy, a liberal top-dressing of leaf-mould and rotten manure will be an aid to the realisation of good results. Plant the bulbs in lines 10 to 12 inches apart, and follow the same method as that advised for Lilies in an earlier Calendar. Some of the more useful early varieties are—Large trumpets: Achilles, Bulbocodium, Early Spanish Yellow, Countess of Annesley, Golden Plover, Golden Spur, Lorifolius, Major (the early variety), Minor, Nanus, Obvallaris, Pallidus præcox, Rugilobus. Medium trumpets: Orange Phœnix, Queen Bess, Sir Watkin, Stella, Odorus. Small trumpets: Biflorus, Burbidgei, Poeticus, Poeticus ornatus, and Poeticus plenus.

THE APIARY.

By EXPERT.

CANDY FEEDING.—Mild weather in the winter usually causes activity amongst the bees, and larger quantities of food to be consumed. Should the present mildness continue for any length of time, it will be necessary to supply sugar-candy to stocks that are not well provisioned. Many bee-keepers place a large flat cake of sugar-candy under the quilts in the autumn so as to economise the sealed food in the combs and also to ensure means of passage for the bees over the tops of the frames during the winter. The Demerara sugar of the shops is well fitted for making candy, and if a small proportion of honey be added in the making of it is much more palatable to, and more readily taken by the bees. In districts where it is suspected that foul brood exists, it is advisable to medicate all artificial bee-food with naphthol beta which, first dissolving it in spirits of wine, as well as to drop two or three pieces of napthaline on to the floor-board of each hive to prevent infection.

WINTER ENEMIES.—A watch should be kept for sparrows, tomtits, and some other birds in the habit of feeding on bees when other insect food runs short, and if observed, measures must be taken to prevent their depredations. This may be done by fixing a piece of fine-meshed wire netting over the hive entrance, although it is not very often that such a precaution is actually needed. Mice sometimes give trouble, and may be kept out of hives by reducing entrances to a depth of three-eighths of an inch. Damp is a greater enemy, and more to be feared than either of the preceding, and every means should be taken to prevent the ingress of wet through the roofs or plinths of hives. Heavy rains and snow require some attention in the way of paint and putty to effectually keep them out.

WIDE *v.* NARROW SHALLOW FRAMES.—Wide shallow frames have been tried by several bee-keepers during the past season side by side with the ordinary shallow frame, spaced 2 inches from centre to centre by means of the new metal ends. Some of the disadvantages found with the latter were that in some instances where two sets of frames were used and placed one above the other the bees continued comb-building downwards irrespective of the bottom bar in top frame, and so joined the two together. In other cases the increased spacing caused the bees to build comb the natural width only in the frames, and then to fill up the intervening space with an independent comb. Neither of these objections was experienced with the wide frames, as the bees filled and finished them off to the extreme edges as readily as they do sections with which, when finished, they compared very favourably in appearance. Were it not for a little extra care required in using the uncapping knife, so as not to slice off wood as well as wax, there would be little question as to which of the two is the better for general use.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

ASPARAGUS.—The foliage having died off, may now be removed from the beds, which may be expeditiously performed with an old scythe. About 2 inches of stem should be left to indicate the position of the stools when hoeing or pricking over the soil. If seed has formed, this should be removed, first cutting it off quietly, so that none be shed. After clearing the tops away, and hoeing and raking off all weeds, make the beds neat and trim for the winter. As regards top-dressing for the winter, decayed manure in small quantity will, if laid lightly on the beds, allow air and sun to have effect on the soil. This top-dressing should occasionally be shaken up during the winter, choosing dry weather for the work. Heavy dressings of rotten manure tend to make the beds cold and wet, retarding the growth of the plants in the spring, an evil perhaps more fully felt in late cold soils and districts. I object to having the alleys dug, so many roots being destroyed by this practice, and I fail to see what good it does. Rows of seedlings for next year's plantings should have their tops removed, and a light protection of litter or dry Vine-leaves spread over them, which must be removed when the drying winds of March are past. The stools which are to be taken up for the purpose of forcing them should be protected with litter on the approach of frost, so that there may be no difficulty in getting them at any time.

FORCING ASPARAGUS. — The plants having slightly rested from growth, forcing may commence. In taking up the roots do so with care, retaining as many of them as possible in an unbruised condition. Asparagus, contrary to Seakale or Rhubarb, is not benefited in the least by drying of the roots, therefore the roots must not be left uncovered after being dug up. Forcing may be carried on in pits heated by hotwater, or in dung-bed frames; and if the latter course be adopted, the fermenting material should be well turned over and sweetened before being made into a bed. The size and thickness of the latter should be such that with the assistance of dung linings, a steady temperature of 60° to 65° can be maintained for several weeks.

CARDOONS. — These plants need some kind of protection in frosty weather. Continue to blanch any plants which are large enough, by means of hay-bands or litter wound round the stalks; if the latter, the leaf-stalks must be tied together with broad strips of bast at first, and it is advisable to put a stout wooden stake to each plant, or a gale of wind will do much harm to them. When perfectly blanched, the plants may be lifted and placed in the vegetable-store until required for use.

POTATOS.—A sufficient number of sets to plant a succession of beds may now be placed in an upright position, eyes uppermost, in boxes, and brought into a warmer house to sprout before planting them. The forcing of Potatos may be done in pots, placed in forcing-houses, vineries, &c., or in beds under frames.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY,	Nov. 27	Royal Horticultural Society's Committees, at the Drill Hall, James Street, Westminster.

SALES.

MONDAY,	Nov. 26	Dutch Bulbs, at Protheroe & Morris' Rooms. Hardy Perennials, Carnations, Picotees, Lilies, and Iris, at Protheroe & Morris' Rooms.
TUESDAY,	Nov. 27	Dutch Bulbs, at Protheroe & Morris' Rooms.
WEDNESDAY,	Nov. 28	Dutch Bulbs, at Protheroe & Morris' Rooms. Consignment of Japanese Lilies, Roses, Begonias, &c., at Protheroe & Morris' Rooms. Sale of Fruit Trees, at Perry Hill, Cliffe, near Rochester, by order of Mr. W. Horne, by Protheroe & Morris.
THURSDAY,	Nov. 29	Azaleas, Ferns, &c., at Protheroe & Morris' Rooms. Dutch Bulbs at Protheroe & Morris' Rooms.
FRIDAY,	Nov. 30	Dutch Bulbs at Protheroe & Morris' Rooms. Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	Dec. 1	Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.4.

Open spaces in the Metropolis.

FIFTY years since, the green spots on the map of London indicating parks and open spaces, were very few, and, with the exception of what may be termed the greater parks, very far between. Had any one at that distance of time ventured to prophesy that in half a century there would be in existence nearly 200 such places for recreation and health-giving resort for the millions, he would have been laughed at as a dreamer of vain dreams. That the millions inhabiting the great metropolis have to-day so many "lungs" is due to the munificence of the City magnates, the far-seeing eyes of the late Board of Works, the existing County Council, private action and beneficence. True, the price now being paid by the ratepayer is a heavy one, but then of all the great cities of the world London is now the healthiest, for the proof of which, see the Registrar-General's Returns.

Our County Council appear to be always *en evidence* in the matter of public parks and their smaller relatives; they seem to be always engaged in acquiring or laying-out some suitable piece of land for the recreation of toilers and their children; or for those who, unable to do anything at gardening at their own houses, desire and appreciate some nicely laid-out piece of ground where the work of a good gardener can be seen and admired.

The committee of the County Council, to whom the care of some of the London parks, &c., has been handed over, only the other day submitted a report of their doings, which interests, among others, all who helped to "foot the bill." Mention is made in this statement of the charges for seats around the band-stands in the Council parks, which payments had been discontinued, but this report recommends a return to the practice of charging for seats near to the stands. In the future, half the seats will be charged for at the rate of one penny; perhaps by-and-by the other, and outer circle, half may be let to sitters at a halfpenny each.

As to the maintenance of small open spaces, it is noted that there is much diversity in the way these are kept up: many are permanently upheld by the Council, and some, as with the churchyards and playgrounds, formerly maintained by the Metropolitan Public Gardens Association, are temporarily supported by the Council out of the County fund; some are carried on by the vestries and district boards out of local rates; whilst others are maintained by private individuals or by the Government. A return has been made of the open spaces, churchyards, &c., in the county of less than ten acres in area, which are at present kept up for the enjoyment of the public: the total number is 198, and the aggregate area 354½ acres. In addition to these, three local authorities keep up some 57 acres as recreation grounds. The committee are of opinion that all these open spaces should be managed by one authority, and on a common basis; but the matter will have to stand over in view of the proposed scheme for "unification" becoming law. To avoid centralisation of management, it is proposed that all open spaces under ten acres shall be in the care of the local authority, the certificated charges for the said management being paid from the county rates—the large parks being managed as now.

It is occasionally complained of, that several open spaces are being deprived of their old natural aspect, and are in part acquiring a gardenesque appearance; should this be true, one can only say that it is pity—we want as much of Nature in town or suburb as can conveniently be had; it recommends itself also to the ratepayer on the ground of economy. In any case, open spaces in the heart of the town and in the most densely-populated quarters are now what is most required.

The Antwerp Exhibition.

THE horticultural section of the Universal Exhibition has been eminently successful, and this is the more worthy of comment, as usually on these great occasions horticulture takes a subsidiary position. The exhibition was closed in brilliant fashion by the display organised by the Royal Horticultural Society of Antwerp. Chrysanthemums were, of course, the principal objects exhibited, and the number of plants, their culture, their flowers, and the selection of varieties were such as ensured high praise for the exhibitors, and never has an exhibition in this city been more numerously attended.

The principal varieties shown on this occasion were W. H. Lincoln, Mrs. Hicks Arnold, Préfet Robert, Vice President Calvat, Miss Blanche Payne, Edw. Molyneux, and Madame Ed. Rey, represented by specimens more than a yard and half in diameter, and a yard high, and each bearing at least 100 expanded flowers on the average, each flower 5 to 6 inches across (18 to 20 cm).

Among the newer varieties, the most appreciated were Madame Anatole Cordonnier, Colossus, Grenoblois, Madame Benjamin Giroux, Madame Gruyer, Master Jerome Jones, President Arnauld Toulon, Deuil de Jules Ferry, Charles Davis, Madame Carnot, and Madame Seago.

A general exhibition of cut flowers and ornamental plants was held at the same time, while overhead were displayed the standards and banners of the various agricultural and horticultural Societies of the kingdom. On this occasion also, M. JULES HYE-LEYSEN, of Ghent, showed some remarkable Orchids, among them Miltonia Leopoldi, a unique specimen, of great beauty; Cypripedium Albertianum, Cattleya Hardyana, &c. The busts of their Majesties the King and Queen of the Belgians were enshrined in a bower of Orchids and Palms, contributed by M. CHARLES VUYLSTEKE.

BEGONIA HAAGEANA.—There are several large specimens of this noble species of Begonia in the Begonia-house at Kew which have been in flower since last June. It is impossible to speak too highly of it; certainly if I were called upon to name the six best shrubby Begonias, this would be one of them. It forms quite a big bush, for I have seen it nearly 6 feet high and a yard through at Kew, and its handsome metallic-green, red-tinged leaves, red stems, large crimson stipules, form a picture in themselves. The flowers are in large, loose, sub-pendent cymes, each cyme being from 6 inches to 1 foot across, and they are crowded with large flowers of a pink-white colour, and covered with red hairs, which form quite a boss on the lower part of the large petals of the male flowers. It is remarkable that whilst in B. coccinea (corallina) and its allies the female flowers are much more conspicuous and attractive than the male flowers, the order is reversed in B. Haageana and its near relations. The female flowers can be seen in accompanying illustration (fig. 81); they are only about one-sixth the size of the males. The ovary is green, three-winged, one of the wings being much prolonged, and there are five petals in each flower. B. Haageana was introduced from Brazil in 1887 by Messrs. HAAGE & SCHMIDT, of Erfurt, who sent it to Kew to be named, requesting that it should bear the name of Dr. SCHARFF, from whom they obtained it. Unfortunately, they sent another and a different plant to Dr. REGEL, St. Petersburg, with the same request. He published a picture of his plant under the name of B. Scharffiana, Regel, in the *Gartenflora*, 1888, p. 127, and soon afterwards the Kew plant was figured and described in the *Botanical Magazine*, t. 7028, also as B. Scharffii. The difference between the two was soon afterwards pointed out in the *Gardeners' Chronicle*, October, 1889, p. 388, when the Kew plant was renamed B. Haageana, Watson, and described then as "one of the very finest of the evergreen Begonias, certain to become a popular plant." I suspect that B. Scharffiana, a much inferior plant, is still allowed to do duty for B. Haageana, hence its failure to win the favour it really deserves. This illustration will enable growers to recognise B. Haageana. The true B. Scharffiana has larger, thicker leaves of a dark olive-green above, larger stipules, and a long stout flower-stalk, which sometimes bears a cluster of leaf-like bracts, and comparatively few flowers. It also is a striking Begonia, but not to be compared with B. Haageana. A hybrid between this and a near ally, viz., B. metallica, was raised and distributed in 1891 by Messrs. LEMOINE, who named it B. Credneri, and the same hybrid was sent out in the following year by M. BRUANT under the name of B. Duchartrei. Neither hybrid is as good as B. Haageana. *W. W., Kew.*

LINNEAN SOCIETY.—This Society met on Thursday, November 15, Mr. C. B. CLARKE, F.R.S., President, in the chair. Dr. DAVID PRAIN was admitted a Fellow. The Rev. G. HENSLOW exhibited some curious iron implements, of somewhat varied pattern, used in Egypt for cutting off the top of the Alexandrine Fig (Ficus Sycamorus, Linn.), the operation being necessary to render it edible, by getting rid of the parasitical insect, Sycophaga crassipes, Westwood, with which it is always infested. The practice was said to be very ancient, being described by THEOPHRASTUS, and alluded to by the same word, κνίζων, in the Septuagint version of the Old Testament (Amos vii., 14), in translating from the



Fig. 81.—Begonia haageana: flowers white and pink. (see p. 632.)

Hebrew. Mr. H. N. Ridley showed some drawings of the green larva of a Sphinx-moth mimicking a green-tree snake, Trimeresurus Wayleri, as well as a cluster of caterpillars mimicking a fruit, all of which were found in Singapore. He also exhibited a drawing from life of the tan-producing Gambir-plant, Uncaria gambir, in flower. Mr. Thomas Christy exhibited some germinating seeds of Pepper, showing the testa being carried up by the cotyledons. A paper was then read by Dr. D. Prain on the plant yielding Bhang, Cannabis sativa. Illustrating by lantern-slides the anatomy of flower and fruit in Cannabis, he reviewed the theories propounded of their structure; confirmed from teratology those of Payer (1857) and Celakovsky (1875), and refuted those of B. Clarke (1853), and Macchiati (1889). He then explained the relationships of (1) the fertilisation or otherwise to the development of narcotic properties; and (2) of the various forms of narcotic to each other. A series of monœcious conditions described in plants of both sexes show that the so-called male flower is probably an inflorescence, the perianth-segments being bracts, not sepals, while the stamen is the homologue of the anterior sterile carpel of the ♀ flower. A paper on the proposed revision of the British Copepods, by Mr. Thomas Scott, was, in the unavoidable absence of the author, read by the Secretary.

Royal Horticultural Society.—At the next meeting of this Society, which will be held in the Drill Hall, James Street, Victoria Street, Westminster, on Tuesday, November 27, Mr. James Douglas will deliver a lecture on the "Principles of Judging at Flower Shows."

Horticultural Club.—The usual monthly meeting and conversazione took place on Tuesday, November 13, at their rooms, Hotel Windsor, Victoria Street, Westminster. The chair was occupied by Mr. C. E. Shea, and there were present beside, Messrs. J. H., C. E., and A. H. Pearson, Henry C. Seebohm, George Bunyard, George Paul, J. Assbee, H. Selfe-Leonard, Harry Turner, W. J. Jeffries, and other gentlemen. A very interesting lecture was given by Mr. C. E. Pearson, on "The Flora and General Characteristics of Iceland," from observations made during a recent visit to that island. He gave an account of the plants observed by him, and showed that the flora is very similar to that of the British Isles.

Royal Society.—The first meeting of the new session of the Royal Society was held on Thursday, Nov. 15, at Burlington-house, when three papers were read. Mr. H. H. Dixon and Dr. J. Joly, F.R.S., presented a paper on "The Ascent of Sap." It was pointed out that Strasburger's experiments have eliminated the direct action of living protoplasm from the problem of the ascent of sap, and have left only the tracheal tissue as an organized structure, and the transpiration-activity of the leaf wherein to seek an explanation of the phenomenon. The authors investigate the capability of the leaf to transpire against excessive atmospheric pressures. In these experiments the leaf was found able to bring forward its water meniscuses against the highest pressures attained, and freely transpire. Whether the draught upon the sap established at the leaf during transpiration be regarded as purely capillary or not, these experiments lead the authors to believe that it alone is quite adequate to effect the elevation by direct tension of the sap in tall trees. Explanations of the lifting of the sap from other causes prove inadequate. A reconsideration of the principal experiments of previous observers, and some new experiments of the authors, lead to the view that the ascent is principally in the lumen and not in the wall. Professor W. C. Williamson, F.R.S., and Dr. D. H. Scott, F.R.S., presented a further contribution on "The Organization of the Fossil Plants of the Coal Measures," a subject which the former has been investigating for many years. The present contribution was "On the Roots of Calamites." The following are the conclusions come to by the authors:—(1) The fossils hitherto described under the name of Astromyelon Williamsonis are the adventitious roots of Calamites; (2) their structure is in all respects that characteristic of roots, as is proved by the centripetal primary wood, the alternating strands of primary wood and phlœm, the endogenous mode of branching, and the absence of nodes; (3) the smallest specimens, with little or no medulla, represent the finest branches of the same roots, of which the large medullate forms are the relatively main axes. The paper is illustrated by micro-photographs from the actual specimens, and also by camera-lucida drawings. *Times.*

Harrison's Midland Root Show.—Messrs. Harrison & Sons, Market Place, Leicester, held their annual exhibition of vegetables and farm-roots in the Market Hall, on the 14th and 15th inst. Potatos and Leeks were exhibited of very fine quality, and Celery and Carrots also, but the farm-roots were rather below usual quality, on account of the adverse climatic conditions of the past season.

BIRMINGHAM SELBORNE SOCIETY.—At a meeting of this Society, held on the 16th inst., Mr. HUMPHREYS lectured on "The Mechanical contrivances of Plants," and gave many instances of protections provided against insect pests by plants.

DEVON AND EXETER GARDENERS' ASSOCIATION.—At the meeting of this society held in the Guildhall, Exeter, on the 14th inst., a paper prepared by Mr. A. C. BARTLETT, foreman in Dropmore Gardens, Maidenhead, and entitled "Hardy Flowering Trees and Shrubs," was read before a fairly good attendance.

A NURSERYMAN HONOURED.—We are pleased to see that the name of Mr. JNO. METHVEN, of Messrs. T. METHVEN & SONS, Nurserymen, Edinburgh, has just been added to the Commission of the Peace for that city.

CHRYSANTHEMUMS AT THE GUILDHALL.—On Thursday, the 15th inst., a select exhibition of Chrysanthemums, contributed by the City Councillors and a few friends, was held in one of the Committee Rooms of the Guildhall, London. No exhibition of the kind has been held in this hall for some years, but the great show of fruit some seasons ago will be well remembered. It is said, however, that a large Chrysanthemum show was held about thirty years ago. The present display was a very interesting one, and some good exhibits were staged. Mr. R. J. Collier, C.C., who had first honours for Japanese blooms, was also successful in several other classes. Deputies Rogers and Gover were also winners in many classes. Among other successful gentlemen were Mr. C. Bayer, Mr. C. C. Black, Mr. J. Lake, and Mr. J. Read. Mrs. R. H. Rogers beat her opponent, Mr. Deputy Gover, for two vases of Chrysanthemums, and showed very tasteful arrangements. The arrangements for the exhibition were in the hands of Mr. Deputy Rogers and a few friends.

SHIRLEY AND DISTRICT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting was held at Shirley, Southampton, on Monday, the 19th inst., when the President, Mr. W. F. G. SPRANGER presided over a fair attendance of members. The lecture was supplied by the Technical Department of the Hants County Council, and the lecturer, Mr. W. C. HERBERT GREAVES, F.R.H.S., gave an interesting discourse on "Some Insect Pests and Fungi." The Potato fungi occupied a large share of his attention, and by the aid of numerous large diagrams he illustrated the life-history of this scourge. The remedies he recommended were, spraying with sulphate of copper, burning all haulm and weeds from plots infected, some weeds being liable to attack; the rotation of crops, and the selection of disease-resisting varieties when planting. The Onion fungi was also described, but the lecturer said a remedy was not yet known to science for it. Clubbing was also illustrated by diagrams, the use of gas-lime on some soils being considered a good remedy; a better one, the lecturer thought, was to plant crops liable to this disease on the same ground only once in five or six years. Many interesting questions were put to the lecturer, and answered satisfactorily. One of his hearers, in complimenting the lecturer on the accuracy of his diagrams and descriptions, expressed an opinion that the Potato disease was largely due to our method of cultivating the plant from sets continuously, and the rarity with which seedlings are used, this being, in his opinion, highly detrimental to plant-life. A vote of thanks to the lecturer and chairman concluded the meeting. A paper on the "Cultivation of the Eucharis" will be given next month, by Mr. JESSE JONES, The Gardens, Terrace House, Southampton.

SURVEYORS' INSTITUTION.—The next Ordinary General Meeting will be held on Monday, Nov. 26, when a paper will be read by Mr. A. DUDLEY CLARKE (Fellow), entitled "The Incidence of Taxation on Land." The Chair to be taken at 8 o'Clock. Those proposing to enter their names for the Students' Preliminary Examination, to be held on January 23 and 24, 1895, must intimate their intention to the Secretary before the last day of November. It is proposed to examine candidates from the counties of Lancashire, Cheshire, Yorkshire, Durham, Cumberland, Westmoreland, and Northumberland, at Manchester. Candidates from other counties in England and Wales will be examined in London. The "Crawter" Prize, of the value of £10, will be awarded at the next Examinations in Division IV., for the best work (if of sufficient merit) in the subject—"Principles and Practice of Valuation."

THE YORK GALA.—The balance-sheet for 1894 shows an income from various sources, of £2293, the gate-money on the three days of the last exhibition amounting to nearly £1800. The expenditure includes prizes and judges' fees, £654; music and amusements, £410; and tents, staging, fittings, &c., £390. During the years 1893 and 1894, nearly £560 has been given to the York charities, and the large amount of close upon £2300 stands to the Society's credit in investments and property.

A NURSERYMAN'S GOLDEN WEDDING.—On Thursday, the 15th inst., Mr. and Mrs. BIDDLES, of the Middlefield Nurseries, Loughborough, celebrated their golden wedding, when between eighty and ninety guests, including the *employés*, were entertained. Mr. BIDDLES is the head partner of The Penny Packet Seed Co.

"HISTORY OF PLANTS INDIGENOUS TO SWITZERLAND," BY ALBERT VON HALLER.—This valuable work has just been presented to the Lindley Library, by Mr. JAMES DOUGLAS, of Great Gearies, Ilford. It consists of three folio volumes bound together in one. Although the date of publication is 1768, it is evident that the author had either begun the work or contemplated doing so about thirty years prior to that date, as some of the engravings were drawn in the year 1740. The book which Mr. DOUGLAS has sent to the Library shows evidence of having belonged to various people. Judging from the writing we should say that first of all it belonged to FRANCIS ELEMENT, who seems to have presented it to a WM. OSBORN. The bookmark, which is somewhat destroyed, is that of JANE DALTON. But perhaps the most interesting feature in connection with the work is the fact that it bears the signature of J. J. ROUSSEAU, of whom it is stated in *Rees' Cyclopædia*, that "in 1768 he resumed his botanical pursuits by collecting and studying the plants which he found on the mountains of Dauphiné." ROUSSEAU seems to have utilised VON HALLER'S *Historia* to a very great extent, as he has taken the trouble to correct the synonymy of over one hundred names. There can be little doubt that the handwriting is his. The R, o, u, e, and old-fashioned "s" in Rhododendron hirsutum, are identical with the same letters in his signature, but are evidently of more recent date—being less faded in colour. To give some idea of this particular work of ALBERT VON HALLER'S, it may be stated it was dedicated to GEORGE III., and published at Berne in 1768. The first volume consists of 444 pages, and plates 1 to 20; the second volume of 323 pages, and plates 21 to 44; and the third volume of 204 pages, and plates 45 to 48, and according to PRITZEL this is the entire work. VON HALLER'S system is naturally obsolete now. He began with the Compositæ, and worked through Labiatæ, Papilionaceæ, Cruciferæ, Solanaceæ, down to Ferns, mosses, lichens, Algæ, and Fungi. The three volumes together make 971 pages, including a copious index, and for purposes of reference the work is a most useful addition to the Lindley Library.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The annual meeting of this Society was held in the Music Hall Buildings, Aberdeen, on Saturday evening, 17th inst. There was a very large gathering, and Sir ARTHUR GRANT, Bart., of Monymusk, Chairman of the Society, presided. The directors' report, and the accounts for 1894, were submitted. From the latter it appeared that the income for the season amounted to £840 4*s.* 4*d.*, and the expenditure to £1048 9*s.*, leaving a deficit of £208 4*s.* 8*d.* The balance at the credit of the Society now stood at £370 8*s.* 5*d.* In moving the adoption of the report and accounts, the Chairman said he regretted the Society had lost, by death, the support of several old friends—Mr. PETER ESSLEMONT, late chairman of the Scottish Fishery Board; Mr. GRAY, Mr. PICKOP-DUTTON, and Mr. JOHN CROMBIE, Balgownie Lodge; but he had the pleasure to report that Mr. FARQUHARSON, of Invercauld, Balmoral; Sir PETER LUMSDEN, K.C.B.; and Major-Gen. NORRIE had become Vice-Presidents. Sir ARTHUR, in referring to the main incidents of the year, and explained how, in his opinion, the Society's shows were not so successful as in previous years. He then read the following letter, which the Secretary had received from Mr. H. DUNBAR, Brander, Pitgaveny, Elgin, in which the writer objected to fruit and vegetables grown in Devonshire being shown at Aberdeen. Commenting upon this letter, Sir ARTHUR said it had been the rule that the entries for the Society's shows should be open to everyone; in fact, their exhibitions had challenged the world, and in some points, at all events, for instance, Messrs. COCKER'S Roses — they had fairly held their own against all comers. The Society, said Sir ARTHUR, had for its object the encouragement of scientific horticulture and to extend its practice. Were they to be reduced to protection? He thought not. Let one and all send in their best exhibits. If the southern competitors beat them, they at least learned how to direct their efforts afresh, and if they beat the southern competitors, all the more credit to them. Sir ARTHUR GRANT, the retiring chairman, was unanimously re-appointed; and Mr. LYON was elected vice-chairman.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the Floral Committee took place on the 21st inst., at the Royal Aquarium, Mr. R. BALLANTINE in the chair, a considerable number of new varieties being staged. M. E. CALVAT, Grenoble, France, was again to the fore, with some very fine varieties. On this occasion he received First-class Certificates of Merit for C. Harman Payne, purple-amaranth, with long drooping petals, large, full, and very bright in colour; and Directeur Tisseraud, a very distinct and attractive variety, having a bright red surface, the tips and reverse of the petals golden. M. Chenon de Leche, salmon-fawn, suffused with rose and gold, a large full flower, commended. Other of M. Calvat's new varieties were M. H. Vander-Linden, a buff-yellow flower, in the shape of Stanstead White; M. Hoste, delicate blush, the centre suffused with pink, large, broad, drooping petals; and Ma Perfection, an incurved white, a little rough as shown. A vote of thanks was passed to M. Calvat for his exhibits. First-class Certificates were also awarded to Charles Cox, a large compact ball-like pale yellow flower, six blooms of which were shown from Mr. C. Cox, Brickendon Grange, Hertford. To incurved, Owen's Crimson, rich crimson surface, with chestnut-crimson reverse, bright and distinct; Enfant des Gaules, an incurved hairy Japanese, yellow, tinted with bronzy-pink, a very distinct and fine variety; and incurved John Fulford, chestnut purple, the centre deep gold, very promising. Mr. Owen also had Castle Hill, a deep golden Japanese, fine in colour but thin in substance, and others. A vote of thanks was passed to Mr. Owen for his exhibit. A First-class Certificate of Merit was awarded to a charming little Pompon, a sport from Snowdrop, named Miss Gertie Waterer; blush, with orange and bronze centre; very pretty and pleasing. Mr. Ives, gr. to E. C. Juker, Esq, Barnet, had Hadley Yellow, a fine incurved Japanese in the way of Lord Brooke, which the committee wished to see again; and the same request was made in respect of Mrs. John Briscoe, a Japanese, gold in colour, in the deep bronzy-orange centre and drooping florets, from Mr. H. Briscoe Ironside, Burgess Hill. Mrs. R. Filkins, a decorative Japanese yellow, with curious-toothed florets, from Messrs. H. Cannell & Sons, Swanley. Japanese Vancanson, pale lilac-pink with pale reverse, very promising; and Japanese

Anemone Rider Haggard, blush ground with blush and yellow centre, a variety that will no doubt be seen in better character next year, both from Mr. H. J. Jones, Ryecroft Nursery, Lewisham; who also had incurved William Carpenter, delicate lilac-pink, with silvery-white centre, and large-flowered Anemone Partridge, rosy-fawn, with orange centre, having a fine cushion—this was highly commended. Mr. Charles E. Shea had Miss Elsie Teichmann, in the way of W. H. Lincoln, but not so deep in colour.

Notices of Books.

A Manual of Exotic Ferns and Selaginellas.*

That it is useful so far as it goes is a fair comment on the little volume of 286 pages issued under the above title. It treats briefly on Ferns, their history, culture, and management, and gives a descriptive enumeration of over one thousand species and varieties, together with some of their synonyms. In the matter of nomenclature, the author has experienced the same difficulties which have beset his predecessors in Fern lore, and in the preface he shields himself by saying, "In this little work there is no pretence of the priority of any of the names, as that is open to such conflict among authorities; but the whole names, or synonyms, are to be found in different books under one or other of such names." This is a trifle vague, and it might have been better to have said that the names best known and most generally recognised in gardens had been given precedence, for that is what has been done, and in a work intended for beginners, and which could only deal very briefly with the subject undertaken, wisely too. At all points the little work shows that the author is one who has a great liking for Ferns, and has passed an observant time cultivating and studying them. The present issue is advanced as a "cheaper edition," and on those terms probably many amateurs of Ferns may buy it.

Tomato and Fruit Growing†

Most of our readers will have read in these columns some accounts from time to time of the doings of the spirited lady horticulturist, Miss Harriman, of her schemes for raising and benefiting her sisters poor in this world's goods, but yet compelled to conform to the common lot of humanity by labouring, in some form or another, for their subsistence. To hold out a helping hand to women of refinement, who may be possessed of good bodily strength and some small lump-sum of money, or who may have an annuity too small for their needs, is the laudable object which Miss Harriman has in view. With this intent she gave lectures at Earl's Court Exhibition in 1893, established co-operative horticultural homes in two or three places by the aid of the little money possessed by the young women for whose benefit they were started; and generally in the press and in other ways has promulgated her ideas, and sought to win adherents to her trading ventures. The plants that she chiefly relies upon for bringing profitable returns are Strawberries, in and out-of-doors; bush fruits, choice varieties of dessert Apples and Tomatos, the last-named more than all others, because their cultivation is very well adapted to the capacity of women, no work too hard for them to perform being called for; moreover, it is a profit-producing plant all the year round, more so even than the Cucumber. Her booklet of fifty-five pages contains sensible directions in the art of cultivating the Tomato, and a reason is given for almost everything that is to be done. In regard to the employment of women in gardening, Miss Harriman says that remunerative employment may simply be reduced to this definition—"A means whereby a woman may earn sufficient money to provide herself with the three necessities of life—shelter, food, and clothes. If our employment be that of producing food out of the raw material, viz., the land, we largely provide for our own maintenance at the same time." Our fruit and vegetable gardens undoubtedly ought to supply us with one-half of our daily food. Sir Benjamin Ward Richardson, than whom no sounder authority upon hygiene exists, tells us that for health's sake, we should proportion our food thus: One part animal food, and three parts vegetable. The garden supplying the greater part of our needs, but a small part remains to be furnished by the sale of the merchantable produce of the holdings. The book, of course, is written with all the natural bias of the enthusiast, but its teachings and suggestions need not, therefore, be regarded lightly, sound sense and good practical advice permeating the whole.

Edible and Poisonous Mushrooms: *What to Eat and what to Avoid.* By M. C. Cooke, M.A., LL.D. (London: Society for Promoting Christian Knowledge.)

The S. P. C. K. is to be congratulated upon having issued the best and cheapest guide to those fungi which we may safely eat, and to those which we had better let alone, which has ever been published. They wisely put the matter into the hands of the man who is *facile princeps*, and he has done his work admirably. Of course, comparison is courted with the same author's latest previous work on the subject, *British Edible Fungi*, "how to distinguish and how to cook them," published in 1891, at nearly double the price of the present dainty little volume. But one soon sees that, though the illustrations in the previous more ambitious work are better printed and more picturesque, and that the letterpress therein is fuller, the present *brochure* is quite sufficient to be a safe preliminary guide to those who wish to know what they may eat with satisfaction, and what they do well to avoid. The tendency of modern experience is to find out that the number of actually poisonous fungi is a diminishing quantity. In fact, with proper cooking, and with obvious precautions, there are very few fungi which would have been of any use to that mysterious growth of the middle ages, the insidious poisoner of prominent personages. Here, in a little pocketable volume of only 126 pages, in a pretty cover, with eighteen admirably coloured plates, which are all true to life, and include nearly fifty species, the would-be fungus-eater has at his hand a reliable text-book, showing him how to discern, cook, eat, or avoid almost every species of fungus—call them "toadstools," if you will—which he is likely to meet with in his autumn rambles. Indeed, there are some delicacies, like the Champignon, and the giant puff-ball, and the St. George's Mushroom—to instance but a few, which he may look for at an earlier season. The book contains also a compendium of receipts for cooking the various species in the most attractive and wholesome manner. It is in no way a dry botanical handbook; in fact, its scope is strictly limited to that which is implied by its title. Let us hope that its perusal, and the enjoyment of the delights which it makes it so safe for us to venture upon gastronomically, may lead its readers to go more deeply into the fascinating branch of botanical study to which it is so excellent an introduction:—

> O fortunatos nimium, sua si bona norint,
> Agricolæ, quibus ipsa, procul discordibus armis,
> Fundit humo facilem victum justissima tellus!

Perhaps Virgil was not thinking of fungi; but he might have been. Only those who have made many and wise experiments know how infinitely more delicious many fungi are than even the common Mushroom. And all to be got at no price—but the knowledge and the gathering! *Henry T. Wharton.*

Nursery Notes.

Mr. Armstrong's, Newcastle-on-Tyne.

Within easy distance of the burgh are situated Mr. Armstrong's nurseries. Like all nurseries of note, this is growing in importance every year. The several shops that the proprietor tenants in the ancient burgh have to be fed, and it is wonderful what has been and is being done in the cut flower and plant trade in a town of even 200,000 inhabitants. The demand for flowers is so great among the citizens at large, that notwithstanding the score of large houses filled with ornamental plants of every description, relays have to be taken in to meet the growing demand. This is really a healthy nursery, where the stock is not only well selected, but admirably grown. The large quantities of Roses, and the condition they are in, bear abundant evidence of good returns. The two prominent varieties are Niphetos and Perle des Jardins. The former is in grand condition, covering many hundred feet of roof, and being liberally fed, and in the proper mixtures of loam to begin with, the plants are as near as possible perpetual flowering. The advantage of the Teas over hybrid perpetuals and most other sections is, that they can be grown in a brisk heat, and are not so much subject to the raids of aphides. Moreover, in business houses crops and plants available for general decoration can be grown under their leafy shade. Palms are grown in quantities, and so are Ficus elastica, and Adiantums, and such like.

The great show house was full of well-grown Palms, of which Kentia Belmoreana may be said to be the most useful for decoration. The New Zealand Flax in its variegated form is also useful in this way. The Seaforthia makes a splendid individual for furnishing, but it will not bear cold like the two above-named. Among the Fan Palms there is nothing to equal for hardiness Chamærops Fortunei, although both C. gracilis and C. excelsa make fine subjects; and then Latania borbonica, with its glistening fan-shaped fronds, in one of the most conspicuous and useful. The Tree Ferns are good in fine weather, but under the influence of cold there is a loss of fronds in even the commonest Dicksonias and Alsophilas. However, all that class of plants is employed for furnishing purposes, and forms a splendid background for plants which may be in flower at the time. Pelargoniums are largely grown, and are produced in excellent character. There are thousands of Arums which come in so usefully in many ways.

In one of the large houses the back wall has been fitted with pockets, out of which Adiantum cuneatum and A. gracillimum spring and keep giving quantities of fronds for cutting purposes. In this way, when you have plant after plant of them nestling among the brick facings, and sending their roots in and amongst every interstice, you have indeed a crop which no system of potting and growing upon stages can at all approach. And then, too, such plants soon grow and diffuse seed, and produce abundance of youngsters to prick out into other quarters. There does not seem to be an over supply of this useful Fern in any establishment we have yet seen, and it is one of those species that will always command a marketable price. The Asparagus, in its several varieties, is much appreciated, more so, indeed, than the Maidenhair, but there is a demand for both. Here, this article is also grown in large quantities, and the climbing branches, run up on cords, come in grandly for decoration. Of course, the fronds of the Fern are more fugacious, but if these plants be grown cool and the fronds properly matured, they will endure, not the atmosphere of ball-rooms certainly for personal decoration, but in the glasses several weeks with care.

Eucharis amazonica still holds the field among all its *confrères*, and although comparatively formal, it always remains a favourite with the ladies. How different with the poor unfortunate Camellia, which has now to be relegated to glasses, smothered up with other things, or about wreaths, to hold a footing at all! Looking to the sturdy health of the Eucharis

* A Manual of Exotic Ferns and Selaginellas, by E. Sandford. (London: Elliot Stock, 62, Paternoster Row, E.C.)

† "Tomato and Fruit Growing as an Industry for Women." Lectures given at the Forestry Exhibition, Earl's Court, during July and August, 1893. By Grace Harriman, practical Fruit Grower and County Council Lecturer. (London: L. Upcott Gill, 170, Strand, W.C.)

plants here, one is apt to set down the want of health one sometimes sees to poverty and to cold combined. The Eucharis like neither of these conditions, and, doubtless, the attacks of the mite, which is so fatal to it, if not entirely due to, are doubtless aggravated by poverty of condition, arising from several causes, and a too cool atmosphere, particularly in winter. Those grand auxiliaries, Pancratiums, are indispensable to a cut-flower concern, and here they are in splendid condition; P. ovatum is still one of the best and most floriferous. Stephanotis, too, is a first-water gem. The best form of it which we saw at Dickson & Co.'s Nursery, Edinburgh, at a recent valuation and inspection case, is worth going miles to see, running along a house hundreds of feet long, and covered all along the parallel lines with many of its wax-looking umbels. The same variety is here—indeed, no other variety is worth growing. We first saw it with our friend, Mr. Malcolm Dunn, Dalkeith, and it is as easily known by the eye from spurious varieties as the white Lapageria from the red, finely-rounded, succulent leaf. The forcing of that admirable white-spiked flower, the Lily of the Valley, is carried on here with great success, the best crowns coming from the Continent, ripened doubtless by the better sunny climate. Large quantities of La tour d'Auvergne Hyacinths are also called into requisition; and no end of the early white and red Rhododendrons, that pay to bring in after being well set and forced into flower.

In addition to the thousands of feet run of glass occupied by plants, there is a large set of vineries, where Grapes are grown, and well grown too; they pay here because there is no middle-man, and then they can be cut and put upon the market fresh every day, or twice a day, or oftener if need be. This is one of the secrets of making things pay. It will not do for private gentlemen, who often have fruit of indifferent quality to put upon the market, and will bring possibly, as Mr. R. D. Blackmore said in the *Times*, only 6*d*. per pound. If growers want a price they must produce the article, and have it to please the eye before it reaches the palate; in this way Mr. Armstrong has the advantage, although he admits that, with it all, there is not a fortune to be made out of it in the best hands. Moreover, in a set of houses such as Mr. Armstrong has, he can have ever so many other things under his Vines, provided he is careful what the things are; and verily the man that has to earn his living by a trade will take care, that is to say if he be in dead earnest, that the auxiliaries do not work mischief with the main article.

In the heating and building of this considerable establishment, Mr. Armstrong has been his own architect both as a joiner and glazier and heating-apparatus constructor. He told me he was trained as a youth at that kind of work, and had as strong a passion for gardening. Beginning in a small way, he has wrought himself up to be not only a successful purveyor, but a man of considerable influence in the district in which he resides. He has constructed his houses suitably for the plants grown therein. He has them all heated from one source, viz., two capacious Trentham saddle-boilers, but doing their heating work well, and like all those horizontal boilers consuming coal of comparatively cheap value. Like most ingenious men, he has a hobby of being able to heat as effectively and as cheaply with boilers set on the surface, as with boilers sunk. We must say, we prefer his present mode, as it is not only extremely difficult to send the heated particles of water down hill, but even on a level. We have a strong opinion upon this point, as we have seen so many futile attempts. Notwithstanding if it were practicable and efficient, it would be a matter of some moment in such places where you cannot have a fall for drainage purposes, from a 6 to 10 feet deep stoke-hole.

The outdoor plants are only limited, the whole available space being almost covered with glass. Pinks and Carnations are grown, and so are Violas, to supply the town trade. The whole place is fully equipped, and the order is unexceptional. *Viator.*

CHRYSANTHEMUM MADAME WALTHER.

THIS is a Japanese variety, the outer florets of which are quilled at the base, the tube expanding into a flat oblong limb. The outer surface of the tube is silvery, the reverse silvery flushed with brown; the tips sulphur-yellow, the inner ones partly incurved, rosy-mauve in colour. A specimen sent us by Mr. Cannell shows how difficult it is to lay down any definite distinctions as to form of florets, for in it there were at least five different forms of florets, with numerous intermediate ones. The general form was that of a raised cushion or disc, surrounded by numerous rows of ray-florets (5) of different shapes. Thus, in the centre were some minute recurved florets, marked 1 and 2 in the illustration (fig. 82), some purple some yellow; next to these are some regularly-formed yellow tubular florets, from which the styles project. These florets constitute the disc or cushion. Outside these come numerous narrow ligulate bronzy-purple florets, recurved at the points (3); and these are succeeded by several rows of bronzy-yellow florets (4) of similar form, but larger, and incurved at the points. These, again, are succeeded by three or four rows of quill-shaped spreading bronzy-purple ray-florets, with an elongated, spoon-shaped blade.

Mr. Cannell tells us that more than one of his plants showed this peculiarity. Doubtless this curious flower shows reversion to more than one of its ancestors, but what induced it to revert is more than we can tell. The illustration shows a longitudinal section through the centre of the flower. The whole flower had the shape of a Turk's-head broom.

HOME CORRESPONDENCE.

FRUIT AND FACT.—I had intended to let Mr. Blackmore's remarks on p. 541, *Gardeners' Chronicle*, November 3, pass without notice, but fearing my silence may be misunderstood, although I am a busy man and unfitted by inclination for a wordy warfare, I will just state a few facts which occur to me as a nurseryman catering specially for fruit growers. If this form of trade does not pay, how is it that not only in Kent, but other counties, where fruit can be grown, that no difficulty exists in letting farms upon which some fruit is planted, where the soil and situation permits of a possible extension? Again, in the forty years I have been in business, my firm must have sold millions of fruit trees. I am unable to recall one single instance, barring Mr. Blackmore's, among the many thousand market growers and amateur growers for sale, in which buyers ever repented of their venture; but I can refer to many hundreds who are so well satisfied that they are year by year increasing their average, as an agent for a Kent property told me, "The fact is the tenants wont be denied, and we must find them fruit trees or they will throw up their farms." As named in the *Gardeners' Chronicle* of November 10, Mr. Francis T. Rivers is fast laying down his older nurseries to fruit for sale, and I gather from him that he is well satisfied with the result; and I am laying down 20 acres of my nurseries to orchard and bush fruit, and shall plant 1000 dwarfs of Cox's Orange Pippin; and I have this year sold approaching 1000 bushels of fruit of various kinds at good paying prices, two or three times more than quoted in your article. I am afraid Mr. Blackmore has been unfortunate all round. Some trade acumen is necessary. The fact remains, that fruit wants no "booming;" the growers know it pays, and the supply of trees has never yet equalled the demand. But the public is very much behind the times as regards the best sorts, and it is the shows that are held which teach them what to buy for use, and what to grow. As regards the final "spat" at my judgment of certain Pears but little known, I am quite prepared to repeat the characters I have given to any fruits, as my remarks are only made after full consideration and trial. If Mr. Blackmore calls Clapp's Favourite (a large and beautiful Pear), synonymous with Précoce de Trévouxe, a small green fruit, either he (or myself), have had them sent to us untrue. Students of the last edition of Dr. Hogg's *Fruit Manual* will not have failed to note that Mr. Blackmore condemns very many Peaches, Pears, &c., that are considered good and even first-rate, and take his remarks *cum grano salis*. It is impossible for our Peaches to be all Noblesse, our Pears all Comice, our Plums all Green Gages, we must have variety. As long as I am permitted to direct the Old Nurseries, Maidstone, I intend to speak of all fruit as I find it (after some years trial) without fear or favour. Early Pears are often left too long on the trees before gathering, and then they rot, or become insipid, but if gathered and stored for a short time they are all that one could wish, e.g., Williams' Bon Chrétien and Jargonelle. *George Bunyard, Maidstone.*

—— Kindly allow me to acknowledge the honour Mr. Blackmore has done me in yours of the 17th, in answer to mine of the 10th; but permit me also to say that I never stated or insinuated that my Pear-tree was planted in 1885, or any other time. I said, "I commenced business" here then—yet he says, "we are almost left to infer" this tree was planted in 1885. So about the Grapes—I stated Mr. Peak said he should be perfectly "satisfied if he could get 1*s*. per lb. for the remainder of his crop," this would rather infer he could not get the 1*s*. Again, I never mentioned anything about sending Pears to market; I said I ground mine to make perry. Covent Garden is not the only corner of the world where money is to be found. It is the last place I should look for it. As to the "amusing" sixpence per bushel, how many thousands of bushels of Apples and Pears have been sold in Hereford and the western counties for 6*d*., and the crop considered a valuable one. I could, a few weeks ago, have shown scores of cottage gardens hereabouts where the Pears were to be had for 6*d*. per bushel, and where the price was thought good and the crop valuable. I never said anything about gathering and packing, they would be shaken down and shovelled up and made into perry. Hundreds of bushels were offered at 2*d*. per bushel under the trees. The Pears are grown for the purpose, and young trees are still being planted. Now, Mr. Blackmore says, his tree of thirty-five years' growth, yields him fifteen bushels of Pears sometimes—suppose the average is ten, that is about what mine is. Now, at 24 feet apart, a good distance for such trees, that is 75 trees per acre, 750 bushels of Pears per acre, and yet he says 200 bushels is a good crop—are then these bushels large? *B. Wells, The Fruit Nurseries, Crawley.*

CRINUM MOOREI.—In regard to Mr. Easter's remarks about the colour of the flower of this bulb, may I mention that in Messrs. Ant. Roozen's catalogue are mentioned two Crinums Moorei—one has a rose flower, price 4*s*.; the other (album) has a white flower, price 8*s*. *W. Anderson, Old Romney Rectory, Kent.*

—— Replying to your correspondent "J. Easter," it is not unusual for Crinum Moorei to throw up two flower spathes. We have, amongst others, two pots containing six bulbs each, which for the last three years have pushed up eighteen, or three spathes to each bulb. The two first spathes push up almost together, the third coming in succession, extending the flowering time to two months. Ours have the soft pink colour. *Old Sneed.*

THE EXHIBITION STANDS AT KENT COUNTY SHOW.—I observe, on p. 603, a note from Mr. J. Douglas, and I feel bound to differ from his interpretation of Regulation 8 of the Kent County Chrysanthemum Society, which resulted in the disqualification of Mr. W. Wells on October 31 for exhibiting cut blooms on boards larger than the metropolitan plan. Regulation 8, as quoted by him, reads, exhibitors are "requested," not "must" or "shall," but simply requested to have their stands made in accordance with the metropolitan plan. This I take to be merely a wish expressed by the committee that exhibitors might be "induced," not "compelled," to use stands of one size for the purpose of maintaining some uniformity in the arrangement. Had the regulation read, "All cut blooms 'must' be shown, or exhibitors 'must' show their blooms on boards of such dimensions," any exhibitor not conforming strictly to such regulation would then have rendered himself liable to disqualification, and the reason for such disqualification would be patent to all. But where the word "requested" is inserted in the place of "must," I maintain that a judge is not called upon to take any action in the matter, nor are the committee entitled to disqualify such an exhibitor for not acceding to their "request." I also think that where the wording of the regulations for exhibitors is in any way vague, the exhibitor should have the benefit of the doubt; and it should be the endeavour of the com-

mittee to word these regulations in such definite language that no two meanings could be placed on them, either by exhibitors, judges, or members of the committee. *Geo. Woodgate, The Gardens, Rolleston Hall, Burton-on-Trent.*

MISCELLANEOUS (NON-COMPETITIVE) TRADE EXHIBITS AT FLOWER SHOWS.—Those responsible for the management of the National Chrysanthemum Society, at the late exhibition at the Aquarium, took a bold, and, as the writer thinks, a commendable step in charging for space occupied by these. Exhibitors, in addition to business done at the shows, or which ultimately follows, get free advertisement in all the gardening periodicals—surely no slight advantage—so that they can well afford to pay for space occupied. Would not payment for space for such exhibits at the Royal Horticultural Society's Temple show be not only a means of bringing grist to the Society's mill, but help to reduce somewhat the, at present, obtrusive trade aspect of those shows? and enable the society to encourage cultural skill amongst gardeners and amateurs, by offering suitable prizes for competition amongst those sections that appear to be somewhat left in the cold in this respect. The principle applied, too, to the Drill Hall meetings would produce a most wholesome effect in many ways, and the medals awarded would have a value they certainly do not possess now. The society need not fear that the trade will not support it, should the hint here thrown out be acted upon. It pays the trade to support the Society. The only effect of the new course of procedure would be that the "support" would be more judicious and less "heavy" than at present. *Justitia.*

THE GENTLEMAN POTATO.—This Potato is fully bearing out the opinions expressed about it when first sent out; indeed, I do not know a variety that has turned out better in every way. "The coming Potato and rival of the Magnum" was predicted of it, and this year it has proved that it is a worthy rival to that excellent variety. Taking the crops generally hereabouts this year, the Gentleman far exceeded in weight of crop and general excellence all others, and in flavour and flouriness when cooked it cannot be beaten. We have this year lifted a crop at the rate of fourteen tons per acre from off land of not very good quality; and the tubers are at the same time free from disease. *G. Ward.*

A CHEAPLY ERECTED FRUIT-ROOM.—It often happens that elaborate, and, consequently, expensive arrangements in the construction of the fruit-room are made in some private gardening establishments. It is quite questionable, however, if they serve any better purpose than the sometimes seen rough-and-ready and much cheaper constructions. These thoughts occurred to one on seeing recently at Orchard Dene, Ealing, what was once a fowl-house transformed into a good fruit-room by the gardener, Mr. C. Long. It has been match-boarded, and about 5 or 6 inches of cocoa-nut fibre placed between the outside and inside boards. The roof is boarded and covered with thick brown paper, brown felt, and then a final covering of tarred felt. It is believed that this will very effectually exclude the frost, and keep the fruit in good condition, indeed, any temperature short of frost does not harm fruit. A cool and even temperature has thus been obtained here in a warm autumn, and it has been found quite warm enough in winter. Pears are not ripening nearly so fast as when kept in an ordinary room previously. Beurré Capiaumont is still good, when in other years it has been over at this date. Means of ventilation are provided. *J. B.*

ARAUCARIA IN SCOTLAND (see p. 603).—At Murthly Castle, where there are some very fine trees of this Pine, I have frequently seen cones containing fertile seeds, and have at present several young plants raised from seed three years ago. *Tom Wylie, Arleywright, Perthshire.*

PEPPERMINT.—On p. 594 you refer to Peppermint culture, and quote from a report by Mr. J. R. Reeve in the *American Agriculturist*. Several times you have inserted letters of mine respecting the cultivation of Peppermint in this country, but of another variety called Mentha arvensis piperascens. I have cultivated this plant for years, having obtained a stock direct from Japan. I introduced it into the United States, and it is largely grown there, and yields splendid crops. It is found to do best in heavy soil. After the crop is cut, and the plants have been manured, a plough goes on either side of the row, and turns the sod right over on to the top of the cut-off stems, so that the effect of the manure is absorbed by the soil. It has been found a good plan to get a crop of Cabbages from this same land. With this variety of Mint we get the Menthol crystals, the demand for which is always considerable, and the price is now 17*s.* per pound, the oil being worth 8*s.* per pound, that is, after the crystals have been taken out. The Americans have up till lately had it all their own way in drying-machines, but now I am glad to say that an Englishman of the name of Robinson has invented and introduced most successfully a beautiful drying apparatus. His first experience was in drying fish in Newfoundland. This is one of the most difficult things to accomplish successfully; but he has now thoroughly introduced this coffee, cocoa, and grain-drying apparatus, and so successful is the system, that one of the London wharves where coffee is dried and the parchment then taken off, has adopted his machine. Another point in its favour is its cheapness. I have had to buy very many American fruit-drying machines, and the price there was about £100, whereas with a £27 machine, superior results can be obtained. I am quite sure that when this machine is better known, it will be largely used for fruit-drying in this country. I send you herewith a drawing of it. [Which we may reproduce shortly. Ed.] One of the difficulties with Mint, for instance, is that it wants drying when it is cut, and it requires cutting just before it flowers. With such a machine as this, the whole of the stems could be dried slowly, and then it would be easy to forward the crop to someone possessing stills, so that the Menthol might be extracted. Up to the present time this has not been the case. I have found a difficulty when cutting the Mint in getting it to the still without its heating. *Thos. Christy.*

PRIMULA VERTICILLATA.—Though usually catalogued among the hardy and more enduring species of this genus, the above plant cannot face with impunity an average English winter, even when given frame protection; indeed, in very severe winters, I have had it killed outright in an unheated house, when at least it was drier than it could possibly have been in the frame. It is therefore advisable to give it a place in the greenhouse during the winter, and under this kind of treatment it is a beautiful plant that continues in flower for a long period of time. So far as soil is concerned, this plant succeeds when potted in the mixture that is found suitable for P. sinensis. The plant has mealy leaves, and whorls of yellow blossoms. Seeds are produced abundantly, and as seedlings make vigorous plants, it is advisable to sow some every year. *J.*

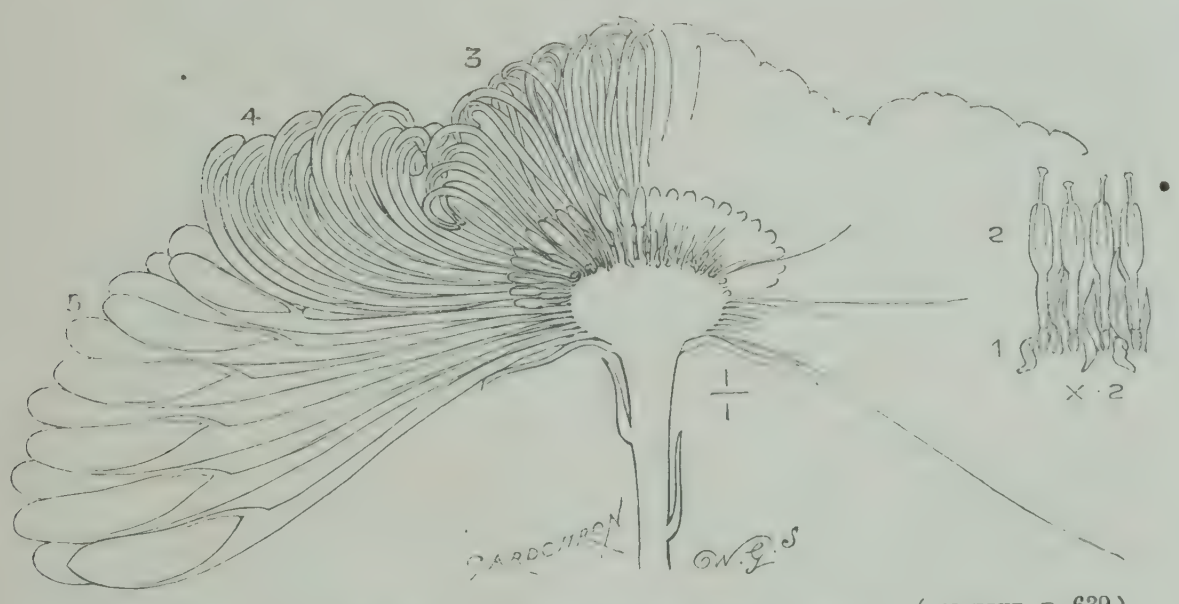


Fig. 82.—POLYMORPHIC FLOWER-HEAD OF CHRYSANTHEMUM MADAME WALTHER. (SEE TEXT, P. 639.)

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

November 13.—Present: A. D. Michael, Esq. (in the chair); Mr. McLachlan, Dr. Bonavia, Professor Müller, Professor Church, and the Rev. G. Henslow, Hon. Sec.

Germinating Black Pepper.—Mr. Henslow exhibited specimens received from Mr. T. Christy, Pepper seeds being usually collected before they are full ripened, are often deficient as to their embryos; but the examples shown had germinated well, the large circular cotyledons carrying up the seed into the air. Their tips formed a club-shaped extremity, and were retained within the embryo sac, usually called the amniotic sac. This apparently acts as a "digestive pocket" by secreting a ferment which dissolves the endosperm occupying the greater part of the seed. This is then conveyed into the plant by the included tips of the cotyledons.

Phenological Observations.—The Secretary, having received the Reports for 1891, 1892, and 1893, from the Royal Meteorological Society, gave some account of an examination of them. The conclusion arrived at was that the first flowering of plants being noticed by one set of observers, and the meteorological data, temperature, rainfall and sunshine (hygrometric data wanting), being supplied by other observers elsewhere, any accurate adjustments between the two, in order to trace out local causes and effects, was next to impossible. Again, although "the observers are required under the new regulations [of 1891] to note each year the flowering of the same individual trees and shrubs, and in the case of herbaceous plants those situated in the same spots" (*Report, &c.*, 1891), yet the observers have not recorded the surrounding conditions respectively to show how far they all agree in any one of the "areas." The problem is thus further complicated, for a plant growing in a warm place may be greatly hastened in flowering, as compared with one in a shady and cool place. Again, plant idiosyncrasies vary greatly: thus, of two Horse Chestnuts, one frequently flowers as a regular feature before others growing side by side with it. Hence, without such and other additional data for strict comparisons, the really scientific value of the phenological observations does not seem to be very pronounced. For horticultural purposes their value is practically none. As illustrations of the above remarks, there are four stations at Salisbury. In 1891 the Coltsfoot flowered at these places from February 15 to March 7, a range of three weeks; at two places at Clifton the Blackthorn flowered on April 26 and May 5 respectively, but there is no clue whereby one can trace the causes of these and other similar differences.

GRIMSBY AND DISTRICT CHRYSANTHEMUM.

November 7, 8.—The fifth annual exhibition of the above Society was held in the Town Hall, and was the best show the Society has yet held. The classes were well filled for cut blooms, and there were some exceedingly well-arranged groups. In the open class for twenty-four Japanese, distinct, the 1st prize was awarded to Mr. Wilton, gr. to J. Ellis, Esq., Grimsby; 2nd, Rev. T. D. Thatcher, Clents Hall, Stourbridge; and in the corresponding class for twenty-four incurved, Mr. J. Walker, gr.

to G. A. Carr, Esq., Waltham Grove, was 1st, and won the National Society's Certificate of Merit also; 2nd, Sir Henry Bennett.

In the amateur classes, A. Mountain, Esq., secured two 1st prizes in good competition. The artisan classes were well filled, showing the increasing interest taken in the neighbourhood in cultivating the autumn Queen.

YEOVIL.

November 13.—The Yeovil Chrysanthemum and Horticultural Society held its ninth annual exhibition of plants, cut blooms, fruits, and vegetables, in the Town Hall, on the above-mentioned date, fine weather prevailing, and it was, taking it altogether, one of the best shows hitherto held by the society. Horticulture is well supported in Yeovil, and there is an excellent show committee, and an able honorary secretary in the person of Mr. E. H. Oakley.

Groups of Chrysanthemums are always well done at Yeovil, and although slight improvements are noticeable in the cultivation and arrangement of the plants staged at each succeeding show, the veteran local grower, Mr. A. Crossman, gr. to J. Brutton, Esq., attains the premier position every year, the plants being admirably grown, furnished throughout with large green leaves, and ranging from 9 inches to 6 feet in height, each stem being crowned by large flowers. Mr. Anthony, gr. to T. Moore, Esq., was a good 2nd this year. Mr. Biss, gr. to Jabez Bradford, Esq., Yeovil, and Mr. Anthony, were 1st and 2nd respectively, for groups of miscellaneous plants with good arrangements.

Cut Blooms.—The eight open classes, as well as those confined to local growers, were well filled. In the class for thirty-six blooms, Japanese, in not fewer than twenty-four varieties, Mr. Copp, gr. to W. E. S. Erle-Drax, Esq., Holdnest, Sherborne, was 1st; and Mr. N. Mose, gr. to J. F. Sampson, Esq., Bridport, a good 2nd. Mr. Copp was also 1st with twelve Japanese, distinct varieties, showing good blooms; Mr. E. C. Tolley, gr. to J. F. Ray, Esq., Throngrove, Gillingham, was a close 2nd. Mr. A. Robertson, gr. to J. S. Doune, Esq., Castle Cary, secured premier position, and the National Chrysanthemum Society's Certificate of Merit, for the best specimen bloom, any variety, with a flower of Mdlle. Thérèse Rey. Mr. Mose had the best six blooms, Japanese, one variety, with Florence Davis; Mr. Crossman, the best half-dozen yellow Japanese, in one variety, with W. H. Lincoln; Mr. Robertson being 1st with six blooms of any other colour, staging fresh blooms of W. H. Tricker.

Incurved Varieties.—Mr. Copp was to the front for twelve blooms, distinct varieties; Mr. F. Dark, gr. to T. E. D. Philpot, Esq., Holm Cleve, Lyme Regis, was a good 2nd.

There were competitive classes for fruits and vegetables, the exhibits of these adding not a little to the attractions of the show.

Trade exhibits of fruit came from Messrs. Robert Veitch & Sons, Exeter; and Messrs. Jarman & Co., Chard. A very fine Bougainvillea, "Coker Court variety," was shown by Mr. Kitley, gardener at Coker Court; it is distinct, and was grandly flowered.

FARNHAM.

November 13, 14.—This show was held in the Corn Exchange, Farnham, a building far better lighted than many places similarly made use of for show purposes at this season.

In the Challenge class (growers for sale excluded), the Cup was awarded to Mr. Gaymer, gr. to Mrs. Anderson, Waverley Abbey, for twenty-four Japanese and twelve incurved; the former were of full and even size, and quite fresh, the best being Thunberg (very fine), Colonel Smith, Boule d'Or, and W. H. Lincoln; the incurved were uniformly good, being of medium size.

Mr. Fry, gr. to Sir Wm. Rose, Moor Park, was 1st in another class for the same number of blooms, good colour and freshness being the chief features, the finest blooms of Japanese being Viviand Morel, Mrs. Falconer Jameson, and W. H. Lincoln, whilst amongst the incurved there were some particularly good blooms. Smaller classes were very well filled, that for six blooms of one kind of Japanese bringing out a fine stand from Mr. Gaymer of Mrs. Alpheus Hardy, in beautiful condition, seldom remarked.

For groups, Mr. Fry was 1st in one class, staging well-grown plants with fine blooms, it being essential that quality should be combined with good effect; and in another contest, Mr. Mortimer, Swiss Nurseries, Rowledge, was an easy 1st, the same conditions being required. In both of these groups an edging of Ferns or dwarf foliage plants would have added to the effect.

Mr. Lye, The Gardens, Sydmonton Court, Newbury, had the best vegetables in two classes.

SOUTHAMPTON.

November 13, 14.—The annual exhibition was held as usual in the Victoria Hall, and, from a horticultural point of view, was a success. For a group of Chrysanthemums arranged for effect in a space of 60 square feet, Mr. J. Hall, gr. to Sir S. Montagu, Bart., M.P., Southstoneham House, Southampton, was an easy 1st with well-grown plants; Mr. E. Rose, gr. to J. H. Alden, Esq., The Firs, Bassett, Southampton, 2nd.

Specimen trained plants were well shown by Mr. Rose in the class for four Japanese, and the same number of any other section. Mr. E. Carr, gr. to U. A. Gillett, Esq., Fairoak Park, Bishopstoke, was a creditable 2nd.

Cut blooms were perhaps the most important part of the exhibition. For Japanese, Mr. Inglefield, gr. to Sir J. Kelk, Bart., Tedworth, Marlborough, won rather easily with medium-sized bright examples of leading kinds. Mr. Agate, nurseryman, Havant, was a creditable 2nd.

Mr. Inglefield repeated his former success by taking leading position for twenty-four incurved, with a stand of clean blooms. Mr. Agate again occupied 2nd place. Mr. N. J. Grace, gr. to W. R. Neave, Esq., Bicton, won for twelve Japanese; Mr. Inglefield being 2nd. The last-named exhibitor had the finest collection of twelve incurved.

Fruit was contributed extensively and well. Mr. Sanders, florist, Andover, had the best three bunches of Grapes in distinct varieties. Mr. Chalk, gr. to G. Read, Esq., Salisbury, the finest Muscat of Alexandria. Pears and Apples were staged creditably by Mr. R. C. West, gr. to H. J. Wigram, Esq., Salisbury, Mr. Hall, and Mr. Amys, gr. to Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley.

Messrs. G. Bunyard & Sons, Maidstone, had a grand exhibit of 200 dishes of Apples and Pears not for competition.

WELLS, SOMERSETSHIRE.

November 14.—The ninth annual Chrysanthemum exhibition of this Society was held on the above date. The grouping of Chrysanthemums showed a decided improvement, and the decision to allow foliage plants to be mixed with them, greatly enhanced the appearance of the groups.

The trained plants of incurved varieties were superb, and cut blooms were a good average. Many growers were prevented from exhibiting, owing to the floods which prevailed to a great extent in the neighbourhood.

The cut flower department was extended to epergnes and bouquets of Chrysanthemums, and there were some admirable and tasteful arrangements exhibited. The exhibits of these latter on this occasion were all excellent, and the judges had some difficulty in making their awards. The neighbourhood abounds with facilities for obtaining many varieties of autumn berries, foliage, &c., and the great variety always exhibited here is uncommon.

Fruit was well represented, Grapes being staged well, and the classes strongly contested. Apples and Pears were fairly good, though there were not so many as usual.

For the best group of Chrysanthemums and foliage plants, the 1st prize went to Mr. Fewtrell, gr. to Mr. C. C. Tuderay, who had included a quantity of well coloured Crotons, Cypresses, Palms, &c., and thoroughly deserved the honour accorded him; 2nd, Mr. Williams, gr. to T. C. Hall, Esq.

The best group, occupying a space of 3 feet by 4 feet, was from Mr. W. Gregory; and Mr. W. Kerslake was 2nd.

For six trained plants of incurved varieties, Mr. Chislett, gr. to S. Austin, Esq., was 1st, with grand plants of Mrs. Dixon, Mrs. George Rundle, Prince Alfred, Lord Wolseley, Geo. Glenny, Mrs. Nash, and Venus. The best six trained plants of Japanese were from Mr. Chislett; 2nd, Mr. H. Moore.

Cut Blooms.—Twelve Japanese and twelve incurved distinct were best staged by Mr. Fewtrell, whose capital stand included (Japanese) Florence Davis, Stanstead White, Etoile de Lyon, Viviand Morel, Silver King, Puritan, and Mdlle. Thérèse Rey. Incurved: Golden Empress, Queen of England, Empress of India, Violet Tomlin, Princess of Wales, S. Coleman, Miss Haggas, J. Doughty, J. Salter, Mrs. Heale, R. Cannell, and Jeanne d'Arc; 2nd, Mr. Williams.

The best twelve incurved, distinct, were also from Mr. Fewtrell, who had a fine lot of blooms; 2nd, Mr. Williams. Twelve Japanese, distinct, were best from Mr. A. Curry, gr. to C. Baily, Esq.; 2nd, Mr. Fewtrell. The best twelve blooms of Anemone flowered, in not less than six varieties, were from Mr. Williams; 2nd, Mr. J. Hall.

The best bloom in the show was a beautiful Lord Alcester, shown by Mr. Williams, which received the certificate of the National Chrysanthemum Society,

A similar award was made to Mr. Chislett for a trained plant of Mrs. Dixon.

Miss Snelgrove was 1st for a stand bouquet, and for a vase or epergne of Chrysanthemums.

For a vase of outdoor autumn foliage, with or without berries, the Hon. Mrs. Wilmot was 1st, and Mr. Walter 2nd. And for a basket of outdoor autumn foliage, Miss Talbot was 1st, and Miss Tyte 2nd.

Amongst fruit exhibits, the best two bunches of black Grapes were from Mr. P. Pain, with very fine Alicantes, well fruited; 2nd, Mr. A. King. For two bunches of white Grapes, Mr. Carpenter, gr. to A. R. Baily, Esq., was 1st, with fine Muscat of Alexandria; Mr. Pain 2nd.

There were small classes for amateurs and cottagers, wherein were very creditable exhibits; there were many honorary exhibits.

READING CHRYSANTHEMUM.

November 14.—Reading may be congratulated upon the fine exhibition of Chrysanthemums it held in the New Queen's Hall on the above date. The show has hitherto been held in the two Town Halls—the old and the new—an arrangement which divided the exhibits and prevented anything like general effect, while the light was always imperfect. The new hall affords space for the whole of the exhibits to be grouped together, it is light and airy, with ample room for locomotion. The arrangements made by Mr. W. L. Walker, the secretary, and his two assistants were excellent. There were several large groups of finely-grown and bloomed Chrysanthemums competing in Class 1, but the appearance would have been greatly improved by a few Palms or Ferns to hide the pots in which the plants stood. The 1st prize went to Mr. F. M. Lonergan, Cressingham Park (gr., Mr. Chamberlain); he had finely-developed Japanese of striking colours, with which were mingled some excellent incurved varieties. The Hon. W. F. D. Smith, Greenlands, Henley-on-Thames (gr., Mr. H. Perkins), was 2nd. So good were the groups that 3rd and 4th prizes, as well as two extras, were awarded.

In the division for smaller groups, Mr. J. W. Hounslow, Down House, Reading (gr., Mr. Goddard), was 1st; and Miss Russell, Reading (gr., Mr. Smith), 2nd.

In regard to specimen plants, Reading has gone back of late years, but the prizes are sufficiently good for better exhibits.

Cut blooms.—These were on the whole good, but the incurved varieties, as is general this season, lacked finish. Mr. F. W. Flight, Cornstiles, Twyford (gr., Mr. Neville), had the best twenty-four incurved, his leading blooms being Violet Tomlin, Miss M. A. Haggas, Princess of Wales, Mrs. Coleman, Lord Alcester, &c. 2nd, Miss J. D. Smith, King's Ride, Ascot (gr., Mr. Lane). With twelve incurved, Sir Geo. Russell, Bart., Swallowfield Park, Reading (gr., Mr. Cole), was 1st, his best blooms being John Doughty, R. Petfield, Violet Tomlin, Lord Alcester, Princess of Wales, and Lord Wolseley. 2nd, Mr. F. Crisp, Friar Park, Henley-on-Thames (gr., Mr. Knowles).

In the amateur's class for twelve blooms, six incurved, and six Japanese, Mr. H. McQueen, Henley-on-Thames, was 1st, and Mr. T. Bedford, jr., Wokingham, 2nd.

Japanese blooms were very good. The best twenty-four came from Sir H. Mildmay, Bart., Dogmersfield Park (gr., Mr. G. Trinder), who had Viviand Morel, Lord Brooke, and Boule d'Or, very fine. Mr. C. Hoare, Hackwood Park, Basingstoke (gr., Mr. Bowerman), was a good 2nd. With twelve Japanese, the Hon. W. F. D. Smith was 1st; Mr. Perkins staging some very finely-developed blooms; and Miss J. D. Smith was 2nd.

Some good blooms of reflexed flowers were shown by Miss J. D. Smith and the Hon. W. F. D. Smith. The class for Japanese incurved resulted in one or two stands of good blooms being disqualified, owing to

inadvertences, but extra prizes were awarded; and the same happened in the case of Japanese reflexed. It is doubtful if it is wise to continue such classes at Reading, as Japanese blooms change so much with development, and every exhibitor has not the catalogue of the National Chrysanthemum Society at his elbow.

Some very fine large-flowered Anemone blooms were shown by Mr. Perkins from Greenlands; Mr. F. M. Lonergan was placed 2nd.

The class for twelve blooms of Japanese, with long stems, is always an interesting one. The best came from Mr. R. Ovey, Badgemore, Henley (gr., Mr. Smith); Mr. C. T. D. Crews, Billingbear, Wokingham (gr., Mr. Ashman), was 2nd.

A tastefully-arranged epergne of Chrysanthemums gained a 1st prize for Mrs. W. L. Walker. The 1st prize for a vase of blooms with the addition of any foliage, went to Mr. W. W. Cowslade, Reading (gr., Mr. Hawkins); Mr. W. T. Abery, Tilehurst, was 2nd. Stands of autumn leaves, flowers and berries, grown out of doors, were very pretty also; Miss L. Phillips was 1st, and Mrs. W. L. Walker 2nd.

Miscellaneous Plants.—These included excellent table plants shown in sizes, berried plants, in all cases Solanums. For tables of zonal Pelargoniums, which were very attractive, the plants being finely bloomed Mr. Alfred Palmer, Reading (gr., Mr. Woolford), was 1st; and Mr. John Hargreaves, Maiden Erlegh (gr., Mr. T. Turton), 2nd. Orchids in couples, a fine pan consisting of Cypripedium insigne and Cattleya amethystoglossa coming from Mr. Perkins; Mr. Knowles coming 2nd, with two admirable specimens of Cattleya labiata.

Poinsettias were very finely shown by Messrs. Turton and Davis, large vigorously-grown specimens with splendidly-developed bracts. Bouvardias were scarcely advanced enough in bloom. Tree Dracænas and Palms were in very fine condition. Richardias were very fine also, Mr. B. Dockerill's especially; and some grandly-developed forms of the pyramidal Celosia gained the 1st prize for Mr. Turton.

Fruit was scarcely up to the Reading mark, and there were evidences that Apples and Pears are not keeping well this season. The Badgemore Alicante Grapes were finely finished, and Mr. Turton's Gros Colmar were fine in berry and bunch; the best bunch of any other black was Alnwick Seedling from Mr. Trinder; and Mr. Lane had some fine white Muscats—indeed, all were good. The best two bunches of any other white were capital Mrs. Pearson, from Mr. Smith, Badgemore.

Of miscellaneous exhibits, Mr. Alfred Palmer had an attractive table of Cattleya labiata; Mrs. Phippen, elaborate table decoration and plants; Mr. Frank Lees, table decorations, plants, and Grapes; Messrs. Cheal & Sons and Geo. Bunyard & Co., fine collections of Apples; Messrs. Holder and Son, a collection of plants; and Mr. W. J. Godfrey and others, cut flowers.

HEREFORD FRUIT AND CHRYSANTHEMUM.

November 14, 15.—This society held its annual exhibition in the Shire Hall, Hereford. Apples and Pears, for which there were some fifty classes provided, formed the chief features of the show. In an open class for 100 distinct dishes of Apples, Messrs. Geo. Bunyard & Co., Maidstone, were 1st, with large, clean, highly-coloured fruit. Amongst the best dishes were Lane's Prince Albert, striped Beaufin, Emperor Alexander, Withington Fillbasket, Cox's Pomona, The Queen, King of the Pippins, Warner's King, New Hawthornden, Lord Derby, Wealthy, and Peasgood's Nonsuch. The latter was a grand dish, and it was selected as the best dish of kitchen Apples in the show. Mr. Watkins, Pomona Farm Nurseries, Hereford, who was a good 2nd, had many dishes equal to the best in the Kentish collection.

Mr. Parker, gr. to Mrs. Evans, Morton Court, was 1st for thirty dishes, having Gascoigne's Seedling, Warner's King, Blenheim Orange, Mère de Ménage, Peasgood's Nonsuch, and Lord Derby, amongst his leading dishes. Mr. Wright, gr. to C. Lee Campbell, Esq., Glewston Court, Ross, was 2nd, with fruit of almost equal quality.

For Pears, twenty-four dishes, distinct, Messrs. Bunyard & Co. were again 1st; Catillac, Marie Benoist, Durondeau, Beurré Diel, Gilogil, Pitmaston Duchess, Beurré Clairgeau, and La Lectier were their largest varieties. 2nd, Mr. Watkins, who had good dishes of Catillac, Glou Morceau, Grosse Calebasse, Marie Benoist, &c.

Mr. Ward was a good 1st for twelve dishes, with Glou Morceau, Easter Beurré, Beurré d'Anjou, Prince of Wales, Marie Louise, Doyenné du Comice, &c. The last-named was a grand dish, and won the prize offered for the best dish of Pears. 2nd, Mr. Parker.

For twenty-four dishes of Apples, including twelve kitchen and twelve dessert, Mr. Davis, gr. to W. E. King, Esq., was placed 1st; 2nd, Miss Boseley, Lyde.

Twelve dishes of Apples, suitable for market, were best from Mr. Parker, and Mr. Dale was 2nd. The best dish of dessert Apples, was one of King of the Pippins, large, beautifully-coloured fruits, exhibited by a farmer, Mr. Dale, The Heven, Burghill.

For a collection of fruit, including six dishes, open to Herefordshire only, Mr. R. Grindrod, gr. to M. Clive, Esq., Whitfield, was 1st, who had excellent Gros Colmar Grapes, good Golden Queen Grapes, Pitmaston Duchess Pears, Adam's Pearmain Apples, Blue Imperatrice Plums, and Filberts; 2nd, Mr. S. T. Wright, with first-rate Gros Colmar Grapes, Ribston Pippin Apples, Marie Louise Pears, &c.

For three bunches of black Grapes, open to Herefordshire only, 1st, Mr. G. F. Morgan, Ledbury Road, Hereford; 2nd, Mr. Grindrod, all showing excellent Gros Colmar.

Lord Llangattock, The Hendre, Monmouth (gr., Mr. T. Coomber), exhibited three very large Pine-apples, which were highly commended.

The groups of Chrysanthemums were excellent, and the best were arranged by Mr. Williams, gr. to Sir J. Pulley, and Messrs. Earp & Son, who were 1st and 2nd in the order named. The cut blooms were also creditable to the exhibitors, the principal prizes going to Messrs. S. T. Wright, J. Lockyer, Pontypool Park; Earp & Son, R. Grindrod, and E. Phillips, gr. to J. M. Bannerman, Wyastone, Leys.

BIRMINGHAM.

November 14, 15.—The thirty-fourth annual exhibition of this horticultural society was held in the Town Hall on the above dates, and was all round a very excellent display, beyond the expectations of all, in the face of the unfavourable weather lately experienced, which was detrimental to the flowers.

The specimen plants were numerous, and better than ever—and Birmingham is celebrated for the specimen plants shown. Mr. O. Braisiere, gr. to Lady Martineau, was 1st for nine large flowering plants, with a very fine lot; Mr. W. H. Dyer, gr. to Mrs. Marigold, being a good 2nd. For six large flowers, Mrs. Marigold was again 1st, as well as 1st for three Japanese.

In the class for large groups, there were six really fine exhibits, the 1st prize falling to Mrs. Marigold for an admirably set up display, and for the quality of bloom. F. Jenkins, Esq., Olton (gr., Mr. R. H. Jones), was a close 2nd; and J. Whitfield, Esq., Moseley (gr., Mr. W. Thomson), was 3rd, with a very fine group; and three other prizes were awarded in this class.

In the class for smaller groups, Mr. Herbert Chamberlain's gardener was 1st with a very pretty arrangement, and four other prizes were awarded.

Heavy prizes were offered for twenty-four blooms of incurved Chrysanthemums, and there were eight exhibits. Mr. Crookes, gr. to the Dowager Lady Hindlip, was 1st, with an excellent lot; S. Loder, Esq., Weedon, 2nd; and four other prizes were awarded.

For twenty-four Japanese, twelve fine lots were staged; 1st, S. Loder, Esq., and 2nd, Mr. Austin, gr., Witley Court. The other classes for cut blooms were also well-filled.

Chinese Primulas for a number of years have been a fine feature at the Birmingham show; and in the open classes Messrs. Thomson & Co., Sparkhill Nurseries, were 1st with fine specimens in the classes for twelve singles, six singles, six double-flowered, and six Fern-leaved, among their newer varieties being Mont Blanc, Duke of York, Fairy Queen, and Princess May; and amongst the Fern-leaved varieties, Her Majesty, and Emperor, were conspicuous. The Right Hon. Joseph Chamberlain's 1st prize twelve Cyclamens were excellent plants.

Some very excellent bouquets were staged by Messrs. Perkins & Son, Messrs. Pope & Sons, and Mrs. Thewles, of New Street Station.

In the class for six specimen Orchids, Mr. J. Palmer, gr. to W. Bown, Esq., Beechams, was 1st, this lot containing a splendid specimen of Lælia Perrini, and a very fine variety of Odontoglossum grande.

In the gentlemans' gardeners' classes for twelve Primulas, as well as six plants, a goodly number of well-grown plants were staged.

Fruit.—Some excellent Grapes were staged. For three bunches of black Grapes, Mr. Elphinstone, gr., Shipton Hall, was 1st, with fine black Barbarossa, and he was 2nd for three bunches of Muscats. Mr. John Bates, gr. to J. T. Harris, Esq., Stone, was 2nd for three bunches of black Grapes, with Gros Colmar. There were eight exhibits in this class for Black Grapes.

For three bunches of white Muscats, Mr. Harman, gr. to the Earl of Denbigh, was 1st; and Mr. Bannerman, gr. to Lord Bagot, was 1st for two bunches of white Grapes other than Muscats.

There was a good display of Apples and Pears, and of good quality generally, also some good Pine-apples.

Miscellaneous.—There was a wonderful display of vegetables, the good quality generally being a surprise to the midland growers. In addition to the Society's prizes, Messrs. Thomson & Co., Messrs. Webb & Co., Mr. Robert Sydenham, and Mr. J. Hughes, gave liberal prizes, and there was a spirited competition in each class.

Honorary exhibits were numerous. Good groups of Orchids were staged by Messrs. Charlesworth & Co., Messrs. Heath & Son, and Mr. William Bown. Two very fine groups of artistic floral work were staged by Messrs. Perkins & Sons, Coventry, and Messrs. Thomson & Co., and the latter firm had an extensive display of fine vegetables, as well as a beautiful group of plants. Mr. Wilkins, gr. to Lady Theodora Guest, sent a fine display of his celebrated Onions; Mr. Hughes, gr. to F. A. Osler, Esq., a superb specimen Cypripedium insigne, to several of which Silver Medals were awarded.

During the first day it rained incessantly, still, there was a large attendance of visitors.

BRISTOL CHRYSANTHEMUM.

November 14, 15.—The thirty-first annual show of this Society was opened on Wednesday, the 14th inst., in the Colston Hall, a place far too small to accommodate the large number of visitors that were present on the second day. In regard to quality, the exhibition was rather better than the high standard generally maintained at Bristol. The first exhibition of the Bristol Amateur Horticultural Society was also held in connection with the larger show, the exhibits of that Society being staged in the arch-room.

One of the principal classes in the schedule of the Chrysanthemum Society was for twenty-four cut flowers of Japanese, and a magnificent collection, staged by Mr. J. Dole, well deserved the 1st honours they received; Mrs. Beddoes, who was 2nd, also showed well in this class. Mrs. Gibson contributed six large-flowered plants on one stem; and was followed by Mr. J. West, of Clifton. Mr. J. Dole, amid spirited competition, was awarded the best exhibitor of a group; and Mr. J. C. Godwin 2nd. There were classes for other and miscellaneous groups of plants, most of which were well contested.

The best collection of twenty-four incurved blooms, in eighteen varieties, was from Sir Chas. E. Phillips, Bart.; and the Right Hon. Lord Justice Lopes was the best exhibitor of twelve blooms of Japanese incurved; Mr. W. M. Baker winning in a similar class, open to amateurs only. Lord Justice Lopes was the principal winner in the classes for twelve blooms of large-flowered Anemone varieties, and for reflexed blooms. Other classes for cut blooms and for miscellaneous floral arrangements were full of interest.

Fruit is usually shown well at this exhibition, and the present occasion was no exception. Successful exhibitors in this section included the Duke of Beaufort, Mr. J. Dole, Mr. V. Stuckey, J. K. D. Wingfield-Digby, Esq., M.P.; H. St. Vincent Ames, Westbury; Mr. W. H. Long, M.P., and others.

Vegetables also occupied a considerable space, and there were numerous first-class miscellaneous exhibits by the trade, that helped greatly to make the exhibition the great success it was.

STOKE NEWINGTON AND DISTRICT CHRYSANTHEMUM.

November 14, 15.—In this district the National Chrysanthemum Society originated, and existed for some time previous to its being held in the Aquarium at Westminster, and to the word National being

substituted for Stoke Newington. For several years past it has been thought that an endeavour should be made to inaugurate another Society, and this has resulted in an exhibition that was held in St. Andrew's Parish Room, on the above dates, under the auspices of the new Society. The exhibition, opened by Mr. Sheriff Hand, who attended in civic state, to perform the ceremony, was a distinct success for a first effort. This was due largely to the Hon. Sec., Mr. L. H. Calcutt, and to the *Stoke Newington Recorder*, in which paper the agitation for a new society originated. There were thirty-six classes, besides a few special prizes, and the former were devoted to members living in the district, amateurs, single-handed gardeners, cottagers, and lady members. There was no entry, however, in those reserved for cottagers, and it is hoped that this will not occur another year.

HULL.

November 14, 15.—The autumn exhibitions of Chrysanthemums at Hull, held in the Hall of the Artillery Barracks this year, have long been recognised as being amongst the best in the Kingdom, and nowhere else is so much enthusiasm thrown into what is the nearest approach to a society started purely for the encouragement of the culture and exhibition of the Chrysanthemum. Not only are substantial prizes offered here, but a very complete method of chronicling the awards as fast as they are made is adopted by the officials. In less than one hour after the last award is made a printed list of the names of all prize-winners and exhibitors is on sale in the building. Nowhere else are seen such groups of Chrysanthemums and foliage plants as are found at Hull. A silver challenge cup, value £20, is offered, together with a money-prize, for a group arranged on an area of 100 square feet. The admission of foliage plants in conjunction with the Chrysanthemums enables exhibitors to show the various purposes to which this autumn-flowering plant may be put with good effect. Six competitors entered this event, and an extraordinarily fine display was the result. The groups being arranged on each side of the hall, every one of them could be readily observed, and there was ample space to get round about them. Mr. G. C. Coates, gr. to W. Wheateley, Esq., Anlaby Road, Hull, was considerably ahead of his rivals with a group that was nearly perfect. The wall was behind the group, clad with Chrysanthemums carrying very fine blooms, and these were contrasted with Palms, Crotons, &c.

Sparingly disposed amongst the variety of other plants were well-grown Japanese Chrysanthemums. Mr. Gledhill Cottam, jur., gr. Alma Gardens, Cottingham, was an excellent 2nd, his chief fault being the flat arrangement of the foliage plants at the back, and some slight degree of crowding in parts towards the front of the group. Mr. A. Pike, gr. to C. H. Wilson, Esq., Water Priory, Pocklington, was a creditable 3rd.

Handsome prizes were offered for a group of mixed plants, covering an area of 100 square feet, and here Mr. G. Wilson, gr. to Sir James Reckitt, Bart., Swanland Manor, Brough, was 1st with a very handsome group for the season. Beautifully-coloured single-stemmed Croton Johannis fully 6 feet high, furnished perfectly with their richly coloured leaves, stood at each corner, the group being a square one. In the centre a well-developed plant of Phœnix sylvestris, the raised base on which it was placed was furnished with well-flowered Calanthe Veitchii and C. V. lutea, standing amidst Ferns and sprays of Asparagus prostrata; placed apart on a groundwork of Moss and Ferns were highly-coloured Crotons in variety. Mr. F. Mason, gr. to A. Smith, Esq., Woodleigh, Hessle, was 2nd.

For three specimens of Chrysanthemums, Mr. H. H. Taylor, Newland Nurseries, Hull, was an easy 1st with well-flowered plants, not too formally trained; Mr. G. C. Coates was 2nd.

For three standard plants, Mr. W. Mason, gr. to Lieut.-Col. A. K. Dibb, Kirk Ella, Hull, won the 1st prize easily with good examples of Mrs. G. Rundle and Mrs. Dixon. Mr. James Backhouse, North Bar Street, Beverley, was 2nd. For six bushes, Mr. W. Goodhill, Trinity Street, Hull, was 1st, with freely-flowered examples; Mr. H. H. Taylor was 2nd. For six "cut backs," Mr. H. H. Taylor had admirably-grown examples, his Viviand Morel being a conspicuously fine example.

Cut blooms were abundantly shown, the quality leaving little to be desired. For twenty-four incurved, in not fewer than eighteen varieties, Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Nottingham, were 1st, winning rather easily with large, fully-developed blooms that were a trifle rough in appearance; Mr. D. Forbes, gr. to A. Holt, Esq., Crofton, Aigburth, Liverpool, was 2nd.

The competition for twelve blooms of incurved brought still more entries, and Mr. W. Lees, gr. to F. A. Beavan, Esq., Trent Park, New Barnet, just succeeded in obtaining the leading position with small but well-finished examples; and Mr. G. Musk, gr. to Lord de Ramsay, Haverland Hall, Norwich, was a close 2nd.

The Japanese varieties were better represented. For twenty-four distinct, Mr. Lees was 1st with ease, he having large, well-developed blooms, quite fresh-looking, and well set up. Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was 2nd. Mr. Lees repeated his previous success by taking the leading place for twelve Japanese, distinct varieties; Mr. T. Willey, gr. to C. J. Pringrose, Esq., Cottingham Grange, was a very close 2nd.

A capital exhibit was made by four competitors in the class for six bunches of Mrs. G. Rundle, Mrs. Dixon, and George Glenny, three blooms in a bunch. Mr. V. Waterhouse, gr. to H. Witty, Esq., The Wellingtonias, Cottingham, was 1st with exceptionally good blooms of the varieties named, which he had set up with long stems and foliage; Mr. W. Goodhill was 2nd.

Anemone-flowered varieties were well represented. For twelve of the large or so-called show section, Mr. F. Mason, gr. to A. Smith, Esq., Woodleigh, Hessle, was 1st with handsome blooms; Mr. E. B. Burrows, gr. to Sir H. Bennett, Westland, Grimsby, was 2nd.

For twelve Japanese varieties of Anemones there was a spirited competition, Mr. F. Mason being again successful in obtaining the 1st place; and Mr. M. Murchison, gr. to F. B. Grotian, Esq., West Hill House, Hessle, being 2nd.

Mr. Walker, gr. to Col. S. Clitheroe, Hotham Hall, Brough, was 1st for twelve reflexed blooms, shown in not less than six varieties; and Mr. G. B. Burrows was 2nd.

A class was provided for twelve blooms of fragrant varieties, in which Mr. A. Drewrey, gr. to E. Harland, Esq., The Sycamores, Cottingham, was 1st, with nice blooms of Mrs. Langtry, Progue, and Dr. Sharpe; and Mr. Drewrey was likewise 1st for twelve single-flowered varieties, and for Pompons, his exhibits of these varieties being very good.

An interesting exhibit was made by twenty-four Japanese, distinct varieties, cut from the plants, with long stems, the blooms being arranged amongst foliage plants, and stems of small size, the idea being to show what could be done with large blooms of the Chrysanthemum from a decorative point of view. In this competition Mr. J. R. Leadbetter, gr. to A. Wilson, Esq., Tranby Croft, Hull, was easily 1st with good blooms, which he had so arranged that the characteristics of each were well shown, and that without overcrowding the arrangement; Mr. G. Wilson was 2nd for an exhibit whose effect was marred by a too liberal use of Vine leaves of a yellow colour.

Many classes were provided for local cultivators. For twelve Japanese distinct varieties, for which a silver cup was offered in addition to a prize in money, several really good stands of blooms were entered, and Mr. G. Wilson secured the highest award with a very level lot. Mr. G. B. Burrows was 2nd. For a similar number of incurved, Messrs. Wilson and Burrows divided the prizes in the order here given. The premier incurved bloom was Lord Alcester in Mr. Forbes' 2nd prize stand of twenty-four blooms. The best Japanese bloom was one of Mdlle. Thérèse Rey, belonging to Mr. W. Wells. Amateurs staged many excellent stands of blooms. So numerous were the exhibits of table decorations, wreaths, crosses, and bouquets, that a large room had to be set apart for them, which was lighted by gas the whole time, with a view to render the appearance of the table decorations the more effective, and to show the effects of tables so decorated at night. In the former the competition was confined to ladies, and a Challenge Cup, &c., was offered with a money prize as the highest prize. The competitors numbered six, and the display was a charming one. Mrs. Topham, Hotham Hall, Brough, was 1st, with a very pretty table, in which single Chrysanthemums, Eulalia japonica, Smilax, and Ferns played the chief part with some aid from Grevillea robusta as "starers." Mrs. H. L. Leonard, Ivy House, Preston, was a creditable 2nd. She made use of the variety Source d'Or, but placed too much greenery on the cloth.

Bouquets and sprays of Chrysanthemums made a pleasing display. In the former class Miss Judge, Brooklands, Newlands, was the most successful. In the latter Miss Mabel Ayre, The Cottage, Hessle, won the 1st place, both having nice arrangements.

Messrs. H. Cannell & Sons had a fine exhibit of cut blooms, zonal Pelargoniums, and Chrysanthemums, that were much admired.

PARKSTONE CHRYSANTHEMUM.

November 14, 15.—On the above-mentioned dates the Parkstone Chrysanthemum and Horticultural Society held its second annual exhibition of Chrysanthemums, cut blooms, fruit, and vegetables in St. Peter's schoolrooms. The show was exceedingly satisfactory, the extensive schoolroom being well filled. The entries this year were nearly 70 per cent. more than those of last season, which affords ample evidence of the popularity of the Society.

The two leading classes for cut blooms were for twelve Japanese, distinct varieties, and a like number of incurved blooms, distinct varieties, and they were fairly well filled. Mr. C. W. Barrett, gr. to G. J. Fenwick, Esq., Crag Head, Bournemouth, was a good 1st in each class, staging excellent blooms. Amongst non-competitive exhibits, Mr. T. K. Ingram, Parkstone Nurseries, contributed some excellent groups of Chrysanthemums and floral devices in variety; and Mr. G. Grigg, gr. to R. G. Hargreaves, Esq., Cuffnell Park, Lyndhurst, staged two grand bunches of Gros Colmar Grapes, fine in bunch, berry, and finish.

CARDIFF AND DISTRICT CHRYSANTHEMUM.

November 14, 15.—This society may be congratulated upon the success of the show held in the Park Hall, Cardiff, on the above dates, and upon the satisfactory arrangements carried out by the secretary (Mr. Searl). The classes were well filled, and the competition in many instances was close. Cut flowers and groups made an excellent display, and the non-competitive exhibits were numerous and good. Arrangements of cut flowers were exhibited by Messrs. Phelps & Co., Mr. W. Treseder, Messrs. Case Bros., and Mr. Ellis, all of Cardiff.

Messrs. Clibran & Son, Manchester, had a good exhibit, consisting of flowering and ornamental foliage plants, cut Chrysanthemums, Pears, and Apples; while Mr. J. Watkins, Pomona Farm Nurseries, Hereford, contributed a large collection of Apples.

A special Challenge Cup, valued £5 5*s*., offered with prizes in money, for twenty-four distinct Chrysanthemum blooms, was the most coveted prize of the show, and was won by Mr. Dumble, gr. to Sir C. S. G. Phillips, Bart., Picton Castle, Pembroke. The incurves in this exhibit were remarkably good, and one of them (Empress of India) was selected as the best bloom in the show, and gained the National Chrysanthemum Society's Certificate. Mr. Robinson, gr. to R. Harley, Esq., Hereford, was a good 2nd.

For twenty-four Japanese blooms, distinct, Mr. G. W. Drake, Cathays Nursery, Cardiff, was 1st, with beautifully-coloured fresh flowers. Mr. Robinson was again 2nd, with large full blooms, some of which were a little stale.

Mr. Dumble again took the lead for twenty-four incurved blooms, distinct. Empress of India, John Doughty, Queen of England, Lord Alcester, and Miss Lucy Rendel, were very good in this collection. Mr. Williams, gr. to the Earl of Lisburne, Cross Wood Park, Cardiganshire, being a good 2nd.

For twelve Japanese blooms, distinct, Mr. Williams was 1st, with a very good stand, including very large blooms of Waban, Duke of York, Viviand Morel, &c.; 2nd, Mr. Robinson, who also had a good stand.

For twelve distinct incurved blooms, Mr. Robinson was 1st with an even well-coloured lot; 2nd, Mr. Williams.

There were numerous smaller classes, most of which were well filled.

For a group of Chrysanthemums (open), arranged for effect, 10 feet by 6 feet, Mr. W. Treseder, The Nurseries, Cardiff, was 1st. The plants were very dwarf, with plenty of good foliage, and carried large fresh well-coloured blossoms; 2nd, Mr. J. Styles, gr. to Marcus Gunn, Esq., Cardiff, who also had a capital group, with plants somewhat longer in the stems than the 1st prize lot.

The group confined to gardeners and amateurs, 10 feet by 5 feet, brought some good exhibits, and that by Mr. W. J. Hockey, gr. to Col. C. H. Page, Dulwich House, Cardiff, was the best; 2nd, Mr. W. Pinches, gr. to J. P. Hacquoil, Esq., Rumney Hill.

The National Chrysanthemum Society's Certificate for the best plant in the show, was awarded to Mr. Mabbott, gr. to E. Martin, Esq., Dowlais, for a well-cultivated bush plant of Viviand Morel.

Table plants were generally well shown, but there was nothing remarkable exhibited in classes provided for trained Chrysanthemums, Primulas, and Cyclamens. Ferns were, however, shown in very creditable condition. Vegetables and fruit were fairly good.

BECCLES.

November 15, 16.—The fifth exhibition of this Society was held in the Town Hall on the above dates, when an excellent show was made, both as regards quality and number of exhibits; and the competition was very keen.

For Chrysanthemums in pots, Mr. E. Masters and Mrs. Read were the principal exhibitors in the classes for Japanese, incurved, reflexed, and Pompon varieties, the prizes being awarded to the exhibitors in the order named.

In the class for groups, Mrs. Read turned the tables on her formidable opponent, Mr. Masters, who had to take the 2nd place.

Cut blooms were well shown in the various classes. For twelve Japanese, Mr. Newman was 1st, with a fine even lot; and Mr. Sutton 2nd. For twelve incurved flowers, the best were those from Dr. Wilson, Yarmouth. In the classes for amateurs, Mr. W. Aldous, Beccles, was the principal prize-taker for Japanese in pots and cut blooms; and Mr. Sharpin for the incurved and reflexed varieties.

Collections of Roman Hyacinths, Primulas, Violets, Mignonette, baskets of vegetables, fruit, and a very meritorious collection of vegetables from Mr. Batters, Gillingham Hall Gardens (not for competition), made up an excellent show.

WINCHESTER CHRYSANTHEMUM.

November 15, 16.—A capital exhibition of autumn produce was held as usual in the Guildhall—a really good site for such a show. Cut blooms were the feature of the exhibition, no fewer than 1000 being staged. The principal class was that for forty-eight in thirty-six varieties, one half incurved, and the rest Japanese. Mr. N. Molyneux, gr. to J. C. Garnier, Esq, Rooksbury Park, Fareham, was a somewhat easy 1st with a stand of finely-developed specimens, including the bulk of approved new varieties, and the best of the older kinds. Mr. Hughes, gr. to W. Baring, Esq., Norman Court, Salisbury, was a good 2nd.

In the class for twenty-four Japanese, Mr. Agate, The Nurseries, Havant, was easily 1st with a stand containing many new varieties. Mr. C. Holloway, gr. to F. W. C. Read, Esq., Selborne, was 2nd.

Mr. N. Molyneux had the best stand of twelve incurved, and Mr. Hughes was an exceedingly close 2nd. These two exhibitors occupied similar positions for the same number of Japanese distinct.

For six incurved, any one member of the "Queen" family, Mr. Hughes easily beat his opponent, Mr. N. Molyneux, with admirable samples of Lord Alcester. The tables were, however, turned in the class for six blooms of any variety, excluding the "Queen" section, Mr. Molyneux having really grand examples of C. B. Whitnall.

For twenty-four blooms of any section, Mr. Bowerman, gr. to C. Hoare, Esq, Hackwood Park, Basingstoke, won easily, staging a creditable lot of blooms. Mr. Agate had the best Pompons.

Plants made a fine display, Mr. F. Smith, gr. to Lady Wodehouse, Winchester, winning for the best group and for eight specimens. Mr. E. Carr, gr. to W. A. Gillett, Esq., Fairoak Lodge, Bishopstoke, won for four and for two single specimens in all sections, with really good examples of culture.

Miscellaneous plants arranged for effect were a feature. Here Mr. Carr was invincible.

Classes were provided for vases and epergne decorations with Chrysanthemums, foliage, and Ferns, and very pretty they were. Miss Ladhams, Shirley, Southampton, was the most successful, Miss Wadmore, Basingstoke, following.

Grapes well deserve mention. Mr. G. Gardener, gr. to Col. F. Stratton Bates, Twyford Lodge, was invincible in all classes. Amongst others, he staged magnificent examples of Alicante and Gros Colmar.

Vegetables were best shown by Mr. Bowerman.

Non-competitive exhibits added much to the interest of the show. Foremost was a collection of cut blooms of Chrysanthemums in nearly all sections from Mr. Molyneux, gr. to W. H. Myers, Esq., M.P., Swanmore Park, Bishop's Waltham.

Mr. E. Hillier had a really fine exhibit of shrubs, plants, and hardy fruit. Mr. Jeffrey had also miscellaneous plants.

SCOTTISH HORTICULTURAL.

November 15, 16, 17.—The Scottish Horticultural Society opened its annual three days' exhibition of Chrysanthemums, fruit, &c., on Thursday, the 15th inst., in the Waverley Market, Edinburgh. This large building was well filled with plants and cut flowers. The number of entries this year was about 800, the competition in some classes being very keen, the entries for some of the vegetable classes numbering between thirty and forty. The specimen plants were in certain cases remarkably fine, but the number of competitors was small in these classes. Grapes are always well shown at Edinburgh, and were a feature of the fruit classes. The nurserymen's exhibits, local and otherwise, helped to give the market a well-furnished appearance. Mr. Henry Irving, who took part in the opening ceremony, said, in reply to the Lord Provost, he had "never seen a hall more admirably or more beautifully situated for such an exhibition." Miss Ellen Terry, who was also to have been present, was prevented through indisposition, and Mr. Irving said, "I am sure, had she been here, she would say of the Edinburgh Chrysanthemums, in the words of Ophelia, 'That's for remembrance.'"

Plants.

For eight plants of Chrysanthemums in pots, distinct varieties, Mr. D. Cavanagh, gr. to Mr. J. C. Oliver, St. Edwards, Murrayfield, was 1st, with good plants, including Avalanche, W. Holmes, G. Glenny, J. Shrimpton, Annie Cibran, Bouquet de Dame, and W. H. Lincoln, the latter securing the award for the best plant in the show; Mr. J. Holmes, gr., Winton Castle, Pencaitland, was 2nd, with a far less effective lot.

For four pots of Pompons, Mr. W. Pulman, gr. to D. W. Huie, Esq., Hollywood, Collinton Road, Edinburgh, came 1st; Mr. D. Cavanagh 2nd. For four plants of Japanese varieties, Mr. D. Cavanagh was 1st; and Mr. S. Abbott, gr. to C. M. P. Burn, Esq., Prestonfield House, Edinburgh, 2nd. Mr. D. Cavanagh was also 1st for two incurved varieties, one yellow, one crimson, one bronze, and one purple variety. Mr. S. Abbott showed a splendidly-flowered Anemone variety, taking 1st place for one pot; Mr. J. Holmes coming 2nd.

In the amateur classes for specimen plants, the competition was confined to a small number of exhibitors. For two large-flowered Japanese, Mr. R. H. McBean was 1st, with creditable plants; Mr. A. McDougall, Broughton Street, being 2nd.

The usual display of large Palms was arranged along the centres of the tables, Mr. G. Wood, Oswald House, Edinburgh, being awarded 1st prize for three of these; and Mr. A. Bissett, gr. to R. Pattison, Esq., Seacliffe, Trinity, was 2nd. Some well grown Dracænas were exhibited, the 1st place being taken by Mr. A. Crichton, Liberton, with well coloured plants. Primulas were numerous, and had a very pretty effect.

For eight decorative foliage plants, confined to 9-inch pots, Mr. T. Lunt, gr. to Archibald Stirling, Esq, Keir, Dunblane, with small but evenly-grown plants, was 1st; and Mr. A. Crichton, gr. to Mrs. Croall, Southfield, Liberton, 2nd.

For six Primula sinensis, Mr. M. Macintyre, gr. to Sir Charles Tennant, The Glen, Innerleithen, took 1st prize.

Primula obconica was shown remarkably fine, the plants carrying a mass of flower; Mr. R. Staward, gr. to J. Cockburn, Esq., Glencorse House, Milton Bridge, was 1st; Mr. M. Macintyre 2nd, the last-named exhibitor having the only exhibit of zonal Pelargoniums.

The groups of Chrysanthemums, arranged for effect, brought only two entries. The 1st prize lot, from Mr. D. Jardine, containing some good blooms of Florence Davis, Mons. Bernard, Stanstead White, Etoile de Lyon, Avalanche, Mrs. J. Clarke, and others, interspersed with Palms and Ferns, making an effective group; Mr. G. Wood was 2nd with a good group, but of smaller flowers.

Cut Flowers.

As might be expected, these classes were the chief centres of interest, flowers of all the leading varieties being found upon the boards of the different exhibitors. In the class for forty-eight Japanese, the 1st prize for which is a Cup, valued at £20, eight entries were made, the successful competitor being Mr. J. Beissant, Castle Huntly, Longforgan, and the exhibit was a thoroughly good one. Amongst his best blooms might be noted Charles Davis, Madame Thérèse Rey, Sunflower, Miss Terry, W. Seward, Florence Davis, Lilian Bird, Beauty of Exmouth, Mrs. Hill, G. C. Schwabe, Louise, and Mrs. E. G. Hill; Mr. J. Carruthers, gr. to Mrs. Fleming, Hillwood, Corstorphine, was 2nd, and staged a fine lot, including the best bloom in the show, Charles Davis, for which a prize was awarded.

For the Scottish Challenge Cup, Mr. W. Rutherford, gr. to D. Graham, Esq., Airthray Castle, Bridge of Allan, took premier honours; Mr. D. Airdrie, gr., Larbert House, Larbert, being a good 2nd. In the class for twenty-four Japanese, Mr. D. Alexander, gr. to A. C. Stuart, Esq., Englescarnie, Haddington, was 1st; Mr. T. Dale, gr., to J. Gordon, Esq, Aikenhead, Cathcart, 2nd.

Twelve entries were made for the twelve Japanese, Mr. J. Beissant, being 1st; and Mr. J. Day, Galloway House, Garliestown, 2nd.

Some good blooms were seen in the classes for six distinct Japanese, but several competitors in these classes were disqualified for wrong naming. For six whites, Mr. D. Nicol, Rossie, Forgandenny, was 1st, and also for twelve incurved varieties; Mr. W. Manchline, gr. to A. D. McLeod, Esq., Belsfield, Windermere, 2nd. The 1st prize for six Anemone-flowered was taken by Mr. W. G. Pirrie, Sunderland Hall, Selkirk.

In the nurserymen's class for forty-eight blooms, distinct, Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey, was 1st, with a collection including representatives of the different sections; Mr. R. Wood, The Nursery, Carnoustie, was 2nd.

A class for the best hand-bouquet was keenly contested, but in the end Miss Todd, Stoneybank, Musselburgh, was 1st with a very tasteful arrangement.

In the classes for cut blooms, those arranged in vases, three blooms of each variety in a vase, were quite a departure, and certainly the foliage upon the stems seemed largely to take any stiffness from the flowers, at the same time giving a more natural appearance. The first prize for twelve vases was awarded to Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey; Mr. J. Clark, gr. to F. S. Roberts, Esq., Ashley Bank, Langholm, 2nd. For one vase containing twelve blooms, Mr. R. W. E. Murray, Blackford House, Edinburgh, came 1st; Mr. J. Carruthers 2nd. This latter carried off the prize for the three best blooms of new Chrysanthemums not in commerce, with splendid flowers of Duchess of York.

Fruit.

Grapes.—These occupied a good space, the exhibits in some cases being excellent in colour and size of berry. Mr. J. Leslie, gr. to A. Coates, Esq., Pitcullen House, Perth, took 1st place for four bunches, distinct varieties, consisting of Muscat of Alexandria, Gros Maroc, Gros Colman, and Black Alicante; Messrs. D. & W. Kipper being 2nd.

For two bunches of Muscat of Alexandria, Mr. J. Leslie was again 1st, and Mr. A. M. Donald, Dalkeith, 2nd. Mr. T. Lunt brought some magnificent bunches of Gros Colmar, and took 1st place; Mr. A. Young, gr. to Mrs. Swinton, Swinton Bank, Peebles, was 2nd.

Two excellent Pines came from Mr. D. Murray, gr. to the Marquis of Ailsa, Culzean Castle, Maybole; Mr. J. Riddell, gr. to the Earl of Carlisle, Castle Howard, Yorkshire, being 2nd.

Only one entry was made for the collection of twelve varieties of fruit, Mr. D. Murray taking 1st prize.

Apples and Pears were well represented, and looked sound, but lacked colour. For the eighteen varieties of Apples and six of Pears, Mr. J. Day was 1st, followed by Mr. G. Goodfellow, Perth. For six varieties of culinary Apples, Mr. W. Ogg, gr. to Sir Archibald Dunbar, Bart., Duffus House, Elgin, was 1st; and Mr. J. Day 2nd.

Vegetables.

A very fine display of vegetables was staged, and the collections were arranged in good taste. For a collection of thirteen distinct kinds, Mr. D. McBean, gr. to J. C. Cunninghame, Esq., Craigends, Johnstone, was a good 1st, the whole of the collection being good; Mr. J. Harper, Tulliebelton House, Perth, was 2nd. In the collection of six kinds, which were equal in quality to those staged in the larger class, Mr. A. Dickson, gr. to G. Thorburn, Esq., Glenmoriston, Innerleithen, took 1st prize; and Mr. T. Fender, Crieff, 2nd.

For twelve Tomatos, Mr. W. Murray, Polmont, was 1st; Mr. D. and W. Buchanan 2nd. In the class for Leeks, Mr. D. McBean was 1st, with a seedling from his own crossing; and the same exhibitor was 1st for six heads of Celery. In the class for

Cucumbers, Mr. W. Murray, Polmont, was 1st; Mr. R. Rae, gr. to Captain Scott Karr, Sunlaus, Roxburgh, 2nd.

Potatos were shown in quantity, and were exceedingly clean and shapely. Mr. J. Gemmell, Flakefield, Chapelton, was 1st; and Mr. A. Murie, Craigmillar Gardens, 2nd. Turnips, Beet, Carrots, &c., were, in all cases, keenly contested by numerous exhibitors, whose produce proved that the season had been a favourable one for vegetable culture.

MISCELLANEOUS EXHIBITS.

Mr. H. J. Jones, Rye Croft Nursery, Lewisham, London, S.E., had a beautiful group of cut Chrysanthemum blooms arranged in vases among Palms, Ferns, and Crotons. Mr. J. Downie, Edinburgh, arranged a display of floral designs, the making up of these showing much taste and skill.

Messrs. R. B. Laird & Sons, Edinburgh, had a pretty table of Ericas, Ferns, Asparagus plumosus, as well as a collection of Conifers in tubs and pots. Messrs. Thyne & Co., of Glasgow, furnished a table with Palms, Ferns, and flowers. Mr. J. Forbes, nurseryman, of Hawick, exhibited the winter-flowering Begonia called Gloire de Lorraine, of dwarf habit, and very floriferous. From Mr. W. Wells, a table of single varieties of Chrysanthemums was admired, amongst the number being also the green-flowered sport from Viviand Morel, named Ethel Amsden. In the interest of the Gardeners' Orphan Fund, Messrs. Todd & Co., had a large stall of mixed plants and other garden sundries.

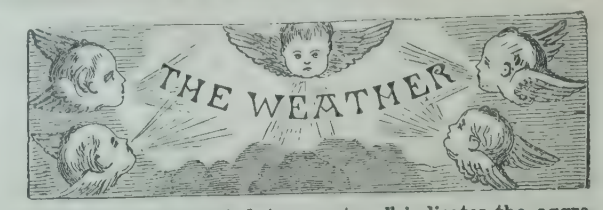
As showing the great success of the show, it may be added that £770 was taken at the turnstiles during the three days the show was open. With the sale of tickets and the lettings, &c., the yearly income of the society cannot fall far short of £1,000. From 25 000 to 26 000 people visited the show during the three days it was open.

TRADE NOTICE.

MR. WILLIAM EARP, who succeeded the late Mr. E. Cooper, as Gardener to the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, is leaving to take up the active management of the Guildford Street Nurseries, Hereford, of which he is now a proprietor, and the business will be carried on under the title of WILLIAM EARP & SON. His successor at Highbury has been appointed, and Mr. H. A. Burberry retains entire charge of the Orchid department.

Obituary.

WILLIAM CHITTY. — On Thursday evening, November 15, there passed away quite suddenly and unexpectedly, at the age of eighty, Mr. William Chitty, nurseryman, of Stamford Hill, London. Mr. Chitty lived at Stamford Hill the whole of his lifetime, and was in consequence well known and highly respected. Though not in any way seeking notoriety, the deceased was, in many respects, a remarkable man. He was not only a first-rate gardener, but a botanist of considerable attainments. For many years he was the intimate friend and associate of the late Shirley Hibberd, who never failed to call upon Mr. Chitty when he wanted any knotty point in botany solved. Mr. Chitty also did a large amount of the literary work, which passed under the name of Shirley Hibberd, never seeking to push forward his own name. Nevertheless, Mr. Chitty sometimes signed his own name to his writings and whenever he wrote he showed a thorough knowledge of his subject; and his writings were worth reading. Many years ago, Mr. Chitty entered very largely into flower and Fern showing, and was highly successful. He was ever a great lover of Ferns, and exhibited a splendid lot once at the Crystal Palace. Amongst these there was an immense Woodwardia, which met with a great many admirers. Many were the bids for the possession of this Fern, and Mr. Chitty at last parted with it. The Chittys come of an old Wiltshire family, and were possessed of considerable property, but this was lost in the great South Sea bubble, and since then they have had to work for a living. The deceased had a family of three sons and three daughters, one of the sons being a contributor on bee lore to these columns in recent years.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees — a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending November 17.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1894.	Accumulated. Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1894.	Rainfall. Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	21	11	+ 323	— 49	8 +	202	45·4	11	31
1	1 +	13	24	— 80	+ 25	2 —	181	31·3	35	34
2	0 aver	22	13	+ 41	— 74	1 +	187	24·1	28	31
3	2 +	32	7	+ 78	— 147	17 +	184	24 9	43	35
4	2 +	31	9	+ 72	— 133	15 +	176	25 0	42	31
5	4 +	45	0	+ 163	— 156	20 +	178	29·8	41	35
6	2 +	25	4	+ 57	— 77	3 +	188	43·2	30	32
7	1 +	27	4	+ 214	— 143	1 +	185	32·3	25	32
8	2 +	36	0	+ 143	— 94	27 +	189	40·6	34	37
9	0 aver	27	12	+ 55	— 38	5 +	206	33·7	45	30
10	0 aver	33	6	+ 78	— 83	16 +	189	39·4	38	32
*	1 +	57	0	+ 331	— 18	25 +	196	35 9	33	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 17, is furnished from the Meteorological Office:—

"The *weather* continued very unsettled and changeable. Extremely heavy rains were again experienced in all except the northern parts of England and the east of Scotland. The periods intervening between the rains were, however, generally fine and bright.

"The *temperature* just equalled the mean over 'Ireland and in England, N.E.,' but continued above in all other districts; the excess ranging from 4° in 'England, S.,' to 1° or 2° elsewhere. The highest of the maxima were registered on rather irregular dates, and ranged from 60° in 'England, S.,' and 59° in 'England, S.W.,' to 53° in 'England, N.W. and Scotland, W.' The lowest of the minima, which occurred also on irregular dates, varied from 30° in 'Scotland, N. and E.,' and 31° in the 'Midland Counties and England, S.W.,' to 37° in 'England, S.,' and to 42° in the 'Channel Islands.'

"The *rainfall* was again less than the mean in 'Scotland, E.,' and but slightly exceeded it in 'England, N.E. and N.W.,' as well as in 'Scotland, W.' In nearly all other districts the excess was extremely large; over all the more south-eastern, southern, and south-western counties of 'England' the fall was nearly four times, and in 'Ireland, S.,' nearly three times as much as the mean. The largest amounts recorded at any individual stations were 6·25 ins. at Godmanstone (near Dorchester), 5·51 ins. at Scilly, 5·13 ins. at Killarney, 4·70 ins. at Falmouth, and 4·60 ins. (in six days) at Crowborough (Sussex). At Scilly as much as 3·06 ins. fell within the first 24 hours of the period, while at Godmanstone 5·74 ins. fell between the 12th and 15th; at several other stations in the south and and south-west, between 3 and 4 inches were recorded during the first three days of the week. Towards the end of the period 2·66 ins. fell at Killarney in 18 hours.

"The *bright sunshine* again exceeded the mean in all districts, the excess in nearly every case being considerable. The percentage of the possible duration ranged from 45 in 'Ireland, N.,' and from between 41 to 43 over central, southern, and eastern 'England,' to 25 in 'England, N.W.,' and to 11 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, November 22.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	4 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	— small, per 100	4 0	6 0
Erica, various, doz.	9 0	12 0	Foliage plants, doz.	9 0	24 0
Chrysanthemums, per dozen ...	6 0	15 0	Marguerites, p. doz.	6 0	12 0
Cyperus, per dozen	4 0	10 0	Mignonette, p. doz.	0 0	6 0
Dracæna, each ...	1 0	5 0	Palms, various, ea.	2 0	10 0
Erica hyemalis, doz.	12 0	18 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in var., per dozen	6 0	24 0	Primulas, per dozen	4 0	6 0
			Solanums, per dozen	10 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, per doz. bl.	2 6	5 0	Mimosa (French), per bunch ...	0 9	1 0
Azaleas, doz. sprays	0 6	1 0	Orchids:—		
Bouvardias, p. bun.	0 6	1 0	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 blms.	1 0	2 0	Odontoglossum crispum, 12 blm.	3 0	6 0
Chrysanthemums, per 12 blooms ...	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
— per 12 bunches	4 0	8 0	Roses, Tea, per doz.	1 0	2 0
Eucharis, per dozen	2 6	4 0	— coloured, p. dz.	2 0	4 0
Gardenias, per doz.	3 0	4 0	— yellow (Maréchals), per dozen	6 0	9 0
Geraniums, scarlet, per 12 bunches ...	4 0	6 0	— red, per dozen	1 0	1 6
— 12 sprays ...	0 6	0 9	— (French), red, per dozen... ...	1 6	2 6
Hyacinths (Roman), doz. sprays ...	1 0	...	— (French), yellow, per dozen ...	1 0	2 0
Lapageria, 12 blms.	1 0	2 0	Stephanotis, dozen sprays	4 0	6 0
Lilac (French), per bunch	3 0	5 0	Tuberoses, 12 blms.	0 4	0 6
Lilies of the Valley, doz. sprays ...	1 6	3 0	Violets, Parme (French), p. bch.	2 6	3 6
Lilium Harrisii, per dozen	4 0	8 0	— Czar (French), per bunch ...	1 6	2 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0	— doz. bunches	1 0	1 6
Marguerites, 12 bun.	1 0	3 0	— (English), per dozen bunches ...	1 6	2 0
Mignonette, 12 bun.	2 0	4 0			

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Cooking, p. sieve	4 0	6 0	Grapes, Muscat, per lb.	1 6	3 0
— Dessert, half-sieve	2 6	3 6	— Muscat, 2nd quality, per lb.	0 9	1 0
Grapes, 1st quality, black, English, per lb.	1 0	2 0	Cobs, per 100 lb. ...	25 0	27 6
— English, 2nd quality, per lb.	0 6	1 0	Pears, Dessert, half-sieve	3 0	6 0
			Pine-apples, St. Michael, each ...	2 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cauliflowers, p. doz.	1 0	1 6	Onions, per bush. ...	1 6	2 0
Cucumbers, per doz.	5 0	6 0	Seakale, p. punnet...	1 3	1 6
Mushrooms, per lb.	0 9	0 10	Tomatos, per lb. ...	0 6	0 7

POTATOS.

Supply during the past week rather short. Prices keep firm for all kinds, with a tendency to rise values for the cheaper kinds. *J. B. Thomas.*

SEEDS.

LONDON: *November* 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the most favoured article this week, is American red Clover seed, prices for which show a substantial advance. White seed is now less excited, although the supply continues in very narrow compass. No change in Alsyke. Trefoils and Rye-grasses are neglected. Canary seed is firm. Reasonable quotations now prevail for Hemp seed. Haricots keep strong. Peas are steady. For White Runners there is a brisk demand. Longpod Beans are this season unprecedentedly cheap. Offers of Scarlet Runners are now difficult to obtain; and values are rapidly advancing. There is no alteration in either Mustard or Rapeseed. Linseed is dull.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 128*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 63*s.* to 112*s.*; do., inferior, 36*s.* to 60*s.*; Mixed, 90*s.* to 110*s.*; and Straw, 22*s.* to 38*s.* per load.

Dean Hole in America.—Dean Hole, who is now in America, lecturing on behalf of the Restoration Fund of Rochester Cathedral, has noticed that the American climate is not favourable for the perfect development of the Rose, although under glass some excellent results have been obtained. The Dean has visited all the principal nurseries in the neighbourhood of New York, and has been entertained at a banquet by the Rosarian Society at Everitt House. At Boston, where he lectured, a great display of Roses was made in his honour.

Notices to Correspondents.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

Aphis on Cabbage Leaves: *G. A.* We could find nothing on the piece of root, and the specimens in the tube were dead, and mixed up inextricably in the cotton-wool. Probably Aphis subterranea. If you send again, forward a few of both winged and wingless forms in a small glass tube with alcohol. *R. McL.*

Asparagus: *Novice.*—Provided your land is of good quality, and capable of deep tillage, 3 feet from plant to plant is not too great; and if they are planted 6 inches below the surface, no soiling-over will be required for several years after planting; indeed, not before the natural rise of the crown to within 2 inches of the surface makes it necessary that it should be done. When that occurs, it will suffice to draw the mould from between the rows towards the crown, as is done in moulding-up Potatos. There is no need to make beds with deep alleys between, unless the soil is heavy and wet—the worst kind of soil for Asparagus. If the land will bear trenching 2 spits deep, this should be done; 3 spits would be still better. Plenty of manure should be worked into it at different levels, and that placed at the bottom of the trenches may consist of the roughest half-rotten manure, burnt garden-refuse, the remains of crops, and half-decayed leaves—anything, in fact, that will decay in the space of two or three years, or at about the time the roots reach it. You may, as you purpose, plant two-year-old plants, although the cost will be greater than that of one-year. Plant in April.

Aucuba: *M. A. T.* Probably females, but it is quite impossible to say, without the flowers.

Books: *E J. S. The Tomato: its Culture and Uses*, by W. Iggulden, printed and published by Harvey & Woodland, Frome.—*Vines and Vine Culture*, by A. F. Barron, Superintendent of the Royal Horticultural Society's Gardens, Chiswick.—*Fruit Culture under Glass*, by D. Thomson, published by W. Blackwood & Sons, will afford you plenty of useful information on the other subjects that you are interested in.

Chrysanthemums: *H. J. S.* The variety you send us has generally been considered a Pompon, but the sections now overlap each other to a great extent, and exhibitors have to abide by the decision of the National Chrysanthemum Society. In their catalogue the variety Bob is described a Pompon; and more than that, it appears in the Society's selection of the best twenty-four of such varieties. —*F. K.* Judging, as we can only do, from the two detached flowers sent, we are of opinion that they are quite distinct; at the same time, Chrysanthemums are so variable that it is possible the specimens may have come from the same plant!

Correction: Page 592, second paragraph, for 950 Pears, read 150; and for eight Red Currants, read eighty.—Orchid calendar for November 10, top line, middle column: for sheaths, read spikes.

Dendrobium Jamesianum: *R. B. M.* The pseudobulbs have been bored into by a beetle imported into this country along with Orchids. Cut off and burn without delay all stems and pseudobulbs similarly attacked. It is very destructive.

Hyacinths: *D. H.* The bulbs having reached full size, produce their finest bloom, and it is when of this size that the Dutch growers send them to this country; and whether you cut off this bloom when it begins to fade, or let it remain, does not matter much, the next year's bulb will produce a poor flower-spike, or perhaps several, the bulb splitting up into two or three separate bulbs. Of course, you ought not to allow seed to form. If you intend growing Hyacinths for stock, you should scoop out the base of the bulb, leaving the edge from which the roots emerge intact; or you may simply cut the root across at the base in several directions. In either case a number of *round* bulbils will form on the edge the first season, and these should be taken off, and planted in the early autumn. It will, under the best conditions of soil and culture, take three years to grow these bulbils to strong flowering size, the flowers each year being cut as soon as the colour is seen, or even before, if you are sure of the variety. Unless bulbils are obtained in this manner, they never make shapely bulbs.

Mushroom-bed Covered with Another Species of Fungus: *J. F.* A rather peculiar form with conidia of an old trouble, Xylaria vaporaria, so often alluded to, and figured in *Gardeners' Chronicle*, December 20, 1879.

Names of Fruits: *T. S. C.* 2, Huyshe's Victoria; 3, Knight's Monarch; 4, Rouse Lench; 5, Belle de Bruxelles; 7, Winter Redstreak.—*A. C. Y.* 1, Marie Louise; 2, Zephirin Gregoire; 3, Glout Morçeau; 4, Verulam; Beurré Diel; 6, rotten.—*F. World.* 1, Josephine de Malines; 2, Easter Beurré; 3 and 4, Winter Crassane; Apple not known.—*C. R. & Co.* Not very sure of your fruits. 1, Beauty of Kent; 3, Yorkshire Beauty; Pear rotten.—*E. Hall.* Gansell's Bergamot.

Names of Plants: *W. D.* Cosmos bipinnatus.—*A. T. G.* Silybum Marianum, and Carduus Marianus are identical. The Viburnum which bears berries that are red when ripe in September is V. Opulus—snowball tree.—*S. H.* 1, Eriobotrya japonica, Loquat; 2, Leycesteria formosa; 3, Spiræa; the leaves had all fallen.—*C. H. J.* 1, Vanda cœrulea: it may come better; 2, Cotoneaster Simonsii; 3, Cratægus pyracantha Lelandi; 4, Pteris longifolia; 5, Polypodium aureum; 6, Cyrtomium falcatum; 7, Aspidium molle; 8, Berberis Wallichii.—*Wm. W.* 1, Cœlogyne flaccida; 2, Lycaste Deppei; 3, Eupatorium Weinmannianum; 4, Ophiopogon variegatus; 5, Platyloma falcata; 6, the Primula is a singular variety, and if seeded, some distinct and more ornamental things may result.—*S. H.* 1, is one of the American Oaks, probably Quercus coccinea; 2 the seed is that of Entada scandens, which grows in a huge pod like a bean. It is often washed up from the West Indian shores.—*J. W.* Eccremocarpus scaber.

Pear Chaumontel: *G. B.* This variety was found about the year 1685, growing in the garden of the Château Chaumontel, between Luzarches and Chantilly, on the road from Paris to Amiens. *Vide* Dr. Hogg in *Fruit Manual*.

Polygonum sachalinense: *W. R. & S.* It is quite hardy, and will grow vigorously in this country. There are sets to be obtained in this country if you will advertise your wants.

Primula, Origin of, *A. S.* Get the Report of the Primula Conference, 1886, from the secretary, Royal Horticultural Society, 117, Victoria Street. Thank you for 2*s.* transmitted to the Gardeners' Orphan Fund.

Communications Received.—Ed. Webb & Sons.—W. A.—W. D.—E. M.—R. C.—J. B. C.—J. L.—H. C. F.—J. J. W.—A. Cunningham.—T. Wylie.—R. Hollister.—W. T.—Trauson Frères, Orleans.—Professor Balfour.—E. C.—W. B.—D. —Sir J. D. H.—K. S. & Co.—B. Hartland.—W. M.—M. R. S.—H. F.—L. L.—Sir W. Gilby.—R. D.—W. T.—J. E.—S. J. B.—J. B.—M. T.—W. Reitling.—J. C. —H. C. P.—D. McD.—J. B. C.—E. H. J.—J. Lunn.—J. J. W. —H. C. F.—J. Lee.—W. J. G.—Harrison & Sons.

Specimens Received.—Celery, Curiosity.—H. H. H.—W. G. L. J. G.—Cider.—Subscriber, &c.

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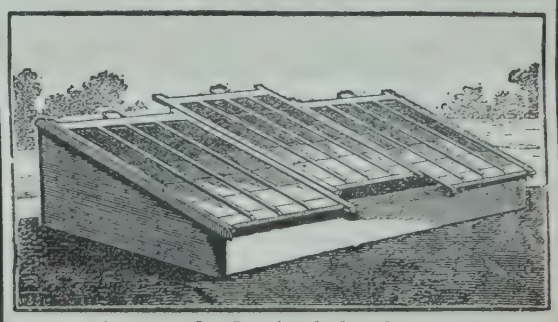
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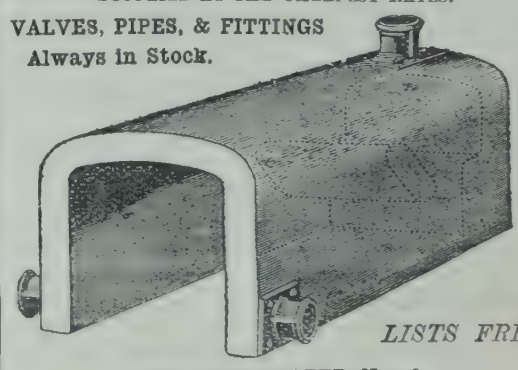
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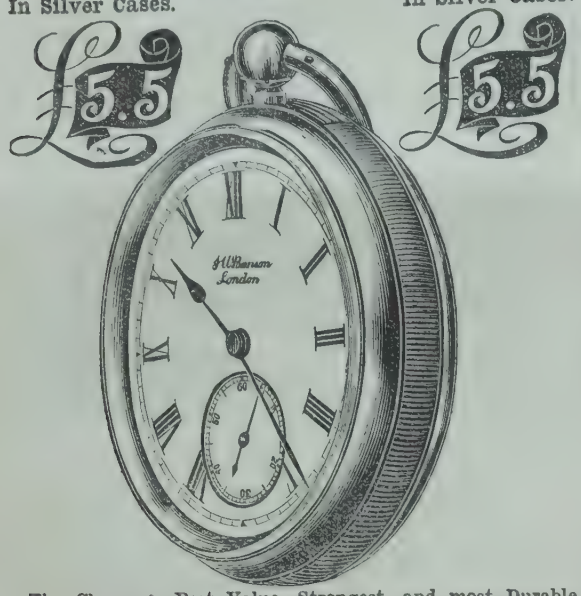
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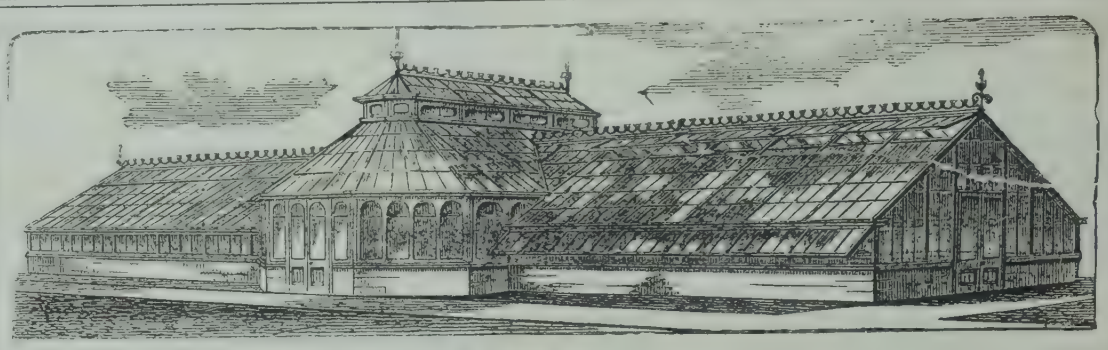
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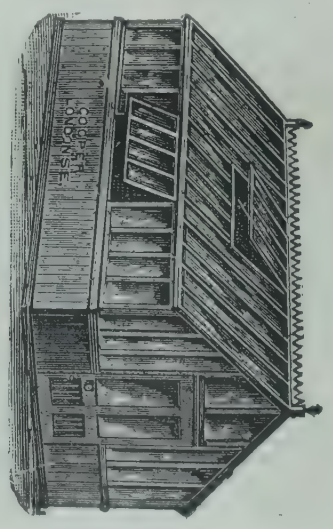
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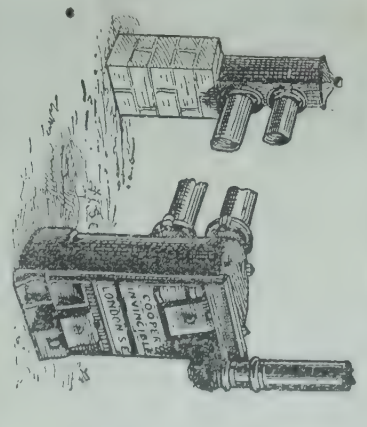
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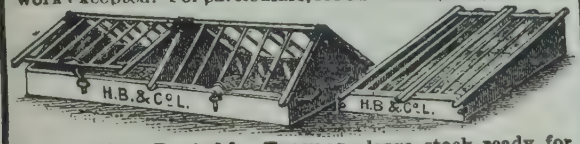
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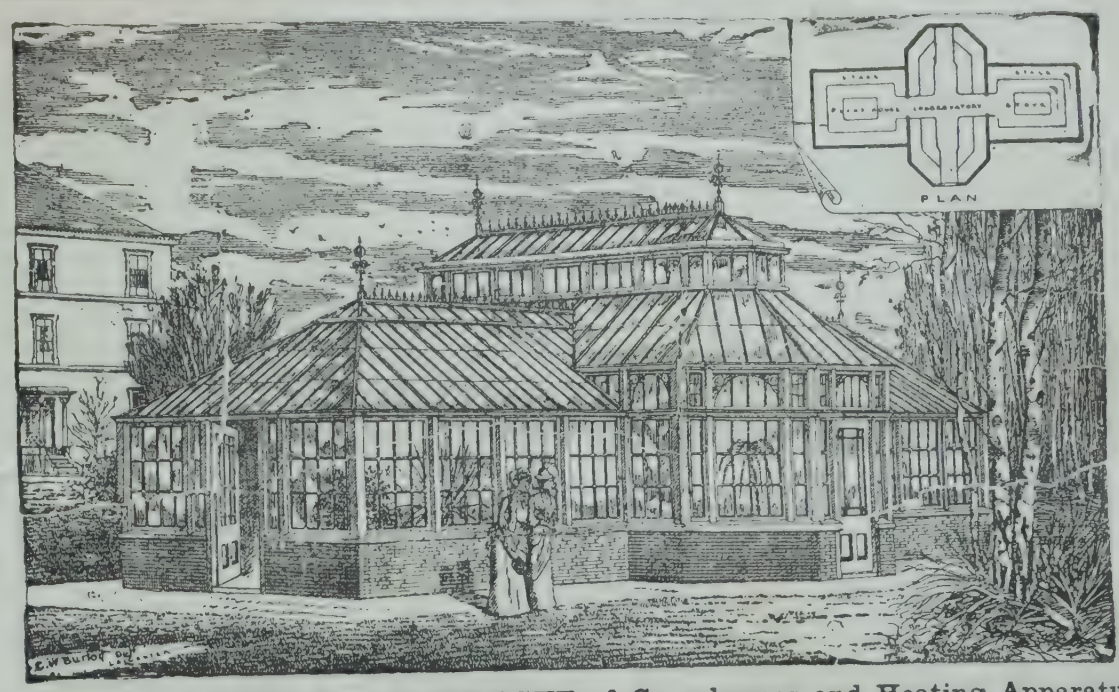


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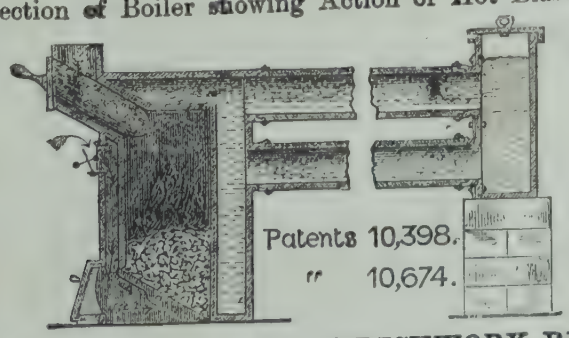
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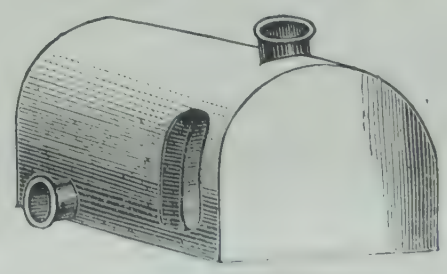
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11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

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Page, £8; Half Page, £4 10*s.*; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

Births, Deaths, and Marriages, 5*s. each insertion.*

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* A. G. MARTIN, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

ALL ACCIDENTS,

RAILWAY ACCIDENTS,

EMPLOYERS' LIABILITY,

INSURED AGAINST BY THE

RAILWAY PASSENGERS' ASSURANCE CO.,

64, CORNHILL, LONDON.

A. VIAN, *Secretary.*

HORTICULTURAL SHEET GLASS

STOCK	SIZES
14×12	20×15
16×12	20×16
18×12	22×16
20×12	24×16
16×14	20×18
18×14	22×18
20×14	24×18

21oz. and 15oz FOREIGN, of above sizes, in boxes of 100 feet & 200 feet super. ENGLISH Glass, cut to buyers' sizes, at lowest prices *delivered free & sound* in the country, in quantity.

LEADED LIGHTS for CONSERVATORIES & PRIVATE HOUSES

GEORGE FARMILOE & SONS

LEAD, GLASS, OIL, and COLOUR MERCHANTS,

34 St JOHN Street WEST SMITHFIELD, LONDON, E.C.

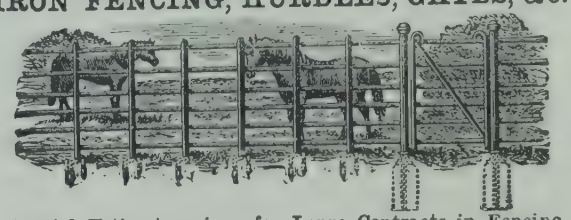
Stock Lists and prices on application. Please quote *Chronicle.*

HILL & SMITH,

BRIERLEY HILL, near DUDLEY,

And at 118, QUEEN VICTORIA STREET, LONDON, E.C.

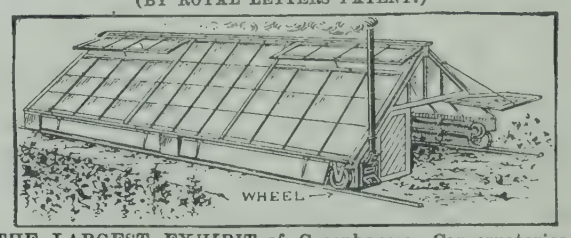
IRON FENCING, HURDLES, GATES, &c.



Special Estimates given for Large Contracts in Fencing Roofing, &c. Personal Surveys of Estates made, and practical advice given as to the best and most economical Fences to put down. *Large Illustrated Catalogue of Fencing, Hurdles, Field and Entrance Gates, &c., sent free on application.*

TRAVELLING GREENHOUSES.

(BY ROYAL LETTERS PATENT.)



THE LARGEST EXHIBIT of Greenhouses, Conservatories, Frames, and Hothouses on wheels and rails at the

Horticultural Travelling Structures Co., Ltd.,

2 & 3, White St. (Moorgate St. Station), **London, E.C.**

Special terms to Market Gardeners. Saves shifting plants, souring of soil, and 25 other advantages. Prize Medal, Antwerp, 1894.

THE MOST ECONOMICAL HOUSE.

GENUINE SCOTCH **TWEEDS**

Saving 30 (at Makers' prices) per cent.

St. Ronan's SUIT LENGTH 12/6

Other Suit Lengths, 15/–, 18/3, 19/6, 21/–; "Plora." 22/–, 23/3, 24/3, 25/6. Overcoatings, Ulsterings, Serges, Trowserings Parcels Carriage Paid. Patterns post-free, to be returned within seven days. Mention paper.

Tod Porteous & Co., Innerleithen, N.B.

IMPORTANT NOTICE TO EXHIBITORS.

TIDY'S IMPROVED

TELESCOPE CHRYSANTHEMUM CUP & TUBE

(Patent No. 8788).

☞ IS PERFECT IN EVERY RESPECT. ☜

Send for Illustrated Circular and Sample to

W. E. TIDY, BROCKHAMPION NURSERIES, HAVANT, HANTS

WARE & SONS' FLOWER POTS

Telegrams: Pottery, Uckfield.

SUSSEX POTTERY WORKS, *UCKFIELD.*

Estab. 1770

ARE THE BEST.

For Private Gardens.

Hundreds of Testimonials, Lists on application.

The Trade Supplied.

The Best Present for a Gardener.

VINES AND VINE CULTURE.

The most complete and exhaustive Treatise on Grapes and their Culture ever published.

Third Edition just out.

Price 5*s.*, post free, 5*s.* 6*d.*

A. F. BARRON, Royal Horticultural Society, Chiswick.

BREAKFAST—SUPPER.

EPPS'S

GRATEFUL—COMFORTING.

COCOA

BOILING WATER OR MILK.

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

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HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

GARDENING APPOINTMENTS.

MR. HEDLEY WARREN, has been appointed Gardener to the Lady DE ROTHSCHILD, Aston Clinton, Tring, in succession to the late Mr. J. W. SHRIMPTON.

Mr. JOHN CLARKE, for more than four years Foreman at Roby Hall Gardens Liverpool, as Gardener to Captain TARLAWNY, Shotwick Park, Chester.

Mr. W. ATKIN, formerly in the Gardens, Trentham Hall, and Foreman in those of Hindlip Hall, as Head Gardener to Captain BRACE, Doveridge Hall, Derby.

Mr. E. MCDOWALL, as Head Gardener to Lord DAVEY, Haslemere, Surrey.

Mr. ROBERT NELSON, formerly Foreman at Taymouth Castle Gardens, Aberfeldy, N.B., as Gardener to Mrs. MERRY, Belladrum, Bewby, N.B.

Mr. J. LINGWOOD, Gardener to the late HENRY N. GOODHART, Esq., Manor House, Tooting, Surrey, as Gardener to T. BENSKIN, Esq., Glenthorne, Harrow Weald, Middlesex.

Mr. B. KENT, late Gardener at Efford Park, Lymington, as Gardener to the Hon. J. SCOTT MONTAGUE, M.P., Beaulieu Lodge, Southampton.

Mr. THOS. HIGHLAND has succeeded Mr. A. BRADSHAW as Gardener and Bailiff to C. W. DYSON PERRINS, Esq., Davenham Bank, Malvern.

CATALOGUES RECEIVED.

STRONG & HANBURY, 196 and 197, Upper Thames Street, London, E.C.—Specimens of Papers.

DAVID W. THOMPSON, 24, Frederick Street, Edinburgh—Forest and Fruit Trees, Roses, &c.

D. PRIOR & SONS, Myland Nurseries, Colchester—Roses, Fruit and Ornamental Trees, Coniferæ, &c.

LOUIS VAN HOUTTE, Père, Royal Nurseries, Ghent, Belgium—Herbaceous and Alpine Plants, Ornamental Trees, Shrubs, and Evergreens, Roses, Fruit Trees, &c.

WOOD & INGRAM, The Nurseries, Huntingdon—Fruit Trees, Forest Trees, Coniferous Plants, Ornamental Trees and Shrubs, Hardy Climbers, Roses, &c.

WANTED, on Jannary 1, a WORKING GARDENER, married; must thoroughly understand Vines, and all sorts of Vegetables. Wife must be a first-class Washerwoman. Cottage provided.—M., Messrs. Harrison & Sons, Seedsmen, Leicester.

WANTED, a good SINGLE-HANDED GARDENER for Small Garden, S.W. suburbs, near Station. Must be sober, energetic, and thoroughly understand Glass, Vines, Fruit, Flower, Kitchen Garden, Forcing, &c. Address, in first instance, giving full particulars of experience, age, &c., also length of time in last two places.—A., Crossley Moir & Co., 57A, Coleman Street, E.C.

WANTED, a competent MAN, to take Charge and Grow Choice Stuff for Cut Flower Department.—H. DICKINSON, Shardlow, near Derby.

WANTED, AT ONCE, chiefly for Lawns and Pleasure Ground Work, a MAN thoroughly experienced in the above. Must be quick and neat in his work, and not object to taking turns with fires. Wages, 18*s.*—HEAD GARDENER, Mount Ballin, near Chepstow.

WANTED, a quick, active young MAN, about 20, to work in a Nursery where Grapes and Plants are Grown for Market. Wages, 20*s.*—Apply to JOHN WARD, Wallwood Nursery, Leytonstone.

WANTED, a SHOPMAN, used to the Wholesale Trade.—Apply by letter, stating age, experience, salary required, &c., to A. B., 41, Wellington Street, Strand, W.C.

WANTED, as JUNIOR SHOPMAN, a smart active young Man, about 21.—Apply by letter to WATKINS AND SIMPSON, Seed Merchants, Exeter Street, Strand, London, W.C.

WANTED, AT ONCE, an experienced young MAN, for Flower Garden. Also TWO IMPROVERS, Inside and Out. All single to live in bothy. Churchmen, and able to sing Tenor or Bass preferred.—Apply, stating age, wages, and experience, to SHILLICORN, Gardens, Nunnery, Isle of Man.

WANTED, a Young MAN to Manage Branch Nursery, Shrubs, Fruit Trees, Roses, Herbaceous Plants, &c. Abstainer preferred. Particulars as to wages, &c., to—GODFREY, Nurseryman, Exmouth.

WANTED, TWO strong and active young MEN, quick at Potting, Watering, and Tying.—State particulars of experience, age, and wages expected, to MANAGER, Llys-onen Gardens, near St. Clears.

WANTED, for a large Seed House in the South of Ireland, an energetic ASSISTANT, with a thorough knowledge of the Farm, Garden, and Flower Seed Trade.—Apply, stating experience, and salary expected, age, &c., to No. 8, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a SECOND SHOPMAN, by Scotch Firm. Salary £70.—Apply, SCOTLAND, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young Lady, for Florist and Fruit Business. Well up in Bouquets, Wreaths, Sprays, Button-holes, &c. State salary required and experience, to REES, 27, Union Street, Bristol.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character, and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

GARDENER (HEAD). — Married, age 31; sixteen years' experience in large establishments. Excellent character from Gentleman leaving; references forwarded.—J. KEMP, Warley Road, Brentwood.

GARDENER (HEAD); age 34, married.—Advertiser begs to offer his services to any Lady or Gentleman requiring a really practical and scientific man; life experience in first-class establishments. Thoroughly competent in all branches. Very highly recommended.—J. C., 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 40, married, will be pleased to hear from any Nobleman, Lady or Gentlemen requiring the services of a thorough practical man in all branches of the profession. life experience. Good references.—E. R., 31, Cooper Street, Belgrave, Leicester.

GARDENER (HEAD), and ORCHID GROWER.—Age 33, married, one child. Advertiser is open to re-engagement with any Lady or Gentleman First-class testimonials from present and previous employers. Leaving through breaking-up of establishment.—JOSEPH MILBURN, Hoyland Hall, Barnsley.

GARDENER (HEAD WORKING), Scotch.—Good all round; good at Chrysanthemums; eighteen years' experience. Age 33; married; one child; good testimonials and references.—A. W., 41, Wellington St., Strand, W.C.

GARDENER (HEAD WORKING).—Age 45, married, two children; understands Kitchen, Flower Garden, Trees and Shrubs. Would not object to charge of Cemetery, or Garden and Cows. 18s. a week and house. Nine years' character.—Rev. W. LANCE Buckland St Mary, Chard.

GARDENER (HEAD WORKING, or SINGLE-HANDED); age 29, married, one child.—A GENTLEMAN wishes to recommend the above. Life experience. Wife Laundress, if required.—S. G., Glenridge, Virginia Water.

GARDENER (HEAD WORKING, where two or three are kept).—Age 28, married; thoroughly experienced. Good characters.—J. R., 1, Harp Road, Quarmby Cliffe, Huddersfield.

GARDENER (HEAD WORKING), where three or four are kept. Good Fruit and Plant Grower, House and Table Decorator, &c. Good references.—FOREMAN, Heligan Gardens, St. Austell.

GARDENER (HEAD, or SINGLE-HANDED).—Age 24; ten years' experience in Gardening. Leaving through no fault. Excellent references. Total abstainer.—H., 15, Calton Road, Dulwich Village, S.E.

GARDENER (HEAD, or SINGLE-HANDED).—Age 25, single; eight years' good character. Good experience, Inside and Out. Highly recommended.—M. M., Clarence House, Horncastle.

GARDENER (HEAD, or SINGLE-HANDED).—Age 37, married; thoroughly experienced with Grapes, Peaches, Cucumbers, Tomatos, Flowers, and Vegetables of all kinds. Good character.—SHEPHERD, Dragon Street, Petersfield, Hants.

To Nurserymen or Gentlemen near London.

GARDENER.—Age 29, single, seeks employment. Has obtained Diploma of Honour with Silver Medal (Highest Award), Paris, 1893, for Fruit Trees, Pruning, and Growing. Fourteen years' life experience in all branches. First-class testimonials from the best Flower-seeds, Trees, and Vegetable Nurseries, as well as in Outdoors in Denmark, Germany, France, and England, and speaks all four languages (nativity Dane).—Please apply to HANSEN, 1, Maria Terrace, St. James Road, Enfield Highway, Middlesex.

GARDENER, experienced.—Age 34; Churchman, married, no family. Highest references. At liberty when suited. Moderate wages. — GARDENER, Parsonage, West Farleigh, Maidstone.

GARDENER (SECOND, or otherwise).—Mr. LATTER, The Gardens, Park Farm, Sevenoaks, wishes to recommend a young man (age 24). Leaving owing to reduction through death of employer. Ten years' experience, Inside and Out.

GARDENER (SECOND).—Age 25; thirteen years' experience, with good characters.—J. MANSFIELD, Verdley Place, Haslemere, Surrey.

GARDENER (SECOND), in a good Gentleman's place.—Young man (age 21); five years' in present situation. Highly recommended. Abstainer. Good knowledge of Gardening in all its branches.—F. FREEMAN, Gardener, Granville Street, Peterborough.

GARDENER (SECOND), or JOURNEYMAN (FIRST).—Age 23; experienced Inside and Out; good characters from last and previous employers.—F. DOUCH, Denny Bottom, Tunbridge Wells.

GARDENER (UNDER or SINGLE-HANDED), Inside or Out.—Age 23; good character and reference.—W. W., 29, Hyde Close, Winchester.

ORCHID GROWER. — J. CRISPIN, Esq., F.R.H.S., Chester Park, Fishponds, Bristol, strongly recommends a man as above. Experience gained in large collections; first-class grower; now disengaged.

FOREMAN.—I can recommend a young Man to any Gardener wanting a practical hand. Has been in First-class Establishments previous to being here. Particulars from STEPHEN CASTLE, F.R.H.S., Manager, Ashford Vineries, Fordingbridge, Hants.

FOREMAN, in good establishment, or GARDENER, where two or three are kept.—Age 27; over six years' recommendation from one of the largest establishments in the kingdom —CONWAY, The Terrace, Ewell, Surrey

FOREMAN, in the Houses, in large establishment.—Age 29, single; good character from last situations in large establishments as Foreman.—W. WRIGHT, Tilbury Hill, Halstead, Essex.

FOREMAN (INSIDE, or GENERAL); age 26.—Mr. UNDERWOOD, High Firs Gardens, Harpenden, Herts, would be pleased to recommend H. Wright, who seeks re-engagement as above.

FOREMAN (INSIDE, or GENERAL).—Age 28. Mr. G. R. GEORGE, Gardener to Earl Soudes, Lees Court, Faversham, wishes to recommend his late Foreman and Decorator as above. Three years as Foreman previously.—Present address, G. W. RAYMENT, Poles Park, Ware, Herts.

FOREMAN.—Age 24; ten years' experience in good gardens. Well up in Vines, Peaches, Chrysanthemums, &c., for exhibition. Excellent references. Decorations.—E. P., 41, Wellington Street, Strand, W.C.

JOURNEYMAN (FIRST).—Mr. BELLWOOD, The Gardens, Horsley Towers, Leatherhead, can with confidence recommend F. Hampshire, age 25, to any Gardener requiring the services of a good man as above. Five years' excellent character.—Address as above.

JOURNEYMAN (FIRST); age 23.—Mr. HALL, Manor Gardens, North Road, Congleton, would be glad to recommend an exceptionally good all round man for a large establishment. Well up in all branches, especially Fruit and Chrysanthemums.

JOURNEYMAN (FIRST).—Inside, in private establishment. Age 23; eight years' experience in private places and Nursery. Highest references. Mr. A. E. HIGGOTT, Nurseryman and Florist, wishes to recommend a young Man, as above.—G. SEDGLEY, 12, Gordon Villas, Hampton, Middlesex.

JOURNEYMAN (FIRST); age 22. Inside.—G. E. MITCHELL, Head Gardener, Tilgate Forest Lodge, Crawley, Sussex, will be pleased to recommend a young man; six years' experience; good character.

JOURNEYMAN.—Age 21; abstainer; six and a-half years good practical experience. Can be well recommended.—J. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN; Inside preferred. — Mr. EDMUND HANBURY can thoroughly recommend James Allum, age 21, four years' experience; good character, strong, willing, and obliging. Wages expected, 15s. per week with bothy, &c.—E. S. HANBURY, Poles, Ware, Herts.

JOURNEYMAN in Houses.—Age 22; six years Inside and Out; two years in present situation. Excellent characters from past and present employers.—Aspley Gardens, Teddesley, Penkridge, Stafford.

To Gardeners.

JOURNEYMAN, Inside.—Age nearly 19; first-class Fruit and Plant Grower. Good references. Abstainer.—M., 24, William Street, St. John's, Tunbridge Wells.

IMPROVER.—Place wanted by a Youth of 19. Four years' good experience, Inside and Out. Good character from last place. Total abstainer.—F. BEAUMONT, The Central Schools, Bournemouth.

IMPROVER. — Age 18; good testimonial. Three years' experience.—W. WANDBY, Chapel Yard, Hessle.

IMPROVER, under Glass, or in a Florists' Business; or, GARDENER (UNDER).—Age 19; knowledge of Seed and Bulb Trade, two years' experience in each.—A. E. COX, Mr. W. Green, Manea, Cambs.

APPRENTICE. — Wanted, to Apprentice a youth of 18 to the Nursery and Seed Business.—B., 246, Regent Street, W.

TRAINING in HARDY FRUIT CULTURE. —Wanted, by a Young Man (nearly 20), before starting in business. Has had two years' experience as grower under glass. Small salary accepted, or, for exceptional advantages in training, assistance in indoor work given free.—BROOKS, Post Office, Folkestone.

TO NURSERYMEN.—Wanted, a situation in a Market Nursery, well up in Ferns and general pot-stuff. Ten years' practical experience; age 26.—J. B., 33, Harvard Road, Lewisham, London, S.E.

TO NURSERYMEN.—A young man (age 21), seeks situation; Under, Inside Propagator. Five years' experience in general Housework. Good references.—G. FORTUNE, 17, Maria Street, Kirkcaldy, Fifeshire.

STOKER, or General Work in Nursery.—Young man, age 25, married; good character. Bothy preferred.—A. CANFIELD, 1, York Cottage, Cartbridge, Send, Surrey.

ROCK BUILDER, FERNERY FITTER, and HANDY MAN.—Knowledge of Ferns, Aquatics, Fish, &c. Good recent testimonials. — W. J. C., 125, Portobello Road, Bayswater, London, W.

FRUIT, VEGETABLE, and BEE-FARMING. —Experienced man seeks employment.—Apply to H. G., care of Traenhle, Hausser Strasse, Heidelberg Germany.

MARKET SALESMAN, or FERN RAISER, or combined.—Florist's Son requires permanent situation as above; good testimonial.—FERN, 41, Wellington Street, Strand, W.C.

SHOPMAN or ASSISTANT.—Experienced in Seeds, Bulbs, Plants, Cut Flowers, &c. City trade. Good testimonials; competent to manage branch shop.—F. GORTON, 86, Clarence Road, Lower Clapton, N.E.

ASSISTANT SHOPMAN.—Young Man requires situation in good retail Seed Establishment. Seven years' experience; good references. — J. J., Messrs. Nutting & Sons, 106, Southwark Street, London, S.E.

SEED TRADE.—Advertiser, age 21, seeks a situation as ASSISTANT. Five years' experience at Counter, &c. Good references. — A. J. P., Messrs. Robert Veitch & Son, Exeter.

SEED TRADE.—Situation wanted by young Man, age 21; five years' experience. Wholesale and Retail; abstainer; good references.—W. T., 6, Arboretum Street, Nottingham.

SEED TRADE—Young man, age 19, just completed apprenticeship, seeks engagement as CLERK. Most satisfactory references.—F. B., Dicksons' Seed Warehouse, Chester.

TO FLORISTS.—Man, age 24, seeks situation. Life experience under Glass; used to Wreaths and Crosses. Excellent references. London.—C. DENNIS, 13, Boulter Street, St. Clement's, Oxford.

NEWS IS FOOD FOR ACTIVE MINDS, especially in these days of quick communication, when we are enabled within a few hours to know what is taking place at the other end of the world. The merits of HOLLOWAY'S PILLS and OINTMENT, which have been familiar for over half a century amongst all civilised people, have been still more widely spread owing to these facilities. To the natives in the uttermost parts of India, Africa, Australia, and, indeed, to the whole human family, these remedies have been amongst the most precious gifts of civilisation. They cure disease and relieve the most acute pain. In cases of fever, ague, and liver and stomach complaints they are unequalled, whilst for wounds, bruises, sores, &c, they are the best known remedies.

Send for ILLUSTRATED LIST of

JOHN BLAKE'S

PATENT SELF-ACTING HYDRAULIC RAMS,

FOR RAISING WATER FOR THE SUPPLY OF TOWNS, VILLAGES, IRRIGATION, RAILWAY STATIONS, MANSIONS, FOUNTAINS, FARMS, ETC.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in sizes to raise from **300 to 300,000 gallons per day.** Will force to a height of 800 feet.

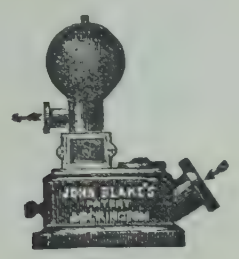


Fig. A.
This Ram raises a portion of the same water that works it.



This View represents a Ram worked by impure river water, whilst pumping pure water from a well or spring and forcing it to a small reservoir on the hill, at an elevation of 295 feet and a distance of one mile, from which reservoir the water is gravitated for fire-extinguishing and general requirements of mansion, stables, farm, and village.

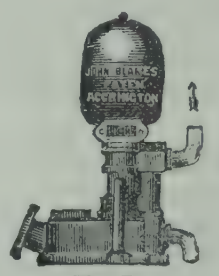


Fig. B.
This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

TESTIMONIALS.

From T. FERNYHOUGH, Esq., Agent to The Right Hon. LORD HINDLIP.

Bradley, Ashbourse, Derby, March 17, 1894.

DEAR SIR,—Referring to the two Patent "B" Rams you started six months ago for the Right Hon. Lord Hindlip, on the Alsop-en-le-Dale Estate, I am glad to congratulate you on the success of your attempt to raise the necessary supply of water under conditions so difficult, the height to raise the water being more than **63 times that of the working fall.** The Rams are worked by water from the River Dove with the small working **fall of 8 feet 3 inches,** and issuing from the rocky bank close by is a copious stream of pure spring-water, **8000** gallons per day of which the Rams force to a reservoir three-quarters of a mile distant, and at the extraordinary height of **532½** feet above the Rams. The water is then gravitated from the reservoir to the several farms and houses on the estate, giving an ample supply to each, and still leaving a good overflow at the reservoir.

I am glad to add that the Rams lift more water than you promised, and seem to work with great ease and smoothness, notwithstanding the great elevation they force to.

Yours faithfully, T. FERNYHOUGH.

From T. DYNE STEEL, Esq., M.Inst.C.E., Past President South Wales Inst. of Engineers, Bank Chambers, Newport, Mon., April 24, 1891.

USK WATERWORKS.

DEAR SIR,—In September of last year I applied to you for a Hydraulic Ram for the purposes of the Usk Waterworks, to be capable of raising 27,000 gallons per day, a height of 127 feet, with a working fall of driving water of 27 feet, and on your guaranteeing that performance I gave you an order for the Ram. The machine you supplied has now been put to work, and I have much satisfaction in saying that it far and away exceeds in its performance my most sanguine expectations, and possibly yours also. I have just completed a series of exhaustive tests with the following results: Working fall of driving water, 30 feet; vertical height raised, 127 feet; length of rising main, 850 feet, from Ram to outflow; length of supply pipe, 200 feet; gallons per hour raised, 1612; driving water used per hour, 8186 gallons, showing the remarkable and gratifying result of **83 per cent. of efficiency.** The tests were carefully made and repeated, the water measured, and levels properly taken. Several trials were made, and I shall be glad to give any engineer interested in the subject, facilities for repeating the tests at the spot. I may here state that for the rising main I used a large diameter of pipe in order to reduce friction, with excellent effect. Yours faithfully, T. DYNE STEEL.

From the Hon. The Earl of HARROWBY, 44, Grosvenor Square, London, February 21, 1893.

SIR,—I have pleasure in stating that the two Hydraulic Rams, which you supplied and fixed for me last autumn, at Sandon, have proved so far most successful, and that the work gives every promise of durability, while the economy, compared with the former much smaller and intermittent supply by steam-pump, will be considerable.

With a fall of about 14 feet from a previously existing mill-pool, the Rams supply reservoirs 168 feet above the brook whence the water is forced, through pipes 1½ miles in length. They sent up, as long as I required it, about 41,000 gallons per day. I now generally work the two Rams alternately (for a fortnight or so each), but can at any time work the two together, if the full supply of 41,000 gallons should be needed.

The business of this somewhat complicated water-supply was conducted by you with singular promptness and punctuality; and no local difficulties arose in the execution of the work, owing to the excellent and efficient men whom you sent from your works at Accrington.

I am, Sir, your very obedient servant, HARROWBY.

From CHARLES HART, Esq., A.M.I.C.E., 3, Avenue Road, Leamington, March 13, 1893.

BRIXWORTH UNION RURAL SANITARY AUTHORITY, EAST HADDON WATER SUPPLY.

DEAR SIR,—Since the opening of these works in May, 1891, the two double-acting "B" Rams supplied and fixed by you have done their work with a minimum of attention, uninterruptedly and satisfactorily. Pure spring water obtained from a gathering-ground on the side of a hill is carried along iron pipes a distance of 548 yards, down to a cistern fixed in the Ram-house. From this cistern it flows to the Rams, which are driven by impure water—drawn from an adjacent brook, with an available fall of 12 feet—and thence by them forced along an ascending delivery pipe, a distance of 1520 yards, to an iron reservoir, at an elevation of 204 feet. From this reservoir mains are laid which supply the hall with its stabling, the rectory, six farm-houses, two dairies, and twenty-four wall-fountains for the villagers' use.

The average daily consumption exceeds 4000 gallons, which one Ram easily delivers, thus exceeding your guaranteed quantity by more than 1000 gallons per Ram per 24 hours. Generally the two Rams are regulated to divide the work between them, but occasionally it devolves upon one only.

If more widely known, this means of supplying villages and small towns with a limited quantity of spring water, forced to a suitable elevation by means of your Rams driven by impure water, would most certainly be more generally adopted.

Yours faithfully, CHARLES HART.

From C. PAGE WOOD, Esq., Wakes Hall, Wakes Colne, Essex, January 11, 1889.

SIR,—In reply to your inquiry, the Hydraulic Ram you put down for me in 1884 has cost me only 6*d.* in repairs (for a new stud my blacksmith made); the second Ram you put down to supply an off-hand farm has been running three years, and has cost not a penny for repairs; the third and largest Ram you put down two months ago, which is for the supply of water to my neighbours, is running satisfactorily. All three Rams throw up more water than you guaranteed. From inquiries I have made from friends who have Rams of other makers, I am convinced of the superiority of yours, and my third order is a proof of my good opinion. My abundant water-supply is the greatest possible comfort to me. Yours faithfully, C. PAGE WOOD.

From Sir S. M. MARYON WILSON, Bart., London, Nov. 17, 1891.

SIR,—I have much pleasure in stating that the two "A" Rams you supplied and fixed for me at Searles, on my Sussex estate, have proved a great success, especially when the small supply of driving water is considered, as with a supply of 7 gallons per minute only, they have daily thrown 3000 gallons to a height of 96 feet, and through a service of pipes over a mile in length; and testing them recently (with plenty of driving power) found they lifted 7000 gallons per day.

The economy effected by their use is considerable, as they have entirely superseded a steam pump. S. M. MARYON WILSON.

From MATTHIAS SMITH, Esq., Hill Top Hall, Pannal, near Leeds, January 14, 1889.

DEAR SIR,—I have great pleasure in bearing testimony to the marvellous efficiency of the Ram you fixed here in January, 1888. It is worked by spring water of irregular volume, the dry weather flow being six pints per minute, with which quantity you promised to work the Ram, forcing through 330 yards of delivery pipe to an elevation of fully 144 feet, but out of 5¾ pints per minute, 166 gallons per day are sent up, and out of 2 gallons per minute now flowing through the Ram, 540 gallons per day are delivered at the same height. Considering the extremely small quantity of driving water, I certainly did not expect so grand a result. With every wish that you may get the reward you deserve,

I am, dear Sir, yours faithfully, MATTHIAS SMITH.

JOHN BLAKE, RAM WORKS, ACCRINGTON, LANCASHIRE.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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CLEARANCE SALE of the STOCK in TRADE and GLASS ERECTIONS, &c., by order of Mr. Fred Parker; entirely without reserve.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises as above, on MONDAY and TUESDAY NEXT, Dec. 3 and 4, at 12 o'Clock each day, 400 Pyramid Apples and Pears, including horizontal and trained, all to name; Victoria Plums, 2 00 Gooseberries and Currants, 1200 Hybrid and Tea Roses, all the best sorts, 600 being in pots; 10,000 Strawberry Plants and Runners, 45,000 choice Bulbs to name, consisting of Narcissus Emperor, Empress, Sir Watkin, Horsfieldii, Sulphur Kroon, and other superior kinds; Tulips, Roman Hyacinths, 600 Spiræa Japonica, strong clumps; 5000 Chrysanthemums, best market sorts; Herbaceous Plants, Stove and Greenhouse Plants, Vines, the erection of four span-roofed and two lean-to Greenhouses, comprising 5000 feet of Glass, hot-water Piping, Saddle Boiler, thirty-two Pit-lights, 200 head of Poultry of the leading strains, Ducks, Geese, Turkeys, Pigeons, thirteen patent Improved Poultry Courts and Pens, ten Chicken Coops, and ten Runs, Bay Mare, 14·3 hands, Stanhope Phaeton, Silver and Brass-mounted Harness, light Dray and Cart, 5 acres well won Hay, Garden Utensils, and other sundries.

May be viewed. Catalogues had on the premises, at 61 & 65, St. James' Market, Bradford, and of the Auctioneers, 67 & 68, Cheapside, London, E.C. N.B.—The House and Grounds to Let. Particulars of the Auctioneers.

Stapleford, near Nottingham.

SECOND PORTION of the extensive and well-grown NURSERY STOCK, for absolute Sale, the Freehold Estate having been sold. Three days.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Frettingham's Nurseries, Stapleford, near Sandiacre and Stapleford Station, on WEDNESDAY NEXT, Dec. 5, and TWO FOLLOWING DAYS, at 12 o'Clock each day, without the least reserve, 20,000 CONIFERS, a wonderfully fine assortment, beautifully grown; a grand stock of Golden YEWS, Gold and Silver HOLLIES, for which this Nursery has been noted; CUPRESSUS LAWSONI, in rich variety; THUIA LOBBII, PICEAS, 3000 FRUIT TREES, many large bearing trees being among them, &c.

The Stock is particularly well-rooted, and the Nursery bears a high reputation for the safety with which the Stock can be transplanted.

May be viewed. Catalogues had on the Premises; of A. T. ASHWELL, Esq., Solicitor, St. Peter's Walk, Nottingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Sunbury, Middlesex, near Railway Station.

ABSOLUTE CLEARANCE SALE of FRUIT TREES, PLANTS, BULBS, and OTHER STOCK, by order of Mr. John Turtle, the Nursery having been let.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Osborne Nursery, Sunbury, on THURSDAY NEXT, Dec. 6, at half-past 11 o'clock precisely, in consequence of the large number of lots. 7000 FRUIT TREES, consisting of standard and pyramid Apples, Pears, and Plums, 1000 dwarf Roses, 2000 budded Briars, and Manetti Stocks, 10,000 Manetti Stocks, 2000 Strawberries, a few standard Roses, Limes, and Chestnuts, a quantity of border shrubs, thousands of greenhouse and flowering plants, including 3000 Cyclamen persicum in 48 pots, Palms, Ferns, Azaleas, Solanums, Begonias, Tea and other Roses, Chrysanthemums, &c. 11,000 Lily of the Valley, thousands of Hyacinths and other Bulbs, many in pots. Liliums, Gladioli the Bride, Roman Hyacinths, 7000 Spanish Iris and other Stock, suitable for private gentlemen and the trade for cut-flower purposes.

May be viewed. Catalogues had on the premises, and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

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Two miles from Dartford Station, S.E. Railway.

IMPORTANT TO FRUIT GROWERS, FLORISTS, and OTHERS.

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May be viewed. Particulars may be had on the premises, of Messrs. METCALFE AND SHARPE, Solicitors, 40, Chancery Lane, W.C., and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

50,000 Genuine Havana Cigars.

By order of the Mortgagees.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67, and 68, Cheapside, London, E.C., on FRIDAY, December 7, at half-past twelve precisely, 50,000 Havana Cigars, including the following well-known brands:—La Intimidad Murias, Cabanas, La Rosa Aromatica, Antilla Cubana, Mi Flor, Villar-y-Villar, Bock-y-Ca, Para Usted, Flor de Campo, and others.

On view morning of the sale, and catalogues had.

Leyton, E.

CLEARANCE SALE of STOVE and GREENHOUSE PLANTS and ORCHIDS. By order of A. G. Shenstone, Esq., who is giving up their cultivation.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, La Moie, Vicarage Road, Leyton, near the New Leyton Station, and 15 minutes' walk from Leyton Station, G.E.R., on THURSDAY, December 6, 1894, at 1 o'Clock, the whole of the STOVE and GREENHOUSE PLANTS, comprising several hundreds of Geraniums in store pots, Solanums, Crotons, Caladiums, Dracænas, Gardenias, Lapageria rosea and alba, Ferns, in variety; Chrysanthemums, &c. Also a small COLLECTION of ORCHIDS, consisting of Calanthes, Dendrobiums, Cattleyas, and others.

May be viewed day prior and morning of Sale. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

The Windlesham Nurseries, near Bagshot, Surrey.

FINAL CLEARANCE SALE of the remaining valuable NURSERY STOCK, STACK of HAY, HORSES, CARTS, VAN, and EFFECTS, by order of the Executors of the late Mr. Richard Mason, in consequence of the Freehold and Leasehold Nurseries having been sold. Two days.

MESSRS. PROTHEROE AND MORRIS (having disposed of the Nurseries) will SELL by AUCTION, on the Premises as above, on MONDAY and TUESDAY, Dec. 10 and 11, at Twelve o'Clock each day, the remaining beautifully-grown NURSERY STOCK, in excellent condition for removal.

40,000 Rhododendrons, named hybrids, seedlings, and ponticum, 1 to 3 feet	5,000 Standard and Dwarf Roses
2,500 Kalmia latifolia, 1 to 1½ foot	Daphne cneorum Lilacs
2,000 Andromeda floribunda	Hardy Climbers in pots
4,000 Azalea Mollis, Ghent, &c	Dwarf-trained Peaches
	Nectarines and other Stock

Ten Loads of prime Meadow Hay, also the Horses, Carts, Van, and Utensils in Trade.

May be viewed. Catalogues may be had on the premises; of Messrs. REEP, LANE & Co., Solicitors, 4, Gt. St. Thomas Apostle, E.C., and Bagshot; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Ealing Dean, W.

CLEARANCE SALE of a Portion of the Stock, by order of Messrs. Lee & Son, of their far-famed collection of Fruit Trees of nearly every description.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, Messrs. Charles Lee & Son's Nurseries, Uxbridge Road, Ealing Dean, five minute's walk from Castle Station, G.W.Ry., and 15 minutes from Ealing District Railway Station, on WEDNESDAY and THURSDAY, December 12 and 13, at 12 o'Clock precisely each day, thousands of FRUIT TREES, consisting of Standard and Pyramid APPLES, some extra large Horizontal-trained APPLES and PEARS; Dwarf-trained PEARS, several thousands Standard and Pyramid PEARS; a large portion of their Standard, Half-Standard, and Trained PEACHES and NECTARINES, the finest and healthiest stock in the Kingdom, and the most important lot ever included in a Sale; fine Dwarf-trained PEACHES and NECTARINES; Standard and Pyramid PLUMS, a Collection of DAMSONS of the best sorts; CURRANTS and GOOSEBERRY BUSHES, all the best sorts and fine healthy plants; 3000 Golden and Green EUONYMUS, from 9 to 15 inches, in splendid colour, for potting and planting in window boxes, &c.; a grand variety of hundreds of Ornamental, Foliage and Flowering TREES, for Gardens and Parks; a large collection of HERBACEOUS PLANTS, IRIS, &c.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next.

Consignment from Belgium of 275 Azalea Mollis, 30 Latania borbonica, 36 Dracænas, 14 Ficus, 36 Kentias, 25 Green Aspidistras, 6 Areca Baueri, 400 Gloxinia crassifolia, and 400 Begonias.

MESSRS. PROTHEROE AND MORRIS will include the above in their BULB SALE on MONDAY NEXT, December 3.

On view morning of Sale, and Catalogues had.

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3,060	,,	SPECIOSUM ALBUM
2,540	,,	,, RUBRUM
160	,,	,, MELPOMENE
900	,,	LONGIFLORUM
570	,,	BROWNII
1,200	,,	KRAMERI
370	LYCORIS	AUREA
1,600	NERINE	JAPONICA

Also 500 Dwarf ROSES, 500 Double BEGONIAS, STOVE and GREENHOUSE PLANTS, English-grown LILIES, CALOCHORTI, DIELYTRA SPECTABILIS, 1000 large clumps SPIRÆA JAPONICA, 500 VALLOTA PURPUREA, 100 LILIUM BROWNI (large bulbs), LILY OF THE VALLEY Clumps, Double Herbaceous PÆONIES, 4000 Hybrid GLADIOLI, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, December 5, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Monday Next.

SPECIAL SALE OF 10,000 HARDY PERENNIALS, CARNATIONS, PICOTEES, LILIES, and IRIS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, on MONDAY NEXT, December 3, at 12 o'Clock, hundreds of choice Hardy Perennials in great variety, from one of the largest growers in this country; thousands of Carnations, Picotees, Hollyhocks, Pyrethrums, Pæonies, Phlox, and Delphiniums of the most popular sorts, 10,000 Galanthus Elwesii, Chionodoxas, Anemone fulgens, Scillas, and other Bulbs, a magnificent collection of the finest kinds of Lilies, including Browni, Lowi, Colchicum, testaceum, rubrum, album, and many others; also a grand assortment of Iris germanica, sibirica, Kempferi, Olbiensis, and others.

On view morning of Sale, and Catalogues had.

Monday, Tuesday, Wednesday, and Thursday Next.

DUTCH BULBS.—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on the ABOVE DAYS, at 12 o'Clock each day, large consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit large and small buyers.

On view mornings of Sale, and Catalogues had.

Tuesday Next.

AN IMPORTATION OF

21 CASES of CATTLEYA TRIANÆ.

Comprising—

1000 Plants, all in the finest condition, well-leaved, and with good sound dormant eyes, received direct, for Unreserved Sale. Also 200 DENDROBIUM M'CARTHIÆ, 100 clumps CYPRIPRDIUM SPECTABILE, 100 crowns C. ACAULE, received direct, and 120 lots of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, December 4, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

GREAT CONSIGNMENT of PALM SEEDS, comprising—

100,000 KENTIA BELMOREANA
100,000 KENTIA FORSTERIANA
also
50,000 FREESIA REFRACTA ALBA,

Received direct, for Unreserved Sale. The Seeds have been examined, and are found to be in the grandest possible condition.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale-Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, December 5, at 2 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

A grand new HYBRID CYPRIPEDIUM BELLATULUM × SWANIANUM, the rare ONCIDIUM LOXENSE, ONCIDIUM SPECIES, SOBRALIA LUCASIANA (guaranteed true), the grand new CYPRIPEDIUM WARNHAMIENSE, ESTABLISHED ORCHIDS (unflowered), &c.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, December 7.

On view morning of Sale, and Catalogues had.

Friday Next, December 7.

MESSRS. PROTHEROE & MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, December 7, at half-past 12 o'Clock, the following

IMPORTED and ESTABLISHED ORCHIDS.

A quantity of semi-established plants, in magnificent condition, of the New and Beautiful

CATTLEYA O'BRIENIANA.

Also nearly 1000 newly-imported Plants of the true

LÆLIA AUTUMNALIS ATRORUBENS

(the All Saints' Flower of Mexico),

which has not been imported now for many years. The grandest, darkest, largest, and best form of the type.

Also SPLENDID IMPORTATIONS,

in perfectly marvellous condition, leaved like the finest established plants. We have never before received plants in such grand order; the leaves are as fresh and green as on established plants. The following are included:—ONCIDIUM VARICOSUM ROGERSII, in magnificent masses; O. CAVENDISHIANUM, O. MARSHALLIANUM, superb plants; O. SARCODES, O. CONCOLOR, very fine; O. DASYTYLE, ODONTOGLOSSUM REICHENHEIMII, LÆLIA DAYANA, grand plants; LÆLIA HARPOPHYLLA, CATTLEYA INTERMEDIA, in splendid condition; CYMBIDIUM EBURNEUM, MAXILLARIA SPECIES, CYPRIPEDIUM NIVEUM, &c., &c.

Also large Importations of

CRINUM NOBILE ALBUM,
HÆMANTHUS KALBREYERII,

And many other choice ORCHIDS.

On view morning of Sale, and Catalogues had.

Friday, December 21.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE, on FRIDAY, December 21, a fine plant in flower of a new variety of a

YELLOW CYPRIPEDIUM INSIGNE,

very similar to C. insigne Ernestii.

On view morning of Sale.

Monday, Wednesday, and Thursday Next.
GREAT SALES OF DUTCH BULBS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden W.C., on MONDAY, WEDNESDAY, and THURSDAY NEXT, December 3, 5, and 6, at half-past 12 o'Clock precisely, enormous Consignments of choice-named Double and Single HYACINTHS, TULIPS, CROCUS, NARCISSUS, LILIUMS, and other BULBS, from leading growers in Holland.
On view mornings of Sale, and Catalogues had.

Monday, Wednesday, and Thursday Next.
GREAT SALES of SHRUBS, ROSES, PLANTS, &c.

MR. J. C. STEVENS will SELL by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on MONDAY, WEDNESDAY, and THURSDAY NEXT, December 3, 5, and 6, at half-past 12 o'Clock precisely, splendid importations of beautifully-grown, small ORNAMENTAL SHRUBS, for pot or border cultivation; PÆONIES, LILIUMS in great variety, AZALEAS, RHODODENDRONS, FRUIT TREES, &c., from Holland.
On view mornings of Sale, and Catalogues had.

Monday, Wednesday, and Thursday Next.
A Large and varied Assortment of rare English and American BORDER PLANTS, containing many of the latest introductions; Home-Grown LILIUMS in variety, CARNATIONS to name, GLADIOLI of sorts, HYACINTHUS CANDICANS, ARUMS, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY, WEDNESDAY, and THURSDAY NEXT, December 3, 5, and 6.
On view mornings of Sale, and Catalogues had.

Wednesday Next.
SPECIAL SALE of ROSES.
From Celebrated English, French, and Dutch Growers. A Splendid Collection of ROSES, including many of the newest and best sorts, to name.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, Dec. 5.
On view morning of Sale, and Catalogues had.

Wednesday Next.
23 Cases of ARAUCARIA EXCELSA, just imported direct in fine order, a consignment of fine masses of CYPRIPEDIUM SPECTABILE, 5000 S. African TUBEROSES, LILIUM AURATUM from Japan, LILIUM HARRISI, L. CANDIDUM, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, December 5.
On view morning of Sale, and Catalogues had.

Wednesday Next.
320 choice named PYRAMID and DWARF TRAINED FRUIT TREES, comprising APPLES, PEARS, PLUMS, CHERRIES, PEACHES, NECTARINES, &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, December 5.
On view morning of Sale, and Catalogues had.

Thursday and Friday, December 20 and 21, 1894.
The HOYLAND HALL COLLECTION of ESTABLISHED ORCHIDS.

MESSRS. WILLIAM BUSH AND SON respectfully give notice that they are instructed by C. W. Fincken, Esq., J.P. (who is giving up collecting on account of ill-health) to SELL by AUCTION, at their Rooms, 2 and 3, East Parade, Sheffield, as above, at 11 o'Clock each day, about 800 ESTABLISHED ORCHIDS, including, in addition to many rare and valuable plants, LÆLIA FINCKENIANA, F.C.C.R.H.S., the only known specimen in Europe.
Catalogues in preparation.

ORCHIDS! ORCHIDS!
LARGE and FINE IMPORTATIONS.

JOHN COWAN AND CO. have just received large and fine importations of Cattleyas, Lælias, Dendrobiums, Oncidiums, Miltonias, Sophronitis, Angræcums, &c., &c.—all in fine condition.

INSPECTION INVITED. Priced and Descriptive Lists, post-free, on application.

The Company's stock of Established Orchids is at present very large and fine, and includes large numbers of plants, in the various sections, showing for flower. Priced and Descriptive Catalogues post-free on application to—

JOHN COWAN & CO., LTD.,
THE VINEYARD and NURSERIES,
GARSTON, near LIVERPOOL.

WANTED, to Rent, a SMALL NURSERY, Glass only, suitable for Market Growing, with Dwelling-house attached. No Stock. Open to Purchase, on Lease.—Address, A. B. C., 41, Wellington Street, Strand, W.C.

FOR SALE, Cheap, SMALL NURSERY, with four-roomed Cottage; Lease, 18 years; 15 acres Pasture; one Greenhouse, 200 feet, fitted with Rochford Boiler and 450 feet of 4-inch piping; one 100 feet; one 26 feet, cold; about 20,000 Strawberry Plants, 1000 Chrysanthemums, &c. Close to Main Road; five minutes from station; 18 miles from London.—Apply to W. S., The Woolpack, North Weald, Essex.

TO GROWERS. — A NURSERY of about 3 Acres, Dwelling-house, 9 Glasshouses, well heated and stocked; Sheds, Frames, &c., all in thorough working order, FOR DISPOSAL on favourable terms. Apply to—
FREDK. G. HUGHES, Estate Agent, Hampton-on-Thames.

TO be SOLD or LET, a Freehold, well walled MARKET GARDEN, with numerous Glass and Forcing Houses, &c., comprising in all about 1¼ acre, together with capital detached Residence, the whole offering to a Purchaser as a going concern, a very desirable investment. Half an hour from London.
Full particulars may be obtained from Messrs. HUMBERT, SON, AND FLINT, Land Agents, &c., 11, Serle Street, Lincoln's Inn, W.C.

FOR SALE, a Compact NURSERY and FLORIST'S BUSINESS, with good Seed and Jobbing Trade attached, in a Country Market Town. Glasshouses and Pits well stocked. Large Stock of Fruit Trees and Shrubs. Good Stabling, Potting and Packing Sheds. Commodious Dwelling, twenty years' Lease unexpired. No opposition within ten miles. Rent £27 per annum. Particulars of—
SEXTON AND TAYLOR, Auctioneers, Hadleigh, Suffolk.

To Mushroom Growers.
TO BE LET, in the town of Poole, and close to Railway Station, a MUSHROOM HOUSE 270 feet long by 16 feet wide, with earthen floor. Can be made perfectly dark if desired. Apply to—
C. PATERSON, Canford Estate Office, Wimborne, Dorset.

TO LET, with immediate possession, a SMALL FRUIT FARM, containing about 12 acres, well-stocked with the best kinds of fruit trees in excellent bearing condition. Together with good House and suitable Outbuildings. Near good Markets.—Apply to Messrs. DAVIES AND STEPHEN, Mollington, Chester.

TO LET, as a Going Concern, a SMALL NURSERY, eight Glasshouses and ground in main thoroughfare, in a very important town in south of England; fine position. Established fourteen years.—Apply W. C., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—TWO ACRES of the best GRASS-LAND to be LET on long Lease. Rent, £15 per Acre, with the option of purchasing the Freehold. Within 9 miles of London, and close to a station.—Apply to Mr. H. MOORE, 59, Bishopsgate Street Within, E.C.

Garden-ground in Harrow Road, W.
TO BE LET, for such time as may be agreed on, that Piece of Ground, measuring nearly 1 Acre, lying between Lock Hospital and Canal. Suitable for a Nurseryman or Florist.—Apply to Secretary at Hospital.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

5000 Golden and Silver EUONYMUS, 12 to 15 inches, 25s. to 30s. per 100. Best in the market.—R. CHALLEN, Nurseryman, Twickenham, Middlesex.

MYATT'S PROLIFIC POTATOS for Sale.—True. Price for 2-ton lots, 75s. per ton.
G. F. YOUNG, Swineshead Abbey, Boston.

FOR SALE.—Several thousand GLADIOLI, "The Bride," and Freesias, all good blooming Bulbs, second size, 7s. 6d. per 1000.
H. A. GAREY, Thornhill, St. Jacques, Guernsey.

PTERIS TREMULA CRISTATA in 48's, bushy Stuff, 20s. per 100.
C. JOHNSON AND CO., The Nurseries, Hampton.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt Cash.

CHRYSANTHEMUM CUTTINGS.—Madame Desgranges, 2s. per 100, 15s. per 1000; Lady Lawrence, 2s. 6d. per 100. Marguerite cuttings, strong, 1s. 6d. per 100.—CHIPPERFIELD, Florist, Hampton Hill.

SPECIAL OFFER.
TEA ROSES.
Strong plants, established in 6-inch pots, including all the best sorts, £5 per 100; 12s. per dozen.
H. SARGANT, Barnton Nursery, Cramleith, Edinburgh.

CUCUMBERS.—For Sale, real good Cucumber Seed, the "Rochford," true to name, 5s. per 100. Cash with order to—
R. J. WICKHAM, Grower, Sutton Scotney, Hants.

Prize Cob Filberts and other Fruit Trees.
MR. COOPER having left the neighbourhood of Reading, is prepared to receive offers for portions, or the whole of his Stock of Fruit Trees, to be removed in the autumn. May be viewed at any time, and address—
GEORGE WAITE, the Foreman, Calcot, near Reading.

EXHIBITION.

NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM, WESTMINSTER.
EARLY WINTER EXHIBITION, December 4, 5, and 6, 1894.
Chrysanthemums, Cyclamen, Chinese Primroses, Flowering; Berried and Foliaged Plants, &c.
Schedules of Prizes on application to—
Ranelagh Road, Ealing. RICHARD DEAN, Hon. Sec.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.
THE NEXT EXHIBITION will be held at the Drill Hall, Kingston-on-Thames, on TUESDAY and WEDNESDAY, November 12 and 13, 1895.

SHEFFIELD CHRYSANTHEMUM SOCIETY.
NEXT ANNUAL SHOW, November 15 and 16, 1895.
WM. HOUSLEY, 177, Cemetery Road, Secretary.

LILIUM AURATUM.—Miller's Importation, direct from Japan, just arrived in splendid condition. All Bulbs are thoroughly matured, solid, healthy, and sure to flower freely. Magnificent large specimen Bulbs, 2s. 6d. each, 21s. per dozen; large heavy Bulbs, 15s., 12s. 6d., 10s. 6d., 7s. 6d., and 5s. 6d. per dozen, all carriage paid.
F. MILLER & CO. 267, Fulham Road, London, S.W.

RASPBERRY CANES. — Northumberland Fillbasket, Norwich Wonder, Carter's Prolific. Strawberry Plants: Paxtons, British Queens; and Pines.
A. FAIRALL, Westerham, Kent.

ASPARAGUS, for Forcing; five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

VARIEGATED IVYS, CLIMBERS, &c., all the best varieties, fine stuff 3 to 4 feet, in 5-inch pots, Arborescens variegata, Rhombodia variegata, Marginata, Canariensis Aurea, Spectabilis, Mrs. Pollock, and others, 12s. per dozen, in variety; six or twelve Hardy Climbers, in six or twelve sorts, 6s. and 12s. Package free
MORLE & CO., The Conservatories, Finchley Road, N.W.

ISAAC MATTHEWS AND SON beg to offer 200,000 extra strong THORNS, 100,000 oval leaf PRIVETS, 500,000 RHODODENDRONS in variety, including all the best sorts for forcing, and covert plantation. FOREST TREES in variety; HOLLIES, AUCUBAS, GOLDEN ELDERS, and all other general Nursery Stock. Price list on application to the Nurseries, Milton, Stoke-on-Trent.

SEAKALE for Forcing. — Superior Selected Crowns, 80s. per 1000; under 500, at 9s. per 100. Cash with all orders. A quantity of Hawks' Early Scarlet Champagne RHUBARB to offer, at £3 per 100. Large roots, will part five.
ALFRED ATWOOD, Market Grower, 24, Lubeck Street, Battersea, S.W.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

CARNATION "Countess of Paris," finest blush Perpetual Tree Carnation, large Malmaison-coloured flowers, splendid grower, easy forcer. Very strong layers, for immediate potting, 4s. per doz., 30s. per 100, carriage paid for cash. Large forcing plants, established in 4 to 6-inch pots, 12s. to 20s. per dozen.
BECKER, Nurseries, Jersey.

ORCHIDS
Of every description, from 1s. each; samples, post-free, 1s. 3d. RARE PLANTS AT LOW PRICES. Every plant sent on approbation. Catalogue post-free.
THE LEEDS ORCHID CO.,
ROUNDHAY, LEEDS.

RETIRING FROM BUSINESS.
SPECIAL OFFER to CLEAR GROUND.

HOLLIES, green and variegated, extra transplanted, 2 to 10 feet. RHODODENDRONS, 200 choice named varieties, and best quality hybrid Seedlings, 1½ to 6 feet, bushy; also dwarf kinds; Præcox and ferrugineum, &c. Greenhouse varieties; Sweet-scented and new free-blooming Hybrids, own raising, covered with flower buds. AZALEA MOLLIS SEEDLINGS, six to seven buds, 8s. per dozen, 50s. per 100. Ghent and other choice varieties. LILIUM AURATUM, home-grown, per 100 or 1000, cheap; and GENERAL NURSERY STOCK, in fine condition. Priced Catalogues free on application.

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BROOK LANE NURSERY, ORMSKIRK.

JOHNSON'S IMPROVED MUSHROOM SPAWN.

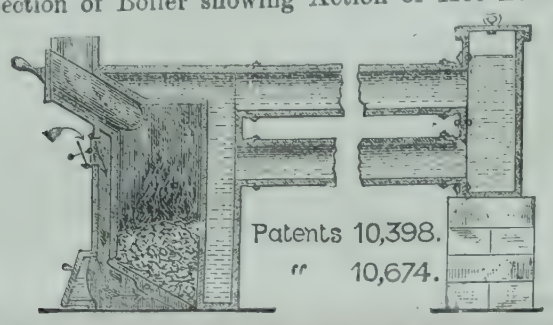


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Special Prices for Large Quantities and the Trade.
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SILVER MEDAL HORSE-SHOE BOILER

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WILL BURN LONGER WITHOUT ATTENTION THAN ANY OTHER BOILER OF THIS TYPE, as well as being the most POWERFUL and ECONOMICAL MANUFACTURED.

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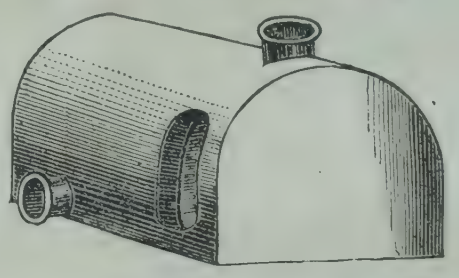
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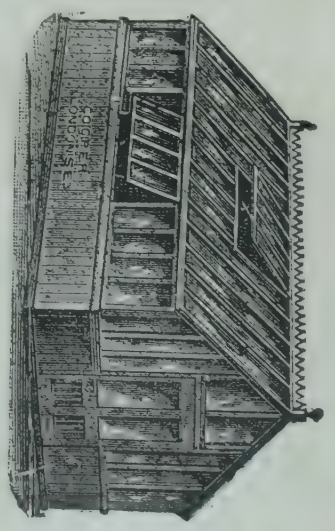
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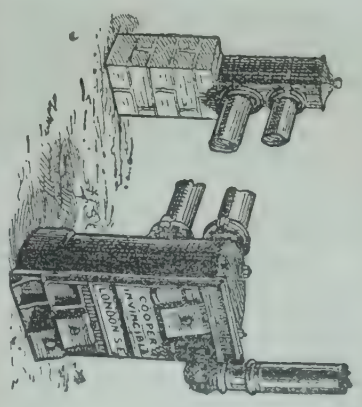
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NEW CHRYSANTHEMUM OF THE SEASON.

"PHILADELPHIA."

RAISED BY MR. HUGH GRAHAM.

Awarded First Prize on every occasion exhibited, as the Best Seedling of the Year, and the SILVER-GILT MEDAL of the National Chrysanthemum Society, at the Aquarium, on November 7, 1894.

B. S. WILLIAMS & SON

Have acquired the stock for European distribution. It will be sent out simultaneously in Philadelphia and London on March 1, 1895. Orders are now being booked.

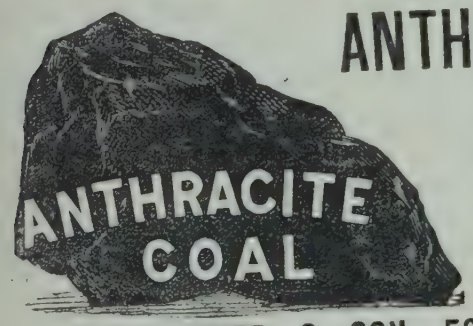
Strong Plants, 7s. 6d. each, Six for 42s.

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G. R. CARTER & SON supply their LARGE, NUT, or COBBLE COALS (the Nuts being about the size of a Walnut, and the Cobbles about the size of a man's fist), delivered by van, at any address within the 4 mile radius of Charing Cross; or in truckloads, at any Railway Station. This Coal is **absolutely smokeless**, and it requires much less attention than any other description of fuel, burning for twelve hours at least without any supervision, and giving from five to ten degrees more heat than Coke. Quotations on application to—

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CHRYSANTHEMUMS. — New Illustrated, Descriptive, and Priced CATALOGUE of all best varieties in commerce, now ready, post-free, two stamps.
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 1, 1894.

WINDOW FERNERIES.

FOR many windows facing northwards, flowering-plants are quite unfitted, the lack of sunshine being against them. Ferns, however, would be precisely in their element with such exposure, and we have a very vivid recollection of a time when our British Fern-hobby was young, our collection small, and space limited, and some two or three dozen plants staged in a basement bay-window, were a constant source of admiration to the passers by. The whole affair was very simple: a plain table stood in the bay, on this a stage of three shelves curved to match the bay, and on these shelves stood the plants in pots, the smallest in front, and the taller-growing ones on the top. As the pots were religiously kept turned always the same way, the best view of course was seen from the window; but the table being mounted on strong castors, it was easy to wheel it backwards into the room, and get at the front for a good view, or readjustment whenever it was necessary. In such arrangements, where no Wardian-case is used, gas is the chief enemy of the plants, and they can therefore only safely be recommended where other means of lighting are adopted, or the gas itself is little used. Wardian-cases, unfortunately, are too apt to cramp the plants, by inducing a luxuriant growth, for which their space speedily becomes insufficient; this is, however, an effect often caused by the ignorance of those who select the plants, small specimens of Ferns being installed which are robust growers, and under the stimulus of close culture, are drawn up in addition, so that a few weeks after installation, they are knocking their heads against the roof in vain efforts to attain their normal height. In this connection, we may assert that although there are scores of charming dwarf varieties of Ferns, which would have ample room under such conditions, we have never seen a collection so housed. Take for instance the Lady Ferns (Athyrium filix-fœmina): there are A. f.-f. crispum, A. f.-f. Edwardsii, A. f.-f. Findlayanum, A. f.-f. velutinum, and A. f.-f. nidicaule coronans, all only about 6 inches high, and of dense growth; while A. f.-f. stipætum only reaches a foot. Among the Buckler Ferns, there are Lastrea f. m. crispa, crispa gracilis, crispa cristata, crispa cristata angustata, ramulosissima, and fluctuosa, all charming little gems of similar dwarf habit. The Shield Ferns afford Polystichum angulare Lyellii, crispatum, parvissimum, and others; while some of the dense-growing plumose forms develop so slowly, that small plants would take a year or two before outgrowing the space at command. Besides these, the Hart's-tongue affords a host of pretty

dwarf varieties. With all these a large Wardian-case, whether inside the room, or, as we often see them outside on the window-sill, where the top-light would be of immense benefit, by preventing them from being drawn, would form a congenial home, but as all that is needed to keep their delicate growths from damage is protection from wind, care should be taken with British Ferns to give plenty of air. Good drainage must also be provided. A good plan is to insert the plants in small pots, marking them with small pieces of stone or burr. They can then be shifted in case of need, but in so doing, keep the plants always with same face to the light, as if turned and twisted about, ugly distorted plants are sure to result.

As the Ferns are perfectly hardy, no heating-apparatus is required, even for the outdoor cases—and, indeed, should not be used, as the unnatural stimulus so given during the resting-period of winter keeps them moving all the time, starts them prematurely early into growth, and renders them in the ensuing season a prey to invincible vermin, induced by a ruined constitution. If exotic Ferns requiring heat be grown, they must be grown alone, and in that case we have found it very easy to warm the case with a coil of 1-inch compo-pipe, run once or twice round it, both ends being brought out, one through the drainage-hole, and the other just above it, and inserted into a small copper boiler holding about a quart, under which, at a little distance from the case, a tiny atmospheric ring gas-burner, kept the whole thing warm, without any trouble, and at scarcely any expense. The bottom of the case is filled up to the level of the pipes with crushed cockle-shells, such as are sometimes used in lieu of gravel; and this is kept thoroughly wet, and the little pots partly buried in it. The boiler we had made by a plumber, but the pipes were adjusted by ourselves. The junction of the smaller outlet pipes with the inside larger ones was effected with india-rubber piping, but they are better soldered. With such a little arrangement as this, anything can be grown; but, from our own point of view, while we have a host of charming little native plants which do not need coddling, it is waste of time and trouble to confine ourselves as we, popularly speaking, practically do, to foreign plants which demand it. However, this is a matter of taste, and we only quarrel with it in as far that the favours are not fairly distributed according to merit. Take among the Ferns we have cited, the Hart's-tongue (Scolopendrium vulgare) alone, whether a case be used or merely a table with shelves, such as we have described, a most delightful little collection might be grown with very little trouble in a single window. We have in our mind's eye a score or two of most varied forms of this species which range from very dwarf ones such as S. v. spirale, S. c. flabellatum, S. v. densum Kelwayii, up to some of the finest frilled forms of S. v. crispum, S. v. c. grande, Wills, for example, which are of full normal size, but of which young plants with six or seven fronds only form handsome specimens in a limited area. S. v. peraferens and bicornutum are oddities bearing thorns and little pockets at the tips of their fronds; and Mr. E. J. Lowe of late years has managed to mix a lot of varieties, tasselled, muricate, and frilled, with others of a dwarf nature, so that there is a veritable host of little curios in existence, if the fancy runs that way. Then again there are the little Spleenworts (Asplenium), A. trichomanes, whether in its common form or in its varietal ones of A. t. incisum, A. t. cristatum, A. t. Harrisii, forming lovely little rosettes if congenially treated. All these plants want is well-drained chinks between stones, and in our own fernery they have literally peopled all the chinks and crevices with their slender-foliaged self-sown offspring. A. viride is very like it, but not in facility of culture, which, indeed, it seems to resent. It is a child of the mountain air and weeping cloud, or it is born amid the streamlet spray, in some rocky limestone crevice, circumstances and surroundings which it is difficult to import into an ordinary dwelling-house. Like its neighbour, the Holly Fern (P. lonchitis), it is a sort of gipsy in its liking for the open, and resents imprisonment. The Bladder Ferns are all pretty in their native haunts, but cannot be recommended for home culture, they all too speedily take on a brown hue, and though they survive year after year, and even thrive, the discoloration is a drawback where the main virtue is fresh viridity. The Oak Fern (Polypodium dryopteris) and Beech Fern (P. phegopteris) do capitally either in cases or in pans in the open room; nothing prettier in their own way can be conceived than well-grown specimens of these. But it must always be borne in mind that we are speaking of north windows, or at any rate, of sunless ones. Of course, in some places where there are deep shady areas, such as Londoners are familiar with, in Finsbury Circus and elsewhere, even south windows are in shade, and there all is congenial. Curiously enough, however, though in this very locality more of the areas have fine specimens of British Ferns, and, in fact, there must be some hundreds round the Circus itself, there is not a single variety, all are the usual wayside weeds, and only about four species are represented out of forty-four, and repeated *ad nauseam*. *Chas. T. Druery, F.L.S., F.R.H.S.*

New or Noteworthy Plants.

ADIANTUM DISSIMULATUM, *Jenm., n. sp.*

Stipites erect, ¾ to 1½ feet long, black, polished; fronds erect, 1 to 1¼ feet long, 5 to 10 inches wide, bipinnate, firmly chartaceous, naked, dark green, consisting of a long central pinnate portion and two to three basal, much smaller, spreading, pinnate branches; rachis and costæ like the stipites; leaflets apart or contiguous, sessile, deltoid-rhomboidal on the central branch, varying to oblong or ovate-oblong in the inferior ones of the lower branches, the terminal elongated; veins free, fine, close, flabellate, repeatedly forked; margins dentate when barren; sori continuous around all but the basal and interior segments.

Bull Head, 3000 feet elevation, Clarendon, Jamaica. Collected by Mr. Hart. Mr. Hart sent me a specimen of this at the time, years ago, that he found it, calling my attention as well to its likeness to A. Kendallii, Jenm., but pointing out features of difference. Both likeness and unlikeness were obvious, but I was unwilling to found a species on a single imperfect frond. Now I have seen a full-grown perfect frond of Mr. Hart's, and have no hesitation. The habit and cutting in both are alike, the separativeness lies in the difference of texture and the shape of the pinnæ. *G. S. Jenman, Demerara, Aug.* 21.

Polygonum baldschuanicum, *Regel.**

This species grows naturally in Eastern Bokhara, Turkestan, at an altitude of 1200 to 1700 mètres, where it was discovered by Albert Regel. According to an account given by Prof. Max Cornu to the National Horticultural Society of France, it is a perennial, with stems 4 to 5 mètres high. The leaves are cordiform or hastate, white or faintly rose-coloured. The flowers are borne in long clusters, which are very attractive, and are succeeded by winged seed-vessels, which are at first white and ultimately deep rose-coloured, and very ornamental. The plant is hardy in the climate of Paris.

* *Polygonum baldschuanicum*, Regel, in *Act. Jard. Bot. St. Petersburgh* (1883), p. 684; Max Cornu, in *Journ. Soc. Nat. d'Horticulture*, September, 1894, p. 528.

Orchid Notes and Gleanings.

LÆLIA ANCEPS.

A photograph, kindly sent by Colonel R. T. Lloyd, Ashton Hall, Oswestry, represents a fine specimen of the highly-coloured "Morada" variety of Lælia anceps, which is in flower at this season. Colonel Lloyd's plant bears ninety-three flowers. It would be a good companion-plant to the large example of the white L. anceps, illustrated in the *Gardeners' Chronicle*, February 10, this year, which flowered in Lord Rothschild's garden at Tring Park.

New Orchids.

The following species are described for the first time by Mr. Rolfe in the October number of the *Kew Bulletin*, p. 361, to which we refer for the full descriptive details:—

Pleurothallis pernambucensis, Rolfe.—A distinct little species, with pale yellowish-green flowers, stained with light rosy-purple. Introduced by Messrs. W. L. Lewis & Co, of Southgate, with Cattleya labiata from Pernambuco.

Dendrobium subclausum, Rolfe.—A brilliantly-coloured and remarkable species, introduced by Messrs. Veitch, of Chelsea. The flowers are ¾ inch long, and of a brilliant cinnabar-orange colour. The lip is suddenly infolded near the apex, and plaited round the denticulate margin, which lies so close to the anther and sides of the column as to nearly close the flower, whence the name given to the species, which is a native of the Moluccas.

Megaclinium pusillum, Rolfe.—A small species, flowered at Glasnevin by Mr. F. W. Moore. It is nearly allied to M. melanorhachis, Rchb. f., and comes from east tropical Africa.

Megaclinium triste, Rolfe.—A very distinct species, allied to M. leucorhachis. Flowers velvetty, quite black, with a few light green markings at the tips. The native country is not known.

Cyrtopera flexuosa, Rolfe.—A very distinct species, which flowered at Kew during the present year. The flowers are white, with a few small purple spots on the petals, and the centre of the lip is light yellow, with numerous deeper purple spots on either side, which are almost suffused into an irregular band. Native of Kilimanjaro, East tropical Africa.

Stanhopea Randii, Rolfe.—A species from the Upper Amazon region, allied to S. eburnea, but smaller. The flowers are ivory-white, with a faint shade of yellow on the lip, and very sweet-scented.

Stanhopea nigripes, Rolfe.—A very handsome species, allied to S. Wardii and S. Ruckeri, though markedly different in the details of the lip. The sepals and petals are yellow, with numerous small purple blotches, and the lip and column whitish-yellow, with many small purple spots. It flowered at Kew in August, but nothing is known of its native country.

Catasetum punctatum, Rolfe.—A new species, introduced from Brazil by MM. Linden, and allied to C. atrovirens. The sepals and petals are pale yellowish-green, with numerous light brown spots. The lip is yellow, and the transverse callus inside of a bright orange colour. The flowers are very fragrant.

Polycynis Lehmannii, Rolfe.—A rather pretty species, which flowered with Sir Trevor Lawrence in August last. The flowers are about 1 inch long, light tawny-brown, spotted with purple, the lip rather whiter, with darker purple spots, apex of column deep purple.

Vanda Roeblingiana, Rolfe.—A strikingly distinct species, introduced from Singapore by Messrs. Hugh Low & Co. It is allied to V. limbata, Blume, but differs from every other in the remarkable shape of the lip, which is suddenly dilated at the apex into a

pair of halbert-shaped lobes. Sepals and petals deep brown, irregularly veined with yellowish-green. The side lobes of the lip are white, streaked with purple, and the front lobe brown, with irregular radiating yellow veins. It is dedicated to Hon. C. Roebling, of Trenton, New Jersey, U.S.A.

CYPRIPEDIUM LAWREBEL

will succeed best if potted in good brown, peat-fibre, and living sphagnum moss, or as some cultivators prefer, a good mixture of turfy-loam and fibrous peat, to which some sphagnum moss should be added to keep the soil more porous, and to allow the roots to push through more easily. The pots, however, should be well drained, as stagnation at the roots is very detrimental to the well-doing of this genus. A temperature similar to that maintained in the Cattleya-house, will be found to suit it admirably, and during the growing season a liberal supply of water is necessary. It must, however never be allowed to become dry, even in the dull winter months, although great care must be exercised in watering. The atmosphere should always be kept in a humid condition, to guard against the attacks of thrips, which, if allowed to become established, will greatly disfigure and injure the plants. The flowers of this plant last for a considerable time in full beauty. *Orchid Album*, vol. xi., part 125.

CYPRIPEDIUM ADONIS.

This beautiful hybrid, "Lady's Slipper Orchid," was raised in the Victoria and Paradise Nurseries, Upper Holloway, about five years ago, and is the result of a cross between Cypripedium Spicerianum magnificum and C. Harrisianum superbum, and which may be noted as being the reverse cross to our beautiful variety of C. Pitcherianum. . . Cypripedium Adonis thrives best with pot culture, and should be placed in well-drained pots, with a compost of good fibrous peat and sphagnum moss; the plants should be well elevated above the rim and fixed firmly, although not rammed in. It succeeds well in the Cattleya-house temperature, and should be treated similar to all other evergreen Cypripediums, and never be allowed to become dry. This beautiful and interesting novelty is quite distinct from anything yet in commerce, but it must not be confounded with the C. Adonis which is reported in the pages of the *Orchid Review* for October, 1893, where it is stated that a plant under this name was exhibited by C. J. Ingram, Esq., of Godalming, as a cross between C. hirsutissimum and C. Curtisii, which must be quite a distinct hybrid from our present subject. *Orchid Album*, vol. xi., part 125.

MASDEVALLIA ROSEA.

THE history of this pretty and floriferous Masdevallia (fig. 83) is exceedingly interesting. It was known to science from dried specimens collected by Hartweg at a great elevation on the Andes of Ecuador, as far back as the year 1842, from which material Dr. Lindley described it in 1845; and still later by the report of Dr. Jameson, Professor of Botany and Chemistry at the University of Quito.



FIG. 83.—MASDEVALLIA ROSEA: FLOWERS PINK, REDUCED.

But it remained for that indefatigable traveller, Mr. F. C. Lehmann, who has made Masdevallias a special study, to reach the high altitude at which the plant grows, and by unremitting care to get it alive over the low-lying country which intervenes between its native habitat and the coast, a journey more dreaded by the collectors of fragile Orchids than all the rest of the voyage. The plant was thus made tolerably plentiful in gardens in 1880. Two characteristics, among other good qualities, caused the plant to be a general favourite, viz., the ease with which it could be grown with success in the coldest house, and the freedom with which it produces its pretty carmine-tinted coral-red flowers. Our illustration (fig. 83), taken from a plant which flowered with Major-General C. B. Lucie-Smith, at The Acacias, Worthing, in July last, and which we saw in that interesting collection (which is grown practically in the open air in summer) in August, gives a good representation of the plant on a small scale, and the remarks of its owner and cultivator, conveyed in a letter on the subject, gives some idea of the manner in which it and others of its class are grown by him. Major-General C. B. Lucie-Smith says:—"The Masdevallia rosea was grown by me in a house where the night temperature during last winter, as a rule, sank to about 40° Fahr., and on one occasion to 36°. Does not its fine blooming now go to prove that the minimum of 50° usually adopted is too high for cool Masdevallias?"

But it should be pointed out, that as stated in our report of his method of growing Orchids in the *Gardeners' Chronicle*, August 25, 1894, p. 217, Major-General Lucie-Smith maintains than his plan of growing Orchids in open-air shelters in summer induces floriferousness, and enables the plants to sustain a lower temperature in winter than would otherwise be the case. *J. O'B.*

FOREIGN CORRESPONDENCE.

FRUIT IN GERMANY.

MANY of the southern parts of Germany are fruit-growing lands, but they are not able to produce all the fruit which Germany consumes. In northern Germany fruit-growing is not so much carried on as in the south, so it is not to be wondered that Germany imports a great quantity of fruits every year. Recently has been issued the report in the *Pomologische Monatshefte*, by Lucas, of the imports into and of the exports from Germany of fruit and fruit-products during the last ten years ending with 1893; and it is interesting to learn from this report that the consumption of fruit is increasing from year to year in a very high degree. There were imported into Germany in 1878—1887, 26,550 tons; 1880—1889, 34,893 tons; 1882—1891, 50,489 tons; and 1884—1893, 87,607 tons. The 87,607 tons of the last period were valued at £831,485 sterling. During this same period Germany exported yearly 21,552 tons of fruits of a value of £323,295, so that there were imported yearly 66,055 tons, of a value of £508,190, more than were exported. Interesting is it to learn from the list that the value of fruits, during the last ten years, was—in 1884, 62,748 tons imported, of the value of £564,750; 1886, 97,391 tons, in value £1,022,600; 1888, 70,339 tons, worth £633,050; 1890, 92,144 tons, of a value of £941,150; 1891, 120,384 tons, of a value of £786,350; 1892, 96,173 tons, of a value of £865,850; 1893, 94,058 tons, of a value of £847,000. The value of a ton of fruit varied between £6 5*s.* in 1891, and £11 18*s.* in 1889. It is remarkable that in 1893, notwithstanding in Germany it was generally a fruitful year, there were imported 94,058 tons, of a value of £847,000. The greater part of the fresh fruit imported into Germany came from Austria, viz., 49·49 per cent. in 1890, 73·15 per cent. in 1891, 31·01 per cent. in 1892, and 49·84 per cent. in 1893. Next to Austria, the greatest quantities came from Switzerland, viz., 37·63 per cent. in 1890, 18·65 per cent. in 1891, 41·33 per cent. in 1892, and 25·15 per cent. in 1893. From Great Britain were imported only about 0·02 to 0·05 per cent. On the contrary, the largest quantities of fresh fruits from Germany go to Great Britain, viz., 20,472 tons in 1890, 17,123 tons in 1891, 6548 tons in 1892, and 10,328 tons in 1893. To all other countries Germany exported 8558 tons in 1890, 6419 tons in 1891, 3798 tons in 1892, and 7559 tons in 1893. But besides fresh fruits Germany imports large quantities of dried fruits: in the last ten years ending 1893, 28,732·4 tons, of a value of £514,860. The exports of dried fruits from Germany amounted in 1892 to 116·6 tons, and in 1893 to 112 tons. The largest quantities of dried fruits came also from Austria and Hungary, viz, 17,022 tons in 1890, 19,609 tons in 1891, 16,091 tons in 1892, and 14,773 tons in 1893. Last year Servia came next with 10,077 tons. Great Britain, with Gibraltar, Malta, and Cyprus, brought to Germany dried fruits, 113 tons in 1890, 38 tons in 1891, and 51 tons in 1892 (the quantity exported 1893 is still unknown). The total imports of fruits (fresh and dried) during the last ten years to Germany, is yearly 116,339·4 tons of a value of £1,346,345, and

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it is a matter for surprise that such large quantities should still be imported into Germany. There is an enormous area of waste land, which brings not one penny rent to its owners, but which might bring in a high rent if planted with fruit trees. For although fruit-growing has increased in a high degree in Germany during the last ten years, the consumption has increased also, as is shown by the above tables. The net profit of an Apple or Pear tree is reckoned in Germany at between £4 6*s.* 6*d.* and £12 19*s.* 6*d.* during the whole life of the tree, viz., sixty-five years. An association with the necessary capital would earn a good net profit. *U. D.*

Trees and Shrubs.

CUPRESSUS MACROCARPA.

This Monterey Cypress grows into grand trees in Devonshire and Cornwall. The largest I have met with was at Captain Rogers', Penrose, near Helston. At 4 feet from the ground, where the bole was 19 feet round, it branched into six stems, most of which ran up to more than 80 feet. This tree was planted thirty-five years ago. Nurserymen in the south-west of England use this Cypress as a screen from wind, in the form of hedges. It seems to stand clipping well. It would perhaps last longer if the leading shoots were removed with a knife, and the use of the shears were deferred for two or three months. By adopting this plan, the shock to the plants would be less severe than when the pruning and clipping are all done at once. *W. T., Hea Moor.*

Ornamental Trees.

Among the various ornamental trees of medium growth suitable for the pleasure-grounds, Virgilia lutea stands out conspicuously; its handsome bipinnate leaves show to advantage during the summer, but in autumn the plant is magnificent, the leaves on the upper part of the tree being of a beautiful yellow colour, while those on the lower part are green, with here and there a tinge of yellow. The tree seldom exceeds, in England, 20 feet in height. It succeeds well in sandy loam, but the wood must be well-ripened to produce the flowers. Another species of tree that succeeds with us is Dimorphanthus mandschuricus; it has Aralia-like foliage, green in the early stages, but at this season changing to bronze. The heads of white flowers make it a striking contrast to the Virgilia. Another tree which flowers well with us after a warm summer is Paulownia imperialis. Catalpa syringæfolia also flowers well, and is a desirable garden tree. The trees of Liquidambar are beautiful in their autumn tints; they are seldom seen of better colour than at Minley Manor, the peaty gravel soil of the garden evidently suiting them; in strong soils the leaves do not always colour well. Rhus Cotinus, Venetian Sumach, has been very fine, and in early morn when covered with dew it is remarkably pretty. It is out of place planted among other shrubs; the most effective position is on the lawn. *T. H. Slade, Lea Park.*

A TRAVELLER'S NOTES.

(*Continued from p.* 628.)

Wellington, New Zealand, July 9, 1893.—Agathis (Dammara) australis, the Kauri of commerce, yields one of the most famous of the world's woods, affording employment to thousands of men, and its conversion a remunerative return for many hundred thousand pounds of invested capital. Its habitat is confined to the most northern portion of the North Island, the area occupied calculated as likely to pay for working having been estimated in 1885 by the Surveyor-General at 138,470 acres. Though found in small quantities between Whangarei and Auckland, the largest forests lie north of the former, and in order to see such a one being worked, I recently left Auckland for the north. A 230 ton steamer performs the journey in ten hours twice a week. The nearest forest to Whangarei lies 13 miles eastward, and as the roads to others are in parts at this season impassable, I had no choice. The forest in question belongs to a private firm, Messrs. Foote Bros., whose arrangements for the conversion of the timber are most economical and complete. Agathis (Dammara) australis, where found, is usually the prevailing tree, and though the undergrowth is thick, large specimens of other trees are rarely met with. It grows in poor soil, valueless for agricultural purposes after a forest has been cleared. The prevailing undergrowth is usually Astelia trinervis, a Liliaceous plant with long narrow leaves. The tree form of Dicksonia lanata is also often met with, and Adiantum reniforme occurs in profusion on every side. Young trees, when planted in a bush, are distinctly handsome, though they are usually not met with in Nature. Planted in the open, like some other New Zealand plants, they fail to grow. Matured trees attain an average height of 80 to 100 feet, with a trunk 4 to 12 feet in diameter, though individual specimens are known to far exceed these dimensions. Mr. Kirk mentions one a 100 feet high to the first branch, with a circumference of 66 feet; whilst one at Mercury Bay is stated to measure 80 feet to the first branch, and to be 72 feet in circumference. The largest I have met with growing was between 9 to 10 feet in diameter, as straight as a gun-barrel, and for two-thirds of its height without a branch. In the summer months it is, however, only a matter of time to see far larger ones, though in the forest I visited the prevailing size was 6 feet, and under; nevertheless, so thickly do the trees grow, many of larger dimensions are met with in a comparatively small area. Respecting the age this exceptional tree attains, Mr. Kirk estimates a tree of 7 feet in diameter to be 1260 years; the specimen I mentioned as growing at Mercury Bay may be considerably over 2000 years, and one, 66 feet in circumference, not less than 1500 years. The proportion of sap-wood is remarkably small—hollow and defective trees are rare; its durability, as shown by wood obtained from buried forest, &c., thoroughly proved, and its strength excelled by but two or three other trees.

In Mr. Kirk's excellent *Forest Flora*, reviewed in the *Gardeners' Chronicle*, Dec. 14, 1889, p. 695, specialists will find many pages giving full details respecting this tree. The branches are never used, though they often attain a diameter of 2 feet. In passing through that portion of a forest already felled, one often clambers over many such buried beneath many feet of the handsome, broad, glaucous foliage. The bark is thick, and most resinous, the resin exuding freely, and forming solid masses in the forks of the branches, though the quantity thus found is trivial compared with that dug up annually from the swamps now covered, or formerly covered, with Kauri forest.

This solidified resin forms the Kauri-gum of commerce, of which between 1883 and 1887 as much as 30,498 tons were exported, its gross value being £1,598,606. It affords employment to thousands, and is a standing resource for the unemployed, though I fancy few undertake the work if they can obtain any other. It is remunerative, but exceptionally rough work. The gum is largely employed in the manufacture of varnish, and forms an admirable substitute for amber in the manufacture of the mouthpieces of pipes. The timber of the New Zealand Kauri, Agathis (Dammara) australis, is considered by some experts the most valuable in the world for general purposes.

In 1888, a syndicate of Melbourne and New Zealand capitalists purchased the mills, the vast Kauri reserves, and rights of the various companies and private owners in the Province of Auckland, and the Kauri Timber Company, Limited, was subsequently formed with a capital of £1,200,000. The Company acquired twenty-eight mills, 163,000 acres of freehold and 265,000 acres of leasehold (since added to), estimated to contain 1,700,000,000 feet of standing Kauri timber. One of the leading mills is at Auckland, over which Mr. Brood, the manager, was good enough to show me. Here, in the busy season, some 400 hands are employed in every variety of work—on the conversion of large stems, 8 to 9 feet in diameter, to almost every conceivable purpose to which wood can be applied. In the yard of the mill lay several 18-inch square long piles, ordered by the Admiralty; and in the upper floor, 6000 doors of one pattern, made from wood seasoned for two years prior to use, and subsequently left for nine months before export, formed a respectable heap. Such a door costs the builder 9*s.* From the huge size of the branchless trunks, the wood is absolutely without knot or flaw. All is done by steam, even to dovetailing, an operation performed by a small but intricate machine. By this means, so accurate is the work, that errors are literally impossible, and putty unknown throughout the whole mill. Hundreds of saws are constantly at work, from the tall vertical blade with teeth inches long to the minute fret-saw worked by boys. Wheelbarrows, windows, mantelpieces, doors, &c., are turned out wholesale, Mr. Brood claiming the joinery to be second to none.

Specially fine planks, 6 to 7 feet in diameter, are kept in limited quantity for counters, &c., and all "mottled" Kauri, much valued, is put aside. It seems scarcely clear what causes the peculiar wavy bands occasionally met with in the wood. Mr. Brood ascribes it to disease; Mr. Kirk to the growth of the bark not keeping pace with the development of the wood tissue, so that flakes or small portions of bark are enclosed by the sap-wood, become indurated under excessive pressure, ultimately forming dark patches on a light ground. Most of the saw-mills are being worked naturally in or near the Kauri forest; even then the handling of such large stems offers difficulty from the nature of the rough and broken ground it usually affects. Various are the devices by which the huge trunks are brought beneath the "breaking-down" saw.

Where possible, a stream is made use of, often rolling roads have to be formed, and on steep slopes "skids" are the means of transport. Most useful, however, is "the jack," in the use of which the bushmen are well versed. Necessarily laborious as the moving of such large masses of timber must be, it is yet considerably lightened by the dexterity with which this invaluable aid is handled.

Kauri forests have been purchased at from 2*s.* 6*d.* to 5*s.* per acre, but the present price is much higher—in fact, good forests are almost all taken up now. Owing to the depression in Australia, one of the chief if not *the* chief market, the timber now being cut is in excess of the demand, and many mills are closed. Such is the supremacy of the timber for nearly all purposes, this can but be temporary.

Oranges do well in the neighbourhood of Whangarei. I saw one orchard in fine condition. Even as far south as Napier the climate is too cold, though Lemons bear well and are hardier. As a rule, however, the large Oranges from Fiji are greater favourites in the market. Near Whangarei the bush in parts is very rich. I visited a hill—the property of the station-master—and have rarely seen a more luxuriant vegetation.

Libocedrus Doniana—restricted to the northern portion of the North Island—is a Conifer of great beauty in a young state, though I have not met with it in a large state. It is unfortunate we cannot grow it freely, as for horticultural purposes it would prove above the average.

Areca sapida is common, and makes fine trees 20 to 30 feet in height. The pith is said to have formed the staple food of the natives, and the stems have been used in house building. Planted in open spaces it will not do, and when left after a bush clearing, the foliage diminishes to a quarter of its normal size, clear evidence that shade and moisture are among its chief requirements.

Cyathea medullaris grows freely, often attaining a height of 30 feet, though one in particular I have seen was measured and found to be over 50 feet. I think, however, smaller specimens with their gigantic fronds are more impressive. C. dealbata is also at home, though it does not attain a greater height than 12 to 15 feet.

Phyllocladus trichomanoides, "the Tanekaha," is very handsome, and its Fern-like foliage most curious. The wood is valuable and durable, and Mr. Kirk states that in places it is extensively used. As common as any tree in the district, are Corynocarpus lævigata (the Karaka), and Vitex littoralis (the Puriri). The former forms evergreen bushes and trees 20 to 50 feet high, with foliage of the glossiest green often 6 to 9 inches in length, surmounted by panicles of orange-coloured fruit. The latter, a round-headed tree, the foliage reaching in an unbroken curve to within a few feet of the ground, bears broad shiny foliage, with three to five leaflets, and an abundance of dull crimson tubular flowers; a few may be seen even at this season, though the seed, now rapidly changing from green to red, has, as a rule, replaced them. The wood is hard to work, and though excessively durable, is therefore expensive. For ornamental purposes, it will ever hold a front rank amongst New Zealand trees.

Another very handsome tree is Beilschmiedia Tarairi (the Taraire), restricted to the Auckland district. The foliage is massive, 4 to 6 inches long, broadly obovate, and dull green, densely clothing the tree in its young state. It attains the proportion of a good sized tree, and I have met with some 70 to 80 feet high; though, as a shrub, it is almost more

ornamental. Its rich purple Plum-like fruits, 1¼ to 1½ inches in length, are numerously borne at this season, and are of considerable beauty.

Drimys axillaris, the Horopito, or Pepper-tree of the settlers, a tall, ornamental shrub, is common; Alectryon excelsum, the Titoki, is remarkable for its singular fruit, many of which may now be seen. Mr. Kirk describes it as follows: "When ripe it is ½-inch in length, and almost woody, with a flattened crest on the upper portion, terminating in a spur-like prominence on one side; when the seed is ripe the fruit-vessel becomes ruptured transversely, but not along any definite line." The single black seed is encased in a fleshy aril of the richest scarlet—a pretty contrast.

The foliage of Olearia Cunninghami, the Heketara, always stands well out, 2 to 5 inches long, with broadly distant acute teeth, and entirely white beneath. Either as a shrub or small tree it is very distinct in general appearance.

Coriaria ruscifolia, the Tripakihi; Pseudopanax crassifolium, the Horoeka; Knightia excelsa, the Rewarewa, all mentioned in my last letter, are also met with in the bush around Whangarei.

Probably the best known of New Zealand timbers after the Kauri is the Totara, Podocarpus Totara. For certain special purposes it is even superior to its great rival, more especially for marine piles, as it resists insect attacks, to which the Kauri succumbs. In this respect the Totara bears to the Kauri the same relation as the famous Western Australian Jarrah bears to the Karri. Jarrah, I am told, has been tried in New Zealand for marine pile work, but is not found equal to the Totara, a result I can scarcely credit.

I recently met with a few trees of the Totara. It is rarely found in large quantities, and in most districts is all but extinct, so wholesale has been its destruction. The bark is deeply grooved or furrowed, the stem is from 2 to 6 feet in diameter, and the tree from 80 to 100 feet in height. Its chief defect is said to be its extreme brittleness; it is easily split, and no other is used for telegraph-posts in the North Island.

I returned from Auckland by boat to New Plymouth, and thence overland to Wellington. Landslips, owing to the excessive and continuous rain, are common, and twice the journey was thus interrupted, and trains changed. But a few days since a train was caught between two, and the occupants confined part of a day and all one night without food. *James H. Veitch.*

(To be continued.)

FORESTRY.

PROTECTION OF WOODS FROM GALES.

From time to time, and at more or less frequent periods, our woods are devastated by gales of exceptional strength and velocity, and we hear heart-rending accounts of ruined plantations and glutted timber markets. That wind is one of the worst enemies with which the forester has to contend, scarcely requires mentioning, and yet we are probably not far out in saying that any intelligent and effective system of rendering woods comparatively wind-proof, is seldom adopted in Great Britain. The general and most prevalent idea seems to be that the whole matter depends on thinning. Some advocate thick woods in order to exclude the wind, while others favour free thinning so that root and stem may be sufficiently well developed to confer stability and power of resistance. Both of these arguments are sound so far as they go, but in many cases the wind goes further, and exposes their weak points. That thinning is an important matter is beyond question, but it is not everything, and we may briefly glance at the most important points which present themselves in examining this subject.

The injuries caused by gales to individual trees may be of an irreparable, or only of a temporary nature. By an irreparable injury, we mean the overturning of the tree at the roots, or the snapping off of the stem at some point below the crown. A temporary injury may consist in the tearing off of one or more side branches, or the loss of a leader, either of which losses may be remedied by subsequent growth, with or without artificial pruning.

Causes of Uprooting.

Generally speaking, the blowing down of a tree results from one or a combination of three causes: decay of the large roots, a relatively weak root-system, and excessive wetness of the ground. The first-named cause is most frequently responsible for the overturning of large and old trees in parks and hedgerows, and Elm is especially subject to uprooting from this cause. A relatively weak root-system may be occasioned either by its shallowness, or its poor development. A shallow root-system invariably occurs on thin soils with a hard or infertile subsoil. Shallow roots grow on, rather than in, the soil, and no great force is necessary to destroy the equilibrium of a tree possessing such roots. Badly-developed roots usually result from overcrowding or bad health; but it must be remembered that the power of resistance of the roots depends in a great measure upon the shape and height of the tree. Two primary forces act upon a tree during a storm, the one being its own weight exerted in a vertical direction, and the other the pressure of the wind exerted in a horizontal direction, the resultant of the two forces representing the power of resistance necessary for the roots to possess to ensure stability. Now, the equilibrium of a tree (or any other erect cylindrical body) is greatest when the perpendicular from its centre of gravity falls exactly in the centre of its basal area, and this can only occur when the weight is equally distributed round the axis. The wind also exerts so much the more force or leverage upon the roots the higher up the stem it is applied, and the absolute pressure depends upon the surface of stem and branches presented to it. As the stem represents a lever, it is clear that a given amount of pressure on a well-developed but shallow crown on the top of a high stem, will throw a greater strain upon the roots than the same pressure applied to a tree whose branches taper gradually to or near to the ground. In the latter case the centre of gravity is much lower down the stem than in the former, and the tree with a tapering crown more closely approaches to a state of stable equilibrium, and is thus able to dispense with a strong root system, or, in other words, the latter is put to much less strain than in the case of the top-heavy tree. With long slender stems having shallow crowns, another force comes into play besides those already mentioned. This is the momentum which the crown acquires in being swayed to and fro by the wind. The heavier the crown in proportion to the strength and rigidity of the stem, and the greater its height from the ground, so much the greater will be the momentum. This force, however, is not only exerted upon the roots, but also upon the whole length of the stem, and the amount of strain the latter will bear depends upon the toughness and elasticity of the timber. When this force exceeds the resisting-power of the roots, the tree is blown down when it exceeds the breaking-weight of the stem, but not root-resistance; it is snapped off at the weakest point between crown and root. This latter catastrophe frequently occurs in Coniferous woods when a hitherto thick and crowded crop of poles has been severely thinned, and the trees isolated from their neighbours.

The third cause of uprooting, excessive moisture, may be brought about by an exceptionally heavy rainfall preceding a gale, or by stagnant water resting on the surface. In either case, the soft and spongy condition of the soil destroys that intimate adhesion between the soil particles which exist in well-consolidated land, and the roots are easily withdrawn from the matrix in which they are embedded. This form of uprooting is especially to be feared on peaty land, both on account of the low density of the soil, and the great power it possesses of absorbing moisture.

The temporary injuries to which we have alluded most frequently occur to trees with large and wide-spreading crowns, such as hardwoods which have been allowed free space for development. From a purely sylvicultural point of view they are unimportant, and affect the arboriculturist to a greater extent than the forester.

Preventatives.

We may now proceed to see what means are at our disposal for protecting our woods from these injuries. Evidently there are two directions in which we can work: one by increasing the tree's power of resistance; the other, by decreasing exposure to the wind. We have already seen that a tree's equilibrium is greatest when its branches extend equally in all directions round the axis of the stem, and it possesses a conical crown of a fair depth. A very slight acquaintance with the laws of growth will enable one to see that free space for development is necessary in order to obtain trees of this character. But even when obtained, such are by no means ideal timber trees. The aim of the forester is the production of clean and marketable timber, and not the growth of trees best suited to withstand storms. His trees should be clear of large branches for at least two-thirds of their height, and with some species close order during youth is absolutely necessary for this purpose. The growth of storm-defying specimens must therefore be limited to the margins, and greater importance attached to decreasing the actual surface of the main crop exposed to the wind. As the latter always moves in a practically horizontal direction, it is only a vertical or deeply-inclined surface that feels the full force of a gale. In the case of a compact mass of trees, only the outside individuals would present such a surface to the wind. Even these, if fully exposed from the first, will possess a more or less semi-conical outline of crown, and in very exposed situations a gradually inclined plane will be formed from successive rows of crowns for a considerable distance into the wood.

The chief points to be observed, then, in securing immunity from storms are: fairly free thinning during youth round the margins of the wood, never cutting a marginal tree, keeping all parts of the wood free from gaps, avoiding the occurrence of any abrupt differences of level in the horizontal surface of the crowns, attention to drainage and removal of stagnant water, &c.

But as in British forestry mature timber is sometimes felled before it is absolutely decayed, and as the clearing of a large wood cannot be effected at once, it is impossible to avoid gaps and differences of level when cutting on a large scale begins. The most risky system of felling is that of gradually cutting out the best, or the worst trees, as the case may be, until nothing but a sprinkling of trees is left. This system is a frequent cause of disaster in Coniferous woods, where the trees are more or less top-heavy. So long as the crowns are in touch, or fairly close to their neighbours, the swaying to which we have alluded is reduced to a minimum, while the wind cannot exert its full force upon an unbroken canopy. But when gaps in the latter are made by felling, the wind soon begins to enlarge them, and the effects of this inroad may be felt not only upon the spot, but at more or less distant and younger parts of the wood.

The best method in a large wood is that of clearing a convenient area at regular intervals, beginning in that part where least danger from storms is to be feared. In most districts, this would be the north-east corner, as our most severe gales usually come from the south-west. Conformity and slope of the ground, however, must be considered in deciding this point, as a valley would be less likely to suffer from storms crossing it at right angles, as from those sweeping up or down its length. The shape of the clearing may be either a square or oblong, or may take the form of a strip or band. If each periodic clearing be replanted, and the work steadily proceeded with until the whole of the old wood has been removed, the young crop should present a series of steps, the lowest being on the windward side, and the highest and oldest on the leeward. By such an arrangement, the wind coming from the usual quarter would meet with no sudden check, but be gradually raised from the level of the ground to the top of the highest section at the opposite side of the

wood, supposing the latter is standing on level ground. The number and size of the compartments or sections will, of course, be regulated by the area of the wood, the degree of maturity of the timber, and the desirability of clearing the old crop off rapidly or otherwise; the undulating ground, all knolls, and eminences should be cleared in such a manner as shall prevent the succeeding crop from being suddenly exposed after the trees have attained any great age and size.

Of course, work of this kind entails a little system and forethought, two things which most estate proprietors appear to consider unnecessary elements in wood management, and opposed to all sentiment. But if our woods are to be rendered secure from the severe gales which sweep over these isles more or less frequently every winter, some such system as the above must be adopted, and it will perhaps be found preferable to have regular and moderate clearings, carried out by human agency, than to allow Nature to clear our woodlands for us in her own way. *A. C. Forbes, Bowood, Calne.*

A NURSERY IN THE MAKING.

One would be almost justified in saying that Mr. Mount's nursery at Folkestone is made, but it is quite evident that Mr. Mount himself is not of that opinion, and that the place is still in the throes of evolution, and its growth is so far from completed, that more acres are likely to be annexed "just to allow the Tea Roses to get the benefit of virgin soil, you know." The nursery is situated within two or three minutes' walk of the Central Station at Folkestone, in a bleak wind-swept situation, on the greensand plateau that extends from the range of chalk hills to the sea-coast a mile or so away. It is not two years' old yet, most of the houses, indeed, are not more than six months' old. They have been built by the proprietor himself, they are light, airy structures of the modern type, excellently adapted to their purpose, ventilated in a very simple and efficient manner, on Kinnell's system, and heated by a terminal saddle-boiler, and an adequate supply of piping.

What has been done in six or seven months only affords a lesson to distressed agriculturists. We are far from supposing that the conditions and possibilities are the same for the farmer as for the gardener, still the underlying principle is the same, and it is impossible not to be struck with the value and the number of the crops the gardener gets out of the land in a small time, as compared with the poor results obtained by the farmer.

These six-months-old houses, ultimately destined for pot Roses, have already brought to perfection a bumper crop of Tomatos. Now they are filled with Chrysanthemums for cutting, and when these are over, they will be filled with Cucumbers. The Chrysanthemums are not grown for exhibition, they are not disbudded or mutilated in any way, for Folkestone people have the good taste to prefer a plant *au naturel* to one disfigured by the art of the gardener. And the fine billowy masses of such varieties as "Source d'Or," and of one or two good white varieties show what good judges the Folkestone people are. The Folkestone air goes for a great deal. It is pure, fresh, invigorating to a degree, and damping-off is not to be dreaded. Princess Teck, a variety with white flowers flushed with rose, is largely grown, and Golden Gem shows the effect of the sea air in its vigorous, succulent, deep-green foliage and bronzy flowers—not yellow as they are inland. This succulence and vigour of foliage consequent on the sea air is noticeable in many plants here, as well as the Chrysanthemums, e.g., in the white Arums.

Marguerite Carnations do well; they were planted out and lifted in October, and placed in 32-pots. The plants are not remarkable, but the blooms are very serviceable, and even the single ones find favour—another illustration of the good taste of the Folkestone people. Small Palms for decoration, Heaths, Chinese Primulas, Cyclamens, Swainsona, Pteris tremula, are grown in profusion, and these plants afford a fair indication of the style of gardening done at Folkestone. Private gardens, indeed, are rare and tiny, but window decorations, balconies, small conservatories, and such-like, are abundant, and table decorations consume large supplies of appropriate plants. Various Retinosporas, ericoides, squarrosa, &c., are grown under glass in pots for table decoration, and a very beautiful effect they produce; but it is curious to observe how growth under these conditions alters the appearance of the plants, so that varieties with which one is, or supposes oneself, to be perfectly familiar out-of-doors, when drawn up under glass, are hardly recognisable.

Every preparation is being made out-of-doors for the growth of Tea Roses, and there can be little doubt that a full measure of success will be obtained, for, in spite of a bleak situation, and occasional violent winds, the winter cold is not so severe as it is inland, and the colour and substance of flowers by the sea are notorious.

Doubtless, it will not be long before Mr. Mount will set to work to supply the shrubs and trees suitable for the seaside, such as Austrian Pines, Cupressus macrocarpa, broad-leaved Privet, Escallonia macrantha, Tamarix, Atriplex Halimus, Lycium barbarum, Evergreen Oaks, Common Bays, Gorse (double and single), New Zealand Veronicas, &c.

A selection of the best herbaceous plants is also to be grown, and even up to this time Stocks, Lady Albemarle Godetia, Tagetes, Mignonette, and others are in bloom, and would continue so well into the winter were it not for the fierce gales which destroy them more effectually than the frost. People who know Folkestone in its spring aspect must admire the brilliant golden shoots of the Japan Euonymus at that season. Just now the shoots, which will be a blaze of golden colour in the spring, are of a delicate shade of green, contrasting remarkably with the older deep-green foliage.

Mr. Mount, like a true man of Kent, has hoisted the "white horse" of Kent as his emblem, and taken the proud Kentish "Invicta" as his motto, and when one sees what his quiet energy has affected in Canterbury, one cannot doubt that a prosperous career is in store for him also in Folkestone, now separated from head-quarters by a railway journey of half or three-quarters of an hour only.

JAPANESE PLUMS.*

Of these fine Plums, I wish to state that my experience is limited, but so far as tested on my ground, the fruits far exceed my expectations, and I believe this is true in all parts of the United States where they have been tried. No fruit of recent introduction is meeting the expectations of fruit-growers throughout the entire country equal to these Oriental Plums; their good quality, size of the fruit, smallness of pit, earliness in bearing, great productiveness, handsome colour, freedom from insect pest, long-keeping, and shipping qualities, they are just the Plums to recommend as fit companions for our finest native varieties, and I predict that our cross-bred seedlings of these Orientals, and our Plums, will in the near future make Iowa one of the best Plum States east of the Rocky Mountain region, but this will not be done without hard labour and expensive biological work. In order to create new varieties, cross-fertilisation must be brought to bear. We are standing face to face with a new and more scientific pomology than the most profound student can fully realise, we have taken but few steps in the direction of permanent success in the higher development of Plum culture in our State. We must become students of the conditions that surround us, and use our native fruit as a basal structure to build on, and gain by practical demonstrations a knowledge how to combine the good qualities of native plants with those of foreign origin that possess those qualities which our fruits lack.

These Japanese Plums on my ground have been, so far, a surprise to me, especially their power to endure a low temperature, having withstood 26° below zero without injury, remaining sound to the terminal buds; and the past season the Burbank and Ogon bore a heavy crop for such young trees, and these same trees that bore so heavily this year are extremely full of fruit-buds for the coming crop next year. This indicates great productiveness, and that these Plums bid fair to be heavy annual bearers. Just why these fruits from a mild and genial climate should have such power of endurance in our cold continental climate, one thousand miles removed from the modifying and ameliorating influence of the sea, has been a puzzle to me. By watching them side by side with our hardy natives for the past four years, I have been forced to the conclusion that there was a close relationship between our natives and these Japanese introductions, and that in the pre-glacial climate they had a common origin in North America, in the region of Greenland and Alaska, when that section of the globe was blessed with a climate more temperate even than ours; or it may be possible in the great prehistoric past, geological convulsions destroyed their former continental home in the Pacific Ocean, that at that time may have been connected with North America in the north-west.

Their habits and growth are so much more in harmony with our native Plums than those from Europe, that I am quite sure at one time the continents of America and Japan were connected, and either the climate of Japan then more resembled our present climate, or these Plums and our natives had a common origin. Such hardy Chicasas as Golden Beauty, Honey Drops, Chas. Downing, Col. Wilder, and Wild Goose, also of the minor group, like Hanner, Rockfort, are the varieties that connect our native Plums to these Oriental sorts, like Satsuma, Burbank, Yellow Japan, Ogon, &c. These points of similarity are the early shedding of the leaves, and maturing of the wood, like our Plums named above; also the colour and roughness of the bark, and the fibrous conditions of the inside skin of fruit; and doubtless there are many more points of resemblance that will reveal themselves as we closely study and compare them with our native kinds. However, we must not expect too close a resemblance, for they have been separated for thousands of years, and the conditions that have surrounded them were so radically different it has almost blotted out their connection. When we realise that these Orientals became separated from our natives, and existed in a more genial climate, and show the influence of a high civilisation for unknown ages, while our natives had to struggle against a relentless warfare of elements in climate, savage beasts, wild and destructive races and tribes of mankind, left entirely to Nature's law the "survival of the fittest" in the great struggle for existence, the only wonder it seems to me is, that under such different conditions and treatment for ages, we can find a trace of their origin and relationship. I have expressed my views to some of our pomologists, and will give brief extracts from a few of the letters bearing on the subject. P. J. Berckmans of Augusta, Ga., says:—"Your ideas of a connecting link of the flora of Japan with that of the North American continent coincides with what my dear old friend the late Professor Asa Gray once told me, that he found a wonderful similarity between some of the plants of the United States with their congeners from Japan, which made the study of the latter so very interesting to him. You modestly term yours a wild idea; permit me to say that it is far from such, and really in your letter you but substantiate facts." Professor Bailey of Cornell University, New York, says:—"I am much interested in your letter upon the Japanese Plums. The fruits of Japan and the United States are really closely related; the two countries were once connected at the north-west, and the flora of both originated far north, and driven far southward by changes in external conditions." Prof. G. Goodale,

* By Dr. A. B. Dennis, Cedar Rapids, Iowa. Read before the South Eastern Horticultural Society, December 5, 1893, at Ames, Iowa.

of Harvard University, Cambridge, Mass, says:—"You will find in the article Sequoia, in Dr. Asa Gray's Darwinia, an account of his views in regard to the relation existing between the vegetation of Japan and parts of the United States; it is very interesting to know, that you have independently by your study of Plums arrived at the same conclusion as to many points." W. A. Taylor, Assistant Pomologist, United States Department of Agriculture, says:—"In regard to the Japan fruits about which you write, I am glad to receive your report concerning them, your conclusion that they must have been natives in a more severe climate than that of Japan, is no doubt a correct one." Prof. C. S. Sargent, who has devoted much time to the investigation of Japan trees, and who spent the summer in Japan this year, states, that he finds no wild representatives of the species to which the cultivated Japanese Plums belong." J. L. Normand, of Marksville, La., writes:—"I find that the Japanese Plum has a wide geographical adaptation in the United States, most of them will succeed from the great lakes to the Gulf Coast; and as to their relation with our native sorts, the more I study them the more I find that they spring from the same race of Plums. The flora of Japan and the United States has a close resemblance in many of our wild plants." Prof. C. C. Georgeson says that "the common Wild-fox Grapes of this country (Vitis labrusca) grow wild in Japan." These plants are silent witnesses which unmistakeably prove that this continent was once connected by land with Asia. The American Indian, with his high cheek bones and Mongolian features, is strong evidence that they are of Asiatic origin. Here we have better proof than the ancient legend of the "lost Atlantis" that North America was once connected by land with Asia. In closing, permit me to say, if my conclusions on the affinity of these fine Japanese and our native Plums are true, it opens up a new era in Plum culture, for here we have introduced a fine fruit that doubtless is related to some of our hardy Chicases, and other natives. In their large size and fine qualities lies the condensed improvement brought about by the scientific combinations of the life forces of these Oriental Plums, so really to the Japanese horticulturist we owe much, for we at once can avail ourselves of the wonderful fruits it has taken perhaps thousands of years for him to develop, while our natives were left for Nature to improve them under the law.

I am willing my ideas should receive all that severe criticism can possibly bestow, for if true, I am not concerned about their reception or rejection; and if there are those that wish to combat them, they are welcome to the fruits of their victory; and if they can present better reasons for the splendid behaviour of these Japanese Plums with us, I am willing to accept and pull down all theoretical platforms erected in this paper. I am certain if further and more extensive experiments and tests are made with these Japan Plums, it will not alone greatly enlarge the boundaries of the science of pomology, but greatly increase our list and acreage of fine commercial Plums.



Fig. 84.—ANEMONE JAPONICA, "WHIRLWIND."

ANEMONE JAPONICA, "WHIRLWIND."

Under this name Messrs. Barbier, successors to Messrs. Transon Frères of Orleans, send us specimens of a peculiar variety of Honorine Jobert Anemone. The flowers are semi-double, and more than that, some of the outermost sepals are more or less leafy in character, so that a collar of green, more or less completely surrounds the semi-double white flowers. The plant is, we are told, as hardy and as free-flowering as the original form. The accompanying illustration (fig. 84), for which we are indebted to MM. Barbier, gives some idea of this novelty, but the flowers sent to us were considerably larger than those here shown.

The Rosary.

SHOULD ROSES BE PROTECTED IN THE WINTER?

This question annually forces itself upon our notice, and almost every season we modify our ideas more or less according to the way the Roses have come through the winter. One of our leading amateurs, whose garden is in the south, and by no means exposed, protects his plants to a greater extent than is done by any one else I have known. Compare this with the plan of one of our most successful northern growers, the Messrs. Cocker & Sons, of Aberdeen, who grow both Teas and H.P.'s without winter covering. We could scarcely have greater contrast than these two instances supply, and if both are successful, it at once occurs to me that the first example entails much unnecessary work and expense.

Roses are hardy; so are many other flowering shrubs; but all of them are more or less subject to influences in the matter of aspect, high or low situations, the presence of large bodies of fresh water, and the wet or dry condition of the soil. It would be folly to lay down any rule in this respect, as each must give a little thought on his own account. A plant well in the open, one which has grown more hardy in constitution than its fellow that was in a slightly-sheltered spot, will withstand several degrees more frost, simply because from the first it has been growing in a hardy manner. In the open, too, the plants are seldom exposed to those keen draughts found between buildings and walls when the wind is in an unfavourable quarter. On high land the whole surroundings are drier, and this, together with the fact of better-matured growth in such positions, has much to do with the apparent inconsistency of the effects of frost upon protected or unprotected Roses. The bulk of my plants are in an open field on a hill, with no protection whatever, yet they invariably pass through the winter better than a friend's at the foot of the hill and surrounded by trees, walls, &c. Early and more complete maturation, drier surroundings and freedom from what I must call damp or wet frosts, seem to me the sole causes of this difference.

In the selection of protective material, too, there is much to be said. Why rotten manure should be used for protecting the plants, at the same time that we consider that damp and wet are prejudicial during extreme cold, is one of the puzzles in Rose culture. Our plants certainly do not need manure whilst dormant, and yet the bulk of Rose growers still follow

the old plan of winter mulching with a substance so retentive of moisture that we use it freely for this same purpose during the summer. Whether laying high or low, I would discard rotten manure as a protective agent. If we use the more strawy portions, or shake short litter among our plants, it either soon gets sodden or else blows away into the most sheltered corners of the garden, and consequently where it is least wanted. Rather than use manure, draw a little of the soil around the base of dwarfs of all classes, this will afford ample protection for the base, while a few short branches or twigs set around and among the growth will afford considerable break to frosty winds, and at the same time not induce precocious growth. It is the latter, and the subsequent check from late spring frosts, which sets me against the plan of protecting our Roses, almost as if they were half hardy, instead of being more or less hybrids from, and worked upon, our native flowers. *A. P.*

NOTICES OF BOOKS.

THE NESTS AND EGGS OF NON-INDIGENOUS BRITISH BIRDS OR SUCH SPECIES THAT DO NOT BREED WITHIN THE BRITISH ARCHIPELAGO. By Charles Dixon. (London: Chapman & Hall.)

A further contribution to the number of popular books on ornithology by this author will be acceptable to many who are interested in this science, and whose text-books perchance give them information about foreign or about native British birds, yet but little or none concerning visiting or migratory species.

The fact is, that the subject has, as yet, but few students, and therefore information with regard to it is still scanty. Many species of birds are comparatively well-known as regards themselves and habits while on English soil, but details of their life abroad during the pairing and breeding season are still wanting, as also is certain knowledge of their eggs.

Therefore, we repeat, this book, devoted to the consideration of non-indigenous British birds, should prove welcome. It is carefully arranged, has a full index, good clear print, and one coloured plate, representing certain somewhat rare or otherwise remarkable bird's-eggs. The information given is gleaned concerning a yet little-explored ground, to the study of which it may attract that further study from experts which is necessary to ensure a more perfect knowledge of it.

FLORE COLORIÉE DE POCHE A L'USAGE DU TOURISTE DANS LES MONTAGNES DE LA SUISSE, DE LA SAVOIE, DU DAUPHINÉ, DES PYRÉNÉES, DU JURA, DES VOSGES, ETC. Par H. Correvon, Directeur du Jardin Alpin d'Acclimatation, à Genève. Dessins par A. Jobin. (Paris: Klinsieck, 52, Rue d'Ecoles. London: Williams & Norgate.)

This, the second volume of the naturalist's pocket library, is, as it should be, considering the purpose for which it is intended, of handy size and plainly printed on good paper. The little volume contains 144 coloured pictures, representative of such species of plants as the traveller is most likely to meet with, and these, if not delineated with the technical detail a professional botanist might require, are at least sufficiently faithful to enable the ordinary observer to name most of the flowers he finds. The little pictures are, in fact, pretty, but not flattered likenesses of alpine and other Swiss favourites, and as such add greatly to the usefulness of the book. In some cases, e.g., Cypripedium calceolus, the colouring is not quite what we should expect to see in Nature. Some scale of proportion should also have been added to the figures, for nothing is more misleading to the casual botanist than figures without a scale. The popular names in French, German, and English are given, and the technical descriptions are clearly and accurately drawn up.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

EXCESSIVE MOISTURE OUT-OF-DOORS. — The weather up to Tuesday, November 27, was mild for the season of the year, but owing to the late heavy rains, the external air is so moisture-laden as to call for an extra amount of artificial heat in most of the houses to prevent evil effects; considerable attention is required to avoid any excess of heat from this source, which would act just as prejudicially, by causing too great drying of the internal air. In the Odontoglossum-house most of the occupants are in active growth, and the young leaves, therefore, are very tender, and liable to spotting at the points, and large damp patches make their appearance on the old foliage, caused, no doubt, by the atmosphere being too much charged with moisture. When these appearances are remarked, it will be advisable to discontinue damping down for a few days, and keep the hot-water pipes lukewarm, not with the object of raising the temperature, but merely to admit of the freer use of the ventilators, every opportunity being taken on fine days to liberally afford air from without.

PLEIONES. — Notwithstanding the lack of light and sun-heat at the time when the pseudobulbs of these plants needed maturing, a greater number of flowers are being produced than in some previous years more favourable to growth and ripening of growth. The blooms are larger, and the colours more brilliant. Such popular varieties as P. concolor, P. maculata, P. lagenaria, P. præcox and its variety, P. Wallichiana will, in most collections, be going out of bloom, and require immediate re-potting, an operation which should be carried out before new roots push from the base of the new growths, for if delayed till these advance somewhat, many are certain to be injured. Whether ordinary flower-pots or those shallow pans that are in general use, be preferred, sufficient drainage-material must be afforded to permit the passage of the large quantities of water that these plants require when in full growth. Over the crocks it is necessary to place a thin layer of sphagnum-moss, so that the compost may be kept moist and the drainage unclogged by soil. Remove the pseudobulbs from the pots, and shake the plants out of the soil, cutting off any dead roots. It is not necessary to part every pseudobulb, but simply to repot them in clumps, the pseudobulbs almost touching each other. The compost may consist of equal parts of fibry-loam, peat, and sphagnum-moss, with a sprinkling of coasse silver sand, the whole being intimately mixed together before use. Where it is possible, the spaces between the bulbs should be filled in with the roughest parts of the compost, giving preference to the sphagnum-moss. After repotting, the plants should be placed near the roof of the Cattleya or intermediate-house, and be afforded little or no water before the young growths start away vigorously, or they may turn black and then decay. As soon as the roots are fairly active, water may be sparingly applied, and as the leaves develop, more frequent and liberal waterings will become necessary. When well established, supplement the usual waterings with weak liquid manure-water afforded about once a week.

THE HARDY FRUIT GARDEN.

By T. TURTON, *Gardener, Maiden Erlegh, Reading.*

BLACK CURRANTS, PRUNING, ETC.—To make the fruit garden appear as neat as possible, it will be well to finish the pruning of the bush trees, &c. The pruning of Black Currants will consist in a thorough thinning out of the wood in bushes which have become dense in growth, and in shortening back the young shoots to eight or nine buds. Bushes so treated are erect under a full crop of fruit, but if the growths are left full length, and the most straggling branches only thinned out, the result is the very opposite. Black Currants make handsomer and more easily-managed bushes if grown on a single stem for 6 inches above the soil. But in land where the branches are liable to die off, it is advisable to allow suckers to grow, selecting sufficient of these for fruiting branches, being careful when pruning each year to remove all that are not required to replace any dead branches. When the pruning is finished, the bushes should receive a top-dressing of rotted manure, and this may be covered over with surplus soil from another part of the garden; or where such manure is not easily obtained, the bushes should receive extra waterings with liquid from the manure-tank.

RASPBERRIES.—Established plantations of Raspberries may also be pruned at this time, and if there are newly-made plantations, they should be left until the spring. Where trellises are used, the canes should be trained about 9 inches asunder. If the canes are trained to stakes, and these were sufficiently stout in the first place, they should last good for two years — but any that have already been in use for this time, should now be replaced; and if the stakes were prepared last winter, and kept under cover, as I then advised, not only will they last much longer for being thus seasoned, but they are now ready for use. For strong-growing kinds as Prince of Wales and the newer Superlative, the stakes should be 7 feet above ground, four canes being tied to each stake. When the pruning and tying are finished, clear the land of any strawy litter left from the mulching applied in the summer, and pull up any weeds that may have grown. A top-dressing of rich, light soil should be given if the staple be heavy and retentive, and in the case of gravelly or light soil, a top-dressing of rich heavy loam will be beneficial, as will also be waterings from the manure-tank on all favourable opportunities throughout the winter.

PLANTS UNDER GLASS.

By J. F. MCLEOD, *Gardener, Dover House, Roehampton, S.W.*

WINTER-FLOWERING BEGONIAS. — Where a stock of these most useful plants is grown, the quantity of blooms they should be now producing will be a welcome feature in the garden, and although a plant here and there in the various houses is useful in creating a bright appearance, it is only when staged to form a group, and arranged with a carpet of small Ferns, and relieved by a few handsome Palms of about 18 inches high, that they look best, and they make a most interesting show in a small house by themselves. A temperature of 50° by night, with free rise by sun-heat, will be adequate.

GLOXINIAS.—Where bulbs were ripened-off early last season, and a sufficient rest has been given, a batch may now be put into heat for early spring flowers. Do not disturb the bulbs in this batch, but merely give a good watering, after which, when sufficiently dry, a top-dressing may be given of loam, leaf-soil, and a dash of Thomson's Vine and Plant Manure. This done, stand the pots on shelves in a warm house.

HELIOTROPE.—Plants for supplying cut flowers in spring or for furnishing purposes will be benefited by a slight dose of some sound artificial manure, provided there are plenty of roots, and these are in a healthy condition. Pinch the strongest growths, so that the energies of the roots be equally distributed amongst the branches. H. President Garfield is amongst the best for pot-culture, being of a robust dwarfy habit, peculiarly adapted for such purposes. Stand the plants on shelves or benches near the glass in houses where abundance of air is admitted, and keep the pipes slightly warm.

IVY-LEAVED PELARGONIUMS.—With a similar treatment as regards temperature and feeding, these will thrive well, pinching having been done at an earlier stage, should not be practised now. Place neat sticks to each plant, and secure the leading stem, slinging the remaining growths to the centre by a well-twisted thread of raffia. P. Souvenir de Charles Turner is one of the most reliable for early spring blooming.

LILIUM HARRISIANUM.—The first batch should now receive a little feeding, and this may consist of farmyard drainings, or of some chemical, but whichever is used it should be applied in a weak solution. Fumigate mildly on two consecutive nights if green-fly appear, and red-spider may be checked by syringing with soot-water. Stand the plants as near the roof-glass as is safe, in view of frosts, to promote a robust habit. Late batches may be kept somewhat cool.

CHRYSANTHEMUMS.—Preparations should now be made for putting in the cuttings of the later sorts, small pots and crocks should be washed, and the soil mixed together. It is well to prepare soil in sufficient quantity for the varieties to be propagated

during this and the following month. A beginning may be made with such varieties as W. G. Drover, Boule d'Or, the older Meg Merrilies, Madame C. Audiguier and others. Select cuttings of medium strength, avoiding those that are overgrown, and full of sap; preferably, select those which are slightly matured, as these make the best plants in the end. Cut square below a leaf, and make the cuttings about 3 inches in length. These should be placed round the sides of 3 inch pots, where they will root sooner than if put singly in small thumbs. Water should be given as soon as the cuttings are inserted. Put the pots in some cool place, where frost can be excluded, and stand them near the roof-glass; frequently damp the leaves, and shade from strong sunshine. It is not necessary at this early period that sheets of glass should be placed over them.

GENERAL WORK.—As the various houses undergo the annual cleaning, and the plants are passed through the hands from one place to another, it will be well to take any that are showing signs of weakness, or that have an untidy appearance, and place them in a suitable structure until an opportunity offers itself, when a thorough diagnosis can be made, and they can be either cut up for stock, put on the fire, or taken in hand with a view to restore them to health and vigour. This latter practice I believe is often a waste of labour, as in many instances young stock can be more quickly raised, and it will be less liable to give trouble in subsequent stages. Only the best of the plants then out of condition need be preserved for hospital treatment, and there will remain those that are to be cut up for young stock. In gardens where propagating quarters are limited, and the bottom-heat inadequate, it will be well to defer propagation for some time, but should these essentials be at command, I should not hesitate to put in cuttings of ordinary stove and greenhouse plants at once. Plunge the pots in tan or cocoa-nut fibre refuse, and give less water to the foliage. Aim at a steady temperature, and open the frame twice daily, when the moisture should be wiped from the glass.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

RHUBARB AND SEAKALE.—These roots may be forced in a Mushroom-house or other warm darkened place where a temperature of not more than 60° is kept up day and night, and a suitable degree of humidity is afforded. A higher temperature than this results in flavourless, drawn produce. Not a ray of light should reach the Seakale, but this is of no importance with regard to Rhubarb. When the roots of either are put into a forcing place, the light soil in which they are necessarily embedded should receive a good watering at the finish, to be repeated when it is found that the soil is getting dry.

NEW ASPARAGUS BEDS.—For this purpose it is advisable to prepare the ground at this season before hard weather begins, as it will then settle during the winter, and be in good order for planting. All land for this crop, whether intended for permanency, or merely for cultivating the plants for forcing purposes, should be trenched. In the case of shallow soils or infertile subsoils, the trenching need not be more than two spits deep, the bottom soil being well broken up, but not brought to the surface, but plenty of partly rotten manure, garden refuse, tree leaves, and such like should be incorporated with it. Manure in a rotten condition should be placed within one spit of the surface, in a layer of regular thickness. Heavy soils are also improved by receiving in the spring a good dressing of rotten manure, sand, and wood-ashes, or the ashes produced by the charring of garden rubbish unsuited for applying to soils unless charred. Always let the surface remain in a rough state as dug, the mellowing influence of frost and wind during the winter rendering it the better fitted for planting. If the garden is low-lying, place in the bottom of the trenches as much coarse manure and other porous materials as will have the effect of raising the surface of the soil considerably; the lower roots being then in a warmer and less moist medium, will be retained, whereas, otherwise, these would be sure to decay. When the soil and climate conduce to free growth, I would always prefer to plant in rows 3 feet apart, disposing the plants therein at 2 feet, and taking a crop from between the rows of Cauliflowers, Early London by preference, because of its smaller growth and quicker returns, as compared with Autumn Giant. This intercropping should take place the first year only. Under circumstances less favourable to the growth of this plant, it is better to plant in beds consisting of three or four rows each.

SEAKALE.—Advantage should be taken of a spell of dry weather to lift the entire crop that is intended for forcing in beds, taking care in doing so to remove every bit of root, as it will grow if left in the soil, and become a source of trouble. The best method of digging up the roots is to open a trench two spades deep on one side of the plot, and gradually fork out and undermine the roots, trench by trench, raising them with as little loss of root as possible. The long thong-like and useless roots may be cut off and placed in a basket, which will be found a more expeditious method than leaving them on the ground to be afterwards collected. The roots should be at once trimmed, all those pieces that are sufficiently strong for making sets being put aside, to be afterwards placed in a shallow bed of mould and covered with litter, to keep them from shrivelling, till they can be made into proper sets. The forcing roots should be laid-in closely in some convenient spot till required, leaving the crowns and an inch or two of the root above the soil. A little litter, tree leaves, or sifted coal-ashes may be laid over them in hard weather. The old variety does not take any harm from frost, but the lily-white variety, now so much prized, is less hardy, and should be protected.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

TOMATOS.—Plants with green and ripening fruits should have a free circulation of air given them night and day, unless during very frosty weather, sufficient fire-heat being maintained to keep the temperature at 55° by night, 60° to 70° by day, according as the weather is mild or cold. It should be borne in mind that at this season especially it is useless to coddle them in a close warm temperature with the idea of getting more blooms to set, and if fruits do set at this season it will be under the conditions of good ventilation. As a rule, Tomatos do not fruit satisfactorily if a good set be not obtained before the end of the month of October, and even during that month the flower-trusses being weak and the flowers deficient in pollen, every care is needed in impregnating them; and even with this attention the fruits are usually corrugated or deformed. Tomatos in pots should be watered not very copiously, keeping them on the side of dryness. The lateral shoots and lower leaves may be removed, but a little growth may be allowed at the top of the stem, so that the roots may maintain their activity. Those Tomatos which are planted out in beds will require a similar kind of treatment, letting the leading shoots grow whilst the fruits are swelling. The latter will hang on the plants for a long time after they are ripe at this season if the air is kept dry and the ventilation well attended to. As soon as the fruits are cut, throw away the old plants, young plants raised from seeds sown in a gentle hotbed about December 21 being more profitable. Young seedlings grow on quickly when the amount of daylight increases, and if they are kept near the glass and re-potted on when they require it. For early fruits there are no varieties better for cultivating in pots or planting out than Prelude, Ruby, Trophy, and Green Gage. The great demand in most families for Tomatos makes one quick to discover places where they may be grown to advantage. The plants often give useful late crops if planted out at the end of June or in July in late Peach or orchard-houses against the walls, pillars, or trellisses, keeping them to one stem, laterals and gross leaves being cut off, but allowing the leading shoot to grow as far as it will. The fruits keep well into the winter if frost be kept out of the house, and although the fruit may not be of so good a colour as those from a warm airy house, it is still very useful.

CUCUMBERS.—Much care will now be required to keep up a succession of shapely fruits, not bitter at the bottom. The heat must be kept steady at about 80°, the night temperature 70°, by day 80°, or higher with sun-heat, and air afforded, taking care not to admit cold winds or frosty air. When possible, close the house with sun-heat, damping the floors and walls. It is always advisable to cover the glass with mats or canvas, so as to keep the temperature steady, and the air moist. Water should be carefully afforded about once a week at this time of the year for those planted out in beds, and it should be of the same temperature as that of the bed; those growing in pots will perhaps require water at the root oftener than those planted out. Liberal top-dressing of manure will be required from time to time, and the fruits to be thinned—a very light crop of these being best; also the foliage or shoots must not get crowded. Top the points of the shoots, but not all at the same time. Towards the end of the month make a sowing of seeds for succession.

HOUSES OF MIXED POT-FRUITS, such as Peaches, Nectarines, Cherries, Plums, Pears, &c., that are required to fruit early in the spring, should now be put in order and started, cleaning, training, top-dressing where needed being finished. Afford a thorough watering to plants in pots, and cover them with litter or leaves, but not so that much heat is engendered. The fire-heat should be just sufficient to keep the temperature at about 45° for a fortnight, air being afforded on sunny days; the temperature rising from 10° or 15° by day, and damping the trees daily with tepid water.

STRAWBERRIES.—A hot-bed of leaves should now be prepared for starting the first batch, and if the pots are set upon the leaves for a time, keeping them as near the glass as possible, and the temperature of the pit at about 50° till they have made a start, they will succeed much better than if placed at once on the vinery shelves. When the bloom-trusses show, the plants may be removed to airy shelves, and the day temperature increased 10°. Previously to starting, turn the plants out of the pots and see if the drainage is in good order, removing decayed leaves, and affording them a watering of clear lime-water to destroy worms.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

ASTERS.—Where collections of these Michaelmas Daisies are grown true to name, and a careful selection has been made, a long season of flowering is obtained, and although the flowers are not very showy, they are extremely useful when frost has made outdoor flowers scarce. They are well adapted for decorative purposes, are easily grown, almost any kind of soil suiting them, and frost and snow have little or no effect upon them. Several varieties are suitable for planting among rock-work, such as Aster alpinus in several varieties, flowering in early summer, and growing only about 6 or 9 inches high. Alpinus speciosus, one of recent introduction, has large flowers of a dark violet colour, and flowers for a long season in early summer. It grows in a dense mass, with flower-stems of about 6 inches long. A. hybridus nanus, 1 foot high, flowering in October, rosy-lilac. Aster Amellus and its varieties bessarabicus and major, are dwarf, blue varieties of about 2 feet high, flowering in September. Robert Parker, although tall, being 5 feet high, is a pleasing blue, and is one of the very best for decorative purposes; A. novæ belgiæ, deep red, and A. novæ angliæ, rose-pink, flowering in October; A. dracunculoides, purple, 2½ feet, high; A. lævigatus, deep blue, 5 feet; A. Milleri, blush-white, about 3 feet high; A. dumosus, 1½ feet, white; and A. elegans, 3 feet high, white, all flower in September; A. ericoides, 2 feet, white; and A. Reevesii, 1½ feet, flower at end of August; A. versicolor, white and purple, 4 feet high; and A. v. minimus, white and lilac, 3 feet high; A. undulatus Drummondii, lavender; A. turbinellus, pale blue; A. thyrsiflorus; A. cordifolius, pale blush, dwarf; A. Archer Hind, pale blue; A. E. G. Lowe, pale lavender; A. Apollo, lavender-blue; and A. Purity, a fine white, are among the most useful of the many varieties of these now obtainable.

GENERAL WORK.—The beds having been cleared of the summer plants, the flower garden will present a naked appearance unless use has been made of some of the many beautifully-berried and foliage shrubs as advised in a former calendar. Every attention should be given to ensure thorough neatness in the flower garden; more especially will attention be needed where large deciduous trees abound. Lawns and walks should be frequently rolled, the former owing to the rains will be greatly benefited thereby. The walks also by being frequently rolled, become solid, and almost impervious to rain and frost, and less liable to become infested with weeds. Drains should be examined in case of heavy rains. Now that the leaves are all fallen, these should be raked out clean from underneath shrubs, or on the first rough wind they will be continually shifting from one part of the grounds to another. Save all the best Oak and Beech leaves to make leaf-soil for potting purposes,

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	DEC. 3	Special Sale of Hardy Perennials, Carnations, Picotees, Iris, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, Azaleas, Dracænas, &c., at Protheroe & Morris' Rooms. Clearance Sale of the Stock in Trade and Glass Erections, at the Nursery, Bolton Lodge, Wood Lane, Bradford, by order of Mr. Fred. Parker, by Protheroe & Morris (two days).
TUESDAY,	DEC. 4	Dutch Bulbs, at Protheroe & Morris' Rooms. Imported Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 5	Dutch Bulbs, at Protheroe & Morris' Rooms. Consignments of Japanese Lilies, and 200 000 Palm Seeds, Roses, Gladioli, &c., at Protheroe & Morris' Rooms. Nursery Stock, at Frettingham's Nurseries, Stapleford, by Protheroe & Morris (three days).
THURSDAY,	DEC. 6	Dutch Bulbs at Protheroe & Morris' Rooms. Clearance Sale of Fruit Trees and other Stock at the Osborne Nursery, Sunbury, by order of Mr. John Turtle, by Protheroe & Morris.
FRIDAY,	DEC. 7	Orchids at Protheroe & Morris' Rooms. Sale of Havana Cigars at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.2.

Change in the nature of Buds.

Is it possible by art to effect the transformation of a leaf-bud already formed into a flower-bud or *vice versâ?* The change occurs frequently in nature, but we doubt whether gardeners can make the change of set purpose. Still, it would seem to be quite within the range of possibility. To bring about the production of flower-buds where, without interference, leaf buds only would have been formed and *vice versâ*, is much more practicable. This is often confounded with the transformation of one sort of bud into another, but a little reflection will show that the two cases are very different. Our attention has been drawn to the matter by an article in the *Revue Horticole*, by M. DELAVILLE. This well-known practitioner, with a view to obviate the formation of Peach shoots with flower-buds only, cuts away the free end of such shoots immediately after the fruits have been gathered. A blind shoot which bears flower-buds exclusively with the exception of the terminal bud is called by the French gardeners a "chiffon." Such a shoot is, of course, objectionable, because when the flowers and fruits fall, nothing is left but long bare shoots which can extend only at the tips by means of the terminal bud, and which frequently shrivel and die. Such shoots, we may add, are not very common in this country, though no doubt they do occur but more generally in consequence of the fall of the leaf-buds. To remedy this, M. DELAVILLE, as we have said, prunes the shoot so as to leave only about half of it, and the result is the formation of leaf-buds on the remaining portion of the shoot mixed with flower-buds. The process is rendered more certain by the performance as soon as the fruit is gathered of the following operation. The blade of a budding-knife is passed obliquely through the bark and the sapwood as far as the pith. This incision is about a quarter of an inch in length, and is made just about the position of the second leaf from the bottom. The wound speedily heals, and induces the buds at the base of the shoot to develop as leaf buds capable of forming extension shoots in the spot where otherwise a fruit bud, and that, perhaps, an imperfect one, would have been formed.

The operation is important, as it secures that the tree shall be well furnished with branches, and that it shall not become bare by the death of incompletely formed shoots.

The diseases of Trees.

THOSE interested in the growth of trees, whether as park specimens or for timber-producing properties, will assuredly be interested in this valuable treatise.* In its German text it was known to a few, in its French dress to a few more, but it was high time it was made accessible to the English reader. In no other work that we are acquainted with, is the subject, within the limitations fixed by the author, treated so lucidly; in no other work are the details of the changes wrought by parasitic fungi in the fabric of the tree so carefully worked out. Previously to the publication of this work, there was little or nothing available for the use of the English student but the papers on vegetable pathology compiled by the late Rev. M. J. BERKELEY, and published in instalments in these columns. As these papers ran through several volumes, and were never separately reprinted, it is not now easy or convenient to study them, but for those who desire to do so, it may be convenient to mention that a full analytical index is given at p. 677 of our volume for 1857. Since BERKELEY took up the subject, however, the life-history of many of the fungi concerned has been more thoroughly investigated, and improved methods of research and observation have been devised. BERKELEY's work, however, for the time at which it appeared was excellent, and more modern research has, in many instances only confirmed his opinion.

In the present volume, diseases are considered according to the causes that produce them, such as parasites of all kinds, wounds, faulty state of soil, or unfavourable atmospheric condition. This is of course a scientific mode of procedure, and in the long run the best in practice, for, unless the causes of the disease are known there can be no such thing as cure. Still, the forester and the gardener require, in the first instance, to recognise the nature and symptoms, or rather the signs of the disease (for symptoms are subjective, and as such, not forthcoming in the case of plants), and these signs, though by no means passed over in this volume, are yet hardly set forth with sufficient prominence for practical use. Take, for instance, the "canker" of the Apple or the Beech. There is in this volume a clear summary of what is known concerning the diseased conditions, but it is placed either under the head of Nectria ditissima, or of injuries due to atmospheric influences, but how few gardeners have ever heard of or seen the fungus! Similarly, the appearances of Larch-canker are described under the head of Peziza Wilkommii—appropriately enough, no doubt, for the initiated, but not so conveniently for those who perforce have to pass from the known to the unknown, and by whom the meaning of "mycelium," "hymenium," "gonidia," "spores," and even of "cortex" is only imperfectly if realised at all. The Editor of the present work has recognised this, for while not altering the plan of the volume, he has added in many cases explanatory notes; and these, together with the brief summary of diseases, classified according to the plant, and part of the plant attacked, and an excellent index, do much to diminish the inconvenience we have alluded to. If in a subsequent edition the diseased conditions, as seen by the naked eye of an ordinarily good observer, could be described under a few general headings, such as "canker," "ulcer," "tumours," &c., before launching into details appreciable only by the trained student, the value of the book would be much enhanced.

The summary just mentioned is all too brief, and in subsequent editions this also should be largely extended. For instance, a few years ago, apparently from some climatal cause, the Lombardy Poplars in this country, and, we believe, on the Continent, suffered great injury, and their upper branches died, as in the case of stag-headed trees. We turn to the classified list of the volume before us, and under Populus pyramidalis (which, by the way, is hardly the correct designation of the Lombardy Poplar), the only statement we find is, "The branch and twigs die." A reference to a fungus Didymosphæria populina, described at p. 104, is given, but that description does not apply to the particular disease of the Poplar to which we refer. Removal of the heads of the trees in an avenue known to us checked the disease, and its traces are now no longer visible. So under Ulmus all the information about diseases of the Elm vouchsafed to us is this, "The leaves show vesicular blotches: Exoascus Ulmi." On turning to p. 135, as directed, we find, "Exoascus Ulmi produces outgrowths on the upper side of Elm leaves." One need not be a forester to know that this statement is meagre in the extreme, and that it does not exhaust the list of diseases to which Elms are subject. Under Cratægus, or Hawthorn, we find no mention of a very peculiar hypertrophy and hardening of the stem, apparently unconnected with fungous attack.

Whilst thus indicating a few of the weak places which frequent use of the original work has brought under our notice, we do so without the slightest intention to under-value what is, so far as it goes, the best work on the subject in existence.

The translation has been well done, and the preface, by Professor WARD, is what a preface should be, an introduction to what is to follow. Professor WARD, however, uses the term "pathology" in a sense which is not usual, but in this he is not alone, viz., as the equivalent of abnormal physiology, or as the "study of disease," rather than as the result of abnormal or morbid physiological action. The illustrations are excellent, and the work, as a whole, well got up. It will, we hope, do something towards the establishment here of a central institute, with local branches, for the study of vegetable pathology. In France and in Germany they abound, in the United States they may be counted by the score, but in this practical country we have no such separate department, though the excellent services rendered incidentally by the department at Kew cannot be over estimated.

* *Text Book of the Diseases of Trees.* By Professor R. Hartig (Translated by Dr Somerville, revised and edited by Professor Marshall Ward). London: Macmillan & Co., 1894.

Kew Bulletin.—The October number contains articles on Lathyrus fodder, descriptions of new plants, inclusive of new Orchids, bulbous Violets, and various other subjects. That pulse should be poisonous is a disquieting suggestion, nevertheless it appears that the seeds of Lathyrus silvestris do contain a poisonous alkaloid, which if partaken for a sufficient time produces most serious effects. Happily the alkaloid is volatile, and is dispersed by heat, so that by thorough cooking the evils may be averted. Horses who eat the seeds in their natural condition are grievously affected.

Linnean Society.—An evening meeting will take place on Thursday, December 6, 1894, at 8 P.M., when papers will be read on:—1, "A New Revision of Dipterocarpeæ," with lantern-slides, by Sir D. Brandis, F.R.S., &c.; 2. "On the Spinning Glands in Phrynus," by H. M. Bernard, F.L.S., &c.

National Chrysanthemum Society.—A meeting of the general committee was held on the 19th inst. at Anderton's Hotel, Mr. R. Ballantine in the chair. The secretary reported the awards of Medals made to miscellaneous exhibits at the November show by the Arbitration Committee, and the same were unanimously confirmed. The Secretary also reported that the prize-money awarded at the November show would be paid in the coming week. A financial statement was submitted by the secretary showing that the sum of £391 had been received as donations, subscriptions, entrance-fees, sale of tickets, and catalogues, &c. After some discussion, it was resolved that exhibitions should be held at the Royal Aquarium in October, November, and December, viz., on October 8, 9, 10; November, 5, 6, 7; and December 3, 4, 5. In the course of the discussion which followed on the proposal to hold the November show on the above dates, a desire was expressed by the plant-cultivators and exhibitors that November 12, 13, and 14, be fixed upon in preference to the earlier dates, but it was felt that the alteration would injuriously affect many of the London suburban societies, and the earlier dates was fixed upon. It was suggested that more frequent meetings of the Floral Committee might be held during the months of October and November, and it was referred to the Floral Committee to consider the same. Eighteen candidates for membership were elected, and the South Australian Gardeners' Society and the Banbury Chrysanthemum Society were admitted to affiliation.

"Wayside Ireland."—This is a brief record of a holiday trip from Cork through Connemara to Achill Island, and back, undertaken by Mr. W. Baylor Hartland. The reader will be delighted and amused at the originality and humour of the writer, and he will be still better pleased at the shrewd observation and practical suggestions which Mr. Hartland is so capable of making. The excursionists were in high good humour throughout, and their good spirits are infectious, as the reader will find when he comes to read this little pamphlet. The beauties of Kilkee and Lisdoonvarna are duly descanted on. At Ballyvaughan the Riccarton Fuchsia thrives, and Dahlias live out all the winter, and become huge bushes of bloom. Galway forms a great contrast to busy Cork. "The west of Ireland has its truly magnificent scenery, beauty, and attraction, but trade, none"—though the amusing account that immediately follows of the sucking-pig market shows that at least some trade is done. Ireland, says Mr. Hartland, has nothing but agriculture to live on, and it is not half worked, at sea or land, for want of proper teaching; and then he goes on to recommend the establishment of State Agricultural Schools in every province of Ireland. "This, with peasant ownership, would have saved the Crown a lot of trouble, and made poor Paddy better able to meet Free Trade Laws than going out moonlighting, and making silk and ermine for lawyers. Connemara," he continues, "should have been state-planted years since." The state of agriculture in Achill Island is, as might have been expected, not in a very forward state—"Potatos in lazy beds, Oats wretched, Rye worse. Women in the fields reaping with a hook; and where crops were cut, fetching home the contents along the road on their backs to be stacked near the houses." We refer the reader to the proposals made by Mr. Hartland for the improvement of Achill. "In twenty years, *under a paternal care* (the italics are the author's), the whole island would be revolutionised, as from once the farms got into the hands of peasant proprietors, in suitable portions, and that they were technically



Fig. 85.—Eucharis grandiflora. (see p. 666.)

educated, clauses enforced against subdivision, there should be no fear of Achill and its inhabitants." The author concludes thus:—

"And my pen gets at the bottom of a page which being finished. Here the story ends.
'Tis to be wished it had been sooner done,
But stories somehow lengthen like journeys when begun."

We do not wish to be uncomplimentary to Mr. HARTLAND, but we do not agree with his conclusions, for we have not found a dull paragraph throughout his "untutored" pages.

DEAD POULTRY SHOW.—The first Christmas table-poultry exhibition will be held in connection with the Smithfield fat cattle show at the Royal Agricultural Hall, London, on December 11, 12, and 13, next. The object of the show, says Sir WALTER GILBEY in a communication with which he has favoured us, is to encourage, amongst farmers and others, the production of a larger supply of table poultry, of improved quality, and to prevent the increase of poultry importations into this country from abroad. We paid foreign countries during last year £4,450,598 for eggs and poultry alone; within a period of twenty years our imports from abroad have increased by nearly 450 per cent., and still show a constant advance. This large import, together with our home productions, has been insufficient to supply our requirements in the matter of table fowls, particularly of good quality. It is only in the cities and large towns that poultry can be obtained which is of first-class quality for the table. But very few of the large number of those who keep poultry consider it necessary to "prepare" them for the market and table use. It is to be hoped the lessons to be learnt from the specimens on exhibition will lead to a better knowledge as to the most suitable breeds, and the methods of feeding, fatting, dressing, and preparing poultry for the market and table use. One of the conditions of entry is, "the birds must be sent killed and plucked, and the breast-bones unbroken." The prize-list contains thirty-eight classes, for dead fowls, ducks, geese, turkeys, guinea-fowls, pigeons, and rabbits; the prizes in each class are 40*s.*, 20*s.*, 10*s.*, and 5*s.*, and, in addition, ten silver cups, two gold medals, and ten silver medals. The cups and medals are given as special prizes by the Corporation of the City of London, the Poulterers' Company, the Mercers' Company, the Drapers' Company, and the Royal Agricultural Hall Company. The last day for the receipt of entries is Saturday, December 1 next.

A BULBOUS VIOLET.—In the last number of the *Kew Bulletin*, Dr. STAPF calls attention to a curious little bulbous Violet found in the Himalayas, at Bussahir, at an elevation of 10,500 feet, and by Sir JOSEPH HOOKER, in Sikkim, at 12,000 feet. There has been some confusion about the identity of the species, but Dr. STAPF adopts the name proposed by MAXIMOWICZ, namely Viola bulbosa. The bulbs attain the size of a pea, and are made up of 4 to 8 fleshy scales surrounding a central axis. The scales are the thickened bases of modified leaves. Above the bulb the axis is prolonged into a short slender stalk, ½ to 2 inches long, terminated by a rosette of leaves, from the axils of one or two of which proceed the flower-stalks, and the flowers are white streaked with purple.

NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION).—The annual general meeting of the above Society was held in the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on November 24, by kind permission of the members. EDMUND CHARRINGTON, Esq., presided. The President, Vice-Presidents, and the members of the committee were re-elected, with the exception of Mr. LAKIN, who withdraws from the Society, Mr. MARTIN ROWAN being elected in his place. Mr. G. W. WHEELWRIGHT was appointed one of the auditors. The financial statement by the treasurer showed a balance in hand of £20 9*s.* 4*d.* The National Carnation and Picotee Society (Southern Section) held its annual meeting at the same time and place, EDMUND CHARRINGTON, Esq., presiding, in the unavoidable absence of the President. The President, Vice-presidents, and office-bearers, were re-elected, with the exception of D. BOGUE, Esq., Vice-president, J. S. HEDLEY, Esq., being elected in his place. Mr. JOSEPH LAKIN and Mr. H. W. HEADLAND have withdrawn from the Committee; Mr. AUBERY SPURLING and Mr. BEN. SIMONITE were elected in their place. The financial statement by the treasurer was eminently satisfactory. The amount of £107 was paid in prizes, and the balance in favour of the Society is £159 3*s.* 7*d.*

BENTHAMIA FRAGIFERA.—Mr. WEBBER sends from Dunster Castle Gardens fine fruits of the so-called Strawberry tree, which seems to thrive in the south-western counties, but near London we do not ever remember to have seen it. No. 1 came from a south wall, which is much the finer fruit; No. 2 from west. "They flower and fruit," he says, "most years a little, but I have never seen them do so well in the eight years that I have been here before; no doubt it is the effect of the summer 1893. It is a pity the fruit is of no use for dessert, as it looks very tempting when ripe. The birds are eating the fruit."

THE LATE MR. CHITTY.—A sentence in the obituary notice sent us of the late Mr. CHITTY has, we regret to find, given pain to some of the friends and associates of the late Mr. HIBBERD, and who are in a position to know the facts of the case. As it stands, the assertion may be taken to cast some aspersion on Mr. HIBBERD's literary honour. We are sure that no such reflection was intended by the writer, and we are sorry that our inadvertence should have led to the insertion of a remark capable of an interpretation we should ourselves never have entertained.

PYRUS JAPONICA.—Mr. COURTAULD sends us from Essex fine fruits of this species. They are not very uncommon, but seem to vary in colour and form, as might be expected. The fruits of the nearly-allied P. Maulei make excellent marmalade; whether those of P. japonica would do so we do not know, but we suspect the flavour would be too harsh.

THE WOLVERHAMPTON GARDENERS' ASSOCIATION has decided to form an "auxiliary" of the Gardeners' Royal Benevolent Institution. This will be inaugurated on December 4. The MAYOR is to preside, and Messrs. H. J. VEITCH, J. G. INGRAM, and others, will address the meeting, as well as some of the leading gardeners of the district. We earnestly commend the example of Wolverhampton to other districts.

DEFINITE RULES FOR JUDGING.—We understand that the Royal Horticultural Society has resolved to form a committee to consider the circumstances attending the exhibition of flowers, fruit, and vegetables, and to prepare a code of rules as a guide to exhibitors and judges. The code will be circulated under the auspices of the Society, and we may express the hope that other societies will accept the same rules. Something of the kind is very much needed.

SANDAL-WOOD IN JUAN FERNANDEZ.—Professor PHILIPPI has sent to Kew specimens of a new species of Santalum from the island of Juan Fernandez.

PLANT PORTRAITS.

CHRYSANTHEMUM MISS ALICE LUCKMAN, *Illustration Horticole*, p. 320.

DAHLIA BLANCHE KEITH, *Illustration Horticole*, t. xx.—A yellow Cactus variety sent out by Mr. T. Ware.

MAXILLARIA SANDERIANA, *Revue Horticole*, November 16.

MICONIA VELUTINA, *Illustration Horticole*, t. xxi.—A Brazilian Melastomad, with dark-green bullate leaves, wine-purple beneath.

EUCHARIS GRANDIFLORA.

LARGE specimen plants of the beautiful white Amazon Eucharis are numerous, and some have from time to time been noticed. The one shown in the accompanying illustration (fig. 85, p. 665) is certainly entitled to rank amongst the largest, and not the least interesting. It is still in bloom, but of course not just so freely as when the picture was taken, early in November, and may always be seen in one of the Orchid-houses at the Briars, the residence of Mrs. W. L. Barclay, at Reigate, Surrey, where its huge dimensions and exceeding weight render it a comparative fixture. It has reached its present stage of development under the care of Mr. Bailey, the well-known gardener there, and has been undisturbed in the present pot for some fourteen years. Many years since, as a single bulb, it came into the hands of Mr. Bailey's predecessor at the Briars from Mr. W. Bull's Chelsea establishment. It was even grown for some time in a pot by the gardener's wife, who petted it, but eventually handed it over to her husband who shifted it, grew it on, and finally, even before Mr. Bailey succeeded, had got it into its present huge receptacle. This pot is some 27 inches across, and of the same depth, literally as big as an Orange-tree tub, and the pot, soil, and plant weighs several hundredweights, so that size and weight combined render it very difficult indeed to remove for any purpose. Its present position is on the top, and at one end of a raised brick bed that runs through the centre of the span Orchid-house. At the moment when the picture was taken the flowers, expanded and otherwise, were 350, and borne on sixty-six stems. The head from tip to tip of leaves is almost 8 feet, and in every respect the whole is in rude health. Many of the flowers reach to a breadth of 4 inches. In one case Mr. Bailey mentioned that a bloom had eight segments or petals, and was of abnormal size. Within the pot the bulbs are crowded one on to the other in a mound or cone, much like what is seen in a clump of a Cœlogyne; and the opinion is held by the gardener, that nothing so much tends to preserve health and cleanliness as the keeping of the bulbs out of the soil in this way. Of course, water is liberally given generally, though certain periods of restfulness are allowed. Then liquid manure, made from soot, guano, &c., is given too, and occasionally a mixture of Smyth's blood-manure and fine soil is thrown about the bulbs and well washed in about the roots. When the present bloom is over, the plant will be allowed to become partially dry, and have a short rest, then again be thoroughly saturated with water, and a fresh lot of flowers will be produced soon after Christmas; then again in the spring and summer, the greater bloom always being in the late autumn. How much longer in an unbroken condition the huge congeries of bulbs will continue to do well in the one pot it is difficult to say, but at present it looks like doing so for several years longer. *A. D.*

AMATEUR'S COLUMN.

PÆONIES.—"Now is the time to plant Pæonies," so say the Messrs. Kelway of Langport, and with them I agree; and further, it has often been a matter of surprise to me that more of these gorgeous decorative plants are not grown. I had collections of the arboreal and herbaceous kinds for very many years, and those I planted of the former, about a quarter of a century ago, are now large shrubs; for although I have left the old garden, I often hear of their beauty. I think there were about forty varieties, but this is as nothing to the number that Messrs. Kelway now catalogue. When I look down the list, I have a longing come over me to see them in bloom. What a sight it must be! Even the foliage without the blossom is elegant and coloury, and in autumn the tints are lovely. I remember one bloom of the Gloire de Rotterdam that I measured, and found it 15 inches in diameter, taking it from base of petal to base of petal. The colour was a gorgeous pink. On a lawn not exposed to the early sun these shrubs are seen to advantage, and seldom suffer from frost.

I have about 250 of the herbaceous kinds, many of which are delightfully scented, and a number are species. The best plan to grow them is in clumps of three, but care should be taken either to have those of equal growth, or the front one of the three to be of dwarf kind. The colours can be varied to suit the taste or the requirements of the position. After blooming, in all cases the fading flowers should be taken off, and the foliage left to fall in due course. The single forms are very showy, and are much admired by some; but, although I like them, I think they are very far surpassed by many of the later new doubles. *Harrison Weir, Iddesleigh, Sevenoaks.*



Fig. 86.—Cypripedium canhamiæ. (see text)
(Malformed flower, with diagram showing the relative position of the parts.)

CYPRIPEDIUM CANHAMIÆ.

The drawing (fig. 86) is an interesting illustration of what a Cypripedium can do in the way of a change, and is suggestive of the phases of development through which ancestral Cypripediums may have passed. The flower in question was sent us by Mr. R. I. Measures, of Camberwell. As will be seen, the inflorescence is two-flowered, and one of the bracts is developed in a leafy condition. The expanded flower shows a curious condition of things—the upper sepal is wanting, the two lower ones are united, and deflexed in the ordinary position. The uppermost petal occupies the position of the absent sepal, and in form and appearance is like one of the ordinary side petals. In addition, two other petals are present at the lower part of the flower in the form of lips. The column in the centre of the flower has a single two-lobed anther, not at the side, but at the upper part of the column, in the position occupied by the solitary stamen of most Orchids. The ovary is one-celled, with three parietal placentas. The interpretation we are disposed to adopt of this highly anomalous flower is the following:—The upper sepal is absent, one lateral petal, one true lip, and two lateral stamens are also absent. On the other hand, there are two supplementary lips in unusual places, and there is a central fertile stamen. The two supplementary lips seem to us to be the representatives of two stamens, and if so, they complete the outer staminal whorl represented by the formula $\begin{matrix} & A1 & \\ A2 & & A3 \end{matrix}$. The three inner stamens $\begin{matrix} a2 & & a3 \\ & a1 & \end{matrix}$ are entirely wanting. Usually, as orchidists will remember, in Cypripedium, the outer whorl, A 1, A 2, A 3, is wanting, or, at any rate, bears no anthers, and the inner whorl is represented by *a* 2 and *a* 3, bearing anthers, *a* 1 being absent.

There is another interpretation possible, and that is, that the two supplementary lips belong to the petaline whorl, in which case we should have one median and two side petals, the two latter developed as lips, and the staminal whorls would be represented by A 1 only. The relative position of the parts, as seen in the fresh condition, induces us to prefer the former explanation.

HOME CORRESPONDENCE.

PEARS CRACKING AND BLOTCHED.—Amongst many other sorts of the finest Pears which I have growing on a very long wall here, 8 feet 6 inches high, there are twenty of Glout Morçeau. Now on this variety, in years not very sunny, the Pears have blackish blotches, and crack, and remain limp, when they should be solid and firm in October. Last year, being very sunny, the fruits were fine and large. The wall faces south, with one and a half hours east in it, that is, the sun leaves it at 4.30 P.M. Now, what can I do to prevent these blotches and cracking of the fruits? *Samuel Sharrock.* [Afford two or three dressings in the early summer with the Bordeaux Mixture. Ed.]

WASHINGTON APPLE.—In reply to Mr. Evans (p. 627), I may say that this variety ripens on the tree with me here, and has a finer colour than when grown under glass. The quality is excellent, and it remains good for some time after ripening. The same may be said of American Mother, a second early dessert Apple, nearly equal to Cox's Orange Pippin in flavour. In connection with these American varieties may be recommended Melon Apple, which keeps well with me until March, and is of fine quality, but like the others it requires a warm soil and situation. A good plan is to pot them in 13-inch pots out-of-doors in the soil on bricks, and with a slight mulch of stable litter on the top of the pots. *W. R., Streatham Hill.*

ADIANTUM CAPILLUS VENERIS CORNUBIENSE.—In a market-garden, on the western bank of the valley through which the Chyandour Brook runs down into the sea at Penzance, the northern end of the garden is separated from the adjoining property by a stone wall 8 or 9 feet high, which was built in 1874. In 1886, this wall was lengthened 4 feet, and a lean-to cucumber-house was built against it. This newer part of the back wall, and the low front wall, have growing on the inside numerous strong plants of the Cornish Maidenhair Fern; while on the older part of the wall not a plant of it is to be seen And further, no plant of this variety has ever been introduced into the house. The clay and stones for building the new walls were taken from the garden in which this house stands, and principally from 2 to 3 feet below the surface. In nurseries at Newton Abbot and Teignmouth, I met with a deeply laciniated form of this Fern, which, I am told, originated with Mr. Harwood, at Kingskerswell, near Torquay. *W. T., Hea Moor.*

NEW ZEALAND.—Having traversed the same ground myself, I was much interested in "A Traveller's Notes" in the last number of your paper, and especially interested in learning the exact mode of growth of the Metrosideros, or Ironwood, as I had previously only heard the colonial version of its life-history. Writing of it recalls a glorious January day, spent in the Otira Gorge, on the west coast of the Middle Island of New Zealand. This gorge is justly celebrated for the surpassing grandeur and beauty of its scenery; its precipitous sides are clad with impenetrable bush, which, when viewed from a short distance, appears habitually of a uniform green, but on this occasion this monotony of colouring was varied, and illuminated by the gleaming scarlet of the Rata (then in full bloom), whose flowers flamed riotously among the tree tops, like a vast far-spreading bush fire. It was unusually luxuriant that season, and it was alluded to with pride by the majority of settlers I met, but they invariably spoke of it as "Rata," not "Raba," and which I should have considered a misprint, if the word had not been repeated, which leaves me in doubt as to the true colonial name of the Metrosideros. *Greymouth.* [Rata is the correct spelling. Ed.]

WHITE MARTAGON LILY.—It may interest the Rev. C. Wolley Dod to know that this fine Lily does well in the south-east of Kirkcudbrightshire, and does not appear to degenerate in soil which can be kept fairly moist. Our climate is, however, a mild one, and more nearly approaches that of Ireland than is the case with Cheshire. The double Martagon also seems to do well in this locality, although in Dumbartonshire the flowers occasionally fail to open. The White Martagon frequently produces fasciated stems here, but I cannot say that I have observed the number of flowers on a stem. *S. Arnott, Carsethorn, by Dumfries, N.B.*

NARCISSUS LEEDSII.—Mr. Brockbank's brief memoir of Edward Leeds is so charming and appre-

ciative, that I scarcely like to follow with a word of modification as to one statement. But, on the principle of *suum cuique tribuendum*, I would point out that it is not correct to call Leeds, absolutely, "the raiser of the Leeds' varieties of Narcissus," or to assert that "the Leedsiis are all his own;" indeed, Mr. Brockbank himself specifies twenty-one of these flowers as due to Edward Leeds; whereas Mr. Barr, in his "Complete List" of 1884, enumerates fifty Leedsiis in all, the difference of twenty-nine having been raised by Backhouse; who is to be credited with the production of the finest of this most refined and beautiful section of Narcissi, to wit, Beatrice, Gem, Minnie Hume, Mrs. Langtry, Madge Matthew, and Duchess of Westminster, this last being the best of all, and a glorious Daffodil. Generally speaking, the Leedsiis of bolder and more erect habit of bloom are due to Backhouse; those in which the perianth and the whole flower are more drooping, to Leeds. From my own, now fairly large, experiments in raising Narcissi from seed, I do not doubt that this distinction is to be attributed to different lines of parentage. I find that the direct cross of the White Trumpet Daffodils × N. poeticus, yields these stouter, more upright Leedsiis, while the secondary crosses of N. montanus × poeticus and N. montanus × the White Trumpets gives the more drooping varieties. I call these secondary crosses, because N. montanus itself is undoubtedly a hybrid between a white Ajax and poeticus—is, in fact, a Leedsii. Among my own many seedlings between N. cernuus, N. albicans, &c., and poeticus, flowers have appeared which are quite identical with N. montanus. No cross produces more beautiful and interesting Narcissi than this. It is most remarkable that in a considerable batch of such seedlings there are sure to be flowers not only white in both perianth and corona, but also some which are of a full yellow in both, although neither parent is yellow in either of these divisions of the flower. The red rim of the corona of the poeticus either disappears in the hybrids, or is represented by a very attractive salmon or apricot tint, such as may be seen in Leedsii Acis, but is much more fully developed in some of my seedlings. Very exquisite Leedsii kinds result from the little Pyrenean N. moschatus × poeticus, some of them like the purest frosted silver, others with cups of rich salmon, but unfortunately they are of frail constitution, and invariably die out. By the way, many of the Leedsiis in cultivation are a notable instance of the additional vigour gained by cross-fertilisation. The white Ajax kinds, such as N. cernuus and albicans, quickly dwindle away in all but exceptional English soils and climate. Cross them with N. poeticus, and you obtain the race of N. Leedsii, most of which are exceptionally robust. I wish that Mr. Brockbank, in his most interesting and successful research into the history of some of our gardening worthies, could find out what became of the hybrid Narcissi which were undoubtedly raised by Dean Herbert, and would also tell us whether any distinctly continental wild species of Narcissus were possessed by Leeds, and employed by him in his crosses. Herbert had a large foreign correspondence, and certainly obtained many bulbs of Narcissus from abroad, some of which he may possibly have passed on to his friends. It is a curious and suggestive fact that among many self-fertilised seedlings from N. Horsfieldi, I have flowered some which are scarcely to be distinguished from the wild N. variiformis. Is it possible that Horsfield possessed this plant? *G. H. Engleheart, Appleshaw, Andover.*

FRUIT AND FICTION.—In total ignorance as to my methods and dealings, Mr. Bunyard declares that I have no "acumen" or capacity for business, because he cannot otherwise explain my failure as a fruit-grower. Let me be as stupid as I may, do not the ownership of the land, the possession of trees in full production, and the experience of forty years place me upon an equality with the cottager or farmer who has rent to pay, trees yet to plant, and faculties—however superior—never yet exerted upon fruit? A friend of mine, of trained business habits, large capital, and vast energy, has lost thousands of pounds in vain attempt to make fruit-growing on a large scale pay, and has abandoned it in despair. So has another gentleman well known to me, and highly valued in this neighbourhood, the owner of a long-established business, large acreage, thousands of fruit trees, and every advantage, except that of fair prices. Upon that last point the whole question turns; and yet it is the one upon which not an answer is vouchsafed to me. I say that Grapes cannot be grown with profit at 1*s.* per pound, nor Pears at 2*s.* per bushel, and yet those have been the prices for a great part of the recent season. Choice fruit has at times fetched more, but all our fruit is not choice fruit; no grower's fruit can all be choice, and if it were, it would cost him more to raise. What we have to consider is, the average price of the entire crop as sold, without any especial advantage—a price obtainable by everyone. Very well; has that been a paying price? I say not, and I defy anyone to contest the point. Moreover, I say that year by year (as the myriads of fruit trees lately planted through this "boom" come into bearing, and importation still increases) prices must become lower and lower, till many a pocket is empty and many a heart broken through this wretched delusion. *R. D. Blackmore.* P.S. Précoce de Trévoux—not Trévouxe—as grown here, is a large and handsome Pear, of the same size and colour as Clapp's Favourite, and in every respect identical, which those who sent it to me cannot deny. Triomphe de Vienne is a nice-looking Pear, and a good cropper, but of poor quality, and ripening with Williams' Bon Chrétien, has no chance as a market Pear with that better and far more popular fruit. *R. D. B.*

—— I am sorry Mr. Blackmore is so hard on my seedling, The Beacon Pear. This year, the fruit was gathered on August 1, and sold for 6*s.* per bushel in the markets; and as the tree forms a natural cordon, and can be planted 6 feet apart for some years without overcrowding, and the fruit can be gathered by women and children, I have found it a profitable variety. The fruit of Magnate has been described as "delicious" this year by a writer in the *Journal of Horticulture*, although he found it but third-rate in other years. *T. Francis Rivers.*

A GREEN SPORT FROM VIVIAND MOREL CHRYSANTHEMUM.—It is somewhat remarkable that two growers of Chrysanthemums residing many miles apart should recently have succeeded in obtaining almost simultaneously a green sport from Viviand Morel. Last week I saw a plant of this sport growing in the conservatories of A. B. Loder, Esq. (gr., G. Underwood), at High Firs, Harpenden. The plant was in an exceedingly healthy condition, having been well grown, and had previously produced four large blooms, all of which were of a beautiful light pea-green colour, and very attractive. When I saw the plant there were many small blooms, and several buds still showing, and all of these had green petals, but slightly darker than the larger blooms. In the immatured condition they appeared specially suitable for button-hole purposes. It may be worthy of mention that a similar circumstance occurred some years ago with the variety Carew Underwood, which was a sport from Baronne de Prailly. *J. J. Wallis, Harpenden.*

AMERICAN NOTES.

(From Our Own Correspondent.)

HONOURING ENGLAND'S ROSARIAN.

SINCE my last letter, there has not been much of interest to English readers till this last week, when a reception and dinner were tendered to Dean Hole. A more hearty and whole-souled compliment could not have been offered. The Dean was in his happiest mood, and charmed his hearers with an ideal "after-dinner" speech. Mr. J. N. May, of Summit, N.J., carried out all the arrangements at short notice, and did well. The *menu* card was most elaborate, being decorated with a Rose (hand-painted), and in the background appeared the tower of Rochester Cathedral, together with a view of the Deanery. Mr. Barry (Ellwanger & Barry), of Rochester, presided, and there were present representatives of all branches of horticulture from widely separated points.

THE ROSE IN AMERICA.

Roses rank differently here to what they do in England; the extremes of heat and cold make it difficult to grow them as your rosarians do, but under glass their cultivation is most successful. They are grown on benches, and I learn that an attempt is to be made to grow blooms for market in this way by a Belgian firm; they have engaged a capable grower from here to teach them how it is done. In a letter I have from the Dean he says, "The treatment under glass is admirable."

A NEW ROSE.

One of the features at the dinner was the "christening" (if such a term may be allowed) of a new Rose, under the name of Dean Hole. This is a sport from Madame Testout, and has a most lovely pale and soft pink flush on white, globular form, and certainly an addition to pale-coloured Roses, especially valuable for bouquet and decorative-work.

CHRYSANTHEMUMS.

There has been a surfeit of Chrysanthemums here (and I suppose with you too). Shows have been held on all sides, the best eastern being at Boston, Philadelphia, Pittsfield, and Newport; further west, at Chicago and Indianapolis. Strange to say, the New Yorkers were unable to organise a display of any importance; yet last year they said they "led the world!"

The blooms shown are of very high merit as regards size, substance, and colour, but they lack finish,—the art of dressing is not understood. Then, again, there is a deficiency of build, which is owing to the rapid growth made, the climate encourages growth too much in the latter part of the season for the growers to get the high centre so much admired by you. Large blooms are obtained from cuttings as late as June. This is no doubt the explanation of the fact that so few varieties do equally well in both countries.

Seedlings, of course, are legion, but as far as novelty goes, they are not specially startling, but there are some very pretty things. Those, however, which approach more closely to the English standard are not generally well received here, with, perhaps, the one exception of Philadelphia, a well incurved flower, of palest sulphur. Mayflower is a promising variety of soft white, and has a strange reflexing of the outer rays. It is otherwise an incurved Japanese. Mrs. Sarah Rose is one of the prettiest of incurved Japanese pinks; Eugène Dailledouze is one of the most successful blooms at the show, its rich yellow colour and large size recommend it (it is on the border line between incurved and Japanese). This variety is run closely by Major Bonaffon, an incurved with good high centre, of lighter colour and earlier.

The blooms are not exhibited on boards, but are shown with a length of from 12 to 18 inches of stem in vases, sometimes singly, sometimes a dozen or even fifty and more in one vase. This may make a fine pictorial display, but renders comparison a difficult matter in close competition. Perhaps the largest bloom shown was H. L. Sunderbruch, at Indianapolis, its diameter being 3½ inches in depth 10½ inches in diameter, and 17 inches over all.

CARNATIONS.

Another turn of fashion when the Chrysanthemum has gone, and everyone is looking towards the reign of the Carnation. Perhaps a word on new seedlings will be in season later. *L. B.*

KNIGHT'S CYPRESS.

CUPRESSUS Knightiana, although comparatively rare and little known, is the most elegant of all the hardy or half-hardy species of Cypress (fig. 87). It was first mentioned, but by name only, in Knight and Perry's *Synopsis Conif.*, 20. Subsequent evidence goes to show that the species or variety is a native of the mountains of Mexico. The botanist will probably consider it as a mere variety or form of Cupressus Benthami, and on botanical grounds we quite concur; but as a cultivated plant the tree is so distinct, and as an ornamental tree so much superior to C. Benthami, that it is necessary to call it by a distinct name. The great beauty of the tree resides in the remarkably regular way in which the herbaceous branches divide, the ultimate branchlets, except those at the extreme tip and base of the shoot being nearly uniform in length. The foliage is of a rich deep green colour, the individual leaves small, regularly appressed, deltoid-ovate acute. The male catkins (B and C) are globular, or oblong spheroid at the ends of the shoots, and of a bright yellow colour. The cones are globose, rich brown, the scales ending

in a conical point. Those shown at E, F, and G, are from trees grown in this country, but others from the south of France, and for which we are indebted to M. Ch. Naudin, are fully half as large again, and in them the whole surface of the scale rises in one conical mass from the very edge to the point, whereas in the British-grown and less perfectly developed cones the conical "umbo" starts from the middle of the scale, and not from its circumference.

If any distinction is to be drawn between this plant and C. Benthami, this character of the cone-scales is the one to which most importance attaches, the ripe cone-scales of the true C. Benthami being



FIG. 87.—KNIGHT'S CYPRESS. (SEE P. 668.)

flattened, with the umbo projecting from the centre only. It is excessively difficult to find characters to distinguish one species of Cypress from another, so great is the amount of variation in habit, foliage, size, and form of cone. The outline of the herbaceous shoot affords useful, but not absolutely distinctive, characters. In the present case, it is linear-oblong, and very regularly-pinnately branched.

C. Knightiana, though considered the hardiest of the Cypresses, is a tree that can hardly be safely recommended for general planting; but in the warmer counties and in sheltered situations it escapes serious damage from frost, or is even quite uninjured. We have received specimens from Hampshire, as well as from Devonshire, Cornwall, and Ireland, and specimens were shown at the Conifer Conference at Chiswick, as well as at the more recently-held Tree Conference held in the same gardens.

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 27.—Considering that the meeting at the Drill Hall, James Street, Westminster, on Tuesday last, was the second during the present month, the number of interesting exhibits was satisfactory, though the Hall was not by any means full.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, C. T. Druery, H. Herbst, R. Dean, H. B. May, G. Stevens, C. J. Salter, J. Jennings, C. F. Bause, R. Owen, G. Gordon, W. Bain, C. Jeffries, H. Selfe Leonard, J. T. Bennett-Poë, C. E. Shea, J. Walker, E. Mawley, C. Noble, E. Bennett, and H. J. Jones.

Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, staged an excellent exhibit of cut Chrysanthemums, in a more artistic manner than is usually seen in this Hall. Similar in arrangement to the collection exhibited from the same nursery at the Aquarium, the blooms were put up in large handsome vases and epergnes, with proper regard to the harmony of the colours. Dried bracken-fronds were used pretty freely, and with good effect; also highly-coloured sprays of Berberis, &c. In the front of the large vases there were staged specimen blooms of a number of novelties, among which we noticed Duchess of York, the largest yellow novelty of the year, which has already been described in these columns. An Award of Merit was given in this case, and also to Madame Carnot. Niveum, Good Gracious, and several promising seedlings were remarked (Silver-Gilt Flora Medal).

Captain Torrens, Baston Manor, Hayes Common (gr., Mr. Pascoe), exhibited some decorative varieties of Chrysanthemums; and Mr. R. Gilbert, Burghley Gardens, Stamford, three very fine blooms of W. H. Lincoln, described as a sport from that variety, and named William Cecil, but it does not appear to be sufficiently distinct.

From Mr. Robert Owen, Castle Hill Nursery, Maidenhead, were exhibited some very fine English seedling Chrysanthemums, and a few continental-raised varieties. Black Prince, a large flat bloom in form, with short petals, and in colour very rich velvety-crimson, was recommended an Award of Merit; and a like honour was given to Owen's Crimson, a flower that promises to make a good exhibition incurved, and to Mons. Meg. Other good flowers were Waverley, a white Japanese (English seedling), Mrs. Seebohm, a white Japanese variety (English seedling), W. Tunnington (English seedling), a crimson incurved with buff reverse; Ruche Lyonnaise (French), an Anemone, of rosy-purple; and M. Charles Molin.

Mr. W. Wells, of Earlswood Nurseries, Redhill, Surrey, exhibited a good display of cut Chrysanthemums and many of the blooms had been cut from plants in 6-inch pots. Mdlle. Thérèse Rey was shown in very good form, Robert Owen, Lord Brooke, and others were equally deserving of notice. An award of merit was given to Madame Carnot, an immense white bloom with good petals, centre of the bloom slighly tinged with sulphur. Tuxedo is a good late decorative variety, reddish-buff in colour. A number of single varieties and blooms of the green sport from Viviand Morel were also shown (Silver Banksian Medal).

Mr. W. Salmon, Elder Road, West Norwood, showed bouquets, baskets, wreaths, and other arrangements of Chrysanthemums (Silver Banksian Medal).

Mr. J. Smith, St. Leonard's Road, Windsor, exhibited some naturally-grown blooms of Chrysanthemum Royal Windsor, a light buff-coloured Japanese, apparently a good one for decorative purposes.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), exhibited a basket of plants of Primula capitata, Loxwood variety, lifted from the open ground. The flowers are a rich purple-mauve. This plant was awarded a First-Class Certificate.

Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, exhibited a pan full of Gaultheria procumbens, and two pans full of the pretty white Narcissus monophyllus (Corbularia Clusii).

Sir Trevor Lawrence, Burford, Dorking (gr., Mr. Bain), exhibited some plants of Reinwardtia tetragyna, very well flowered (Award of Merit). And some plants in flower of Ruellia macrantha. The flowers of this plant are rather more than 2 inches across, and are of a rosy-wine colour, very prettily veined with dark purple. The plant is very free, and good in habit (Award of Merit).

Messrs. F. Sander & Co., St. Albans, exhibited a group of Begonia Rajah, figured in our columns, Aug. 25, 1894, p. 213, and on this occasion the colours in the foliage were more developed; it is a very pretty variety. Also a new type of Begonias, raised from a cross between B. socotrina, with the pollen of varieties of Begonia Rex. The seed was sown in February. The attempt to combine a decorative-leaved Begonia with good flowers like the winter-blooming section, produce promises to be successful. One of the varieties was selected for an Award of Merit, viz., Sanders' Winter Queen.

Mr. Anthony Waterer, Knap Hill, Nursery, near Woking, Surrey, sent about two dozen well-berried plants of varieties of Pernettyas (Bronze Banksian Medal).

A large group of Cyclamens was staged by Messrs. Hugh Low & Co., from their Bush Hill Nursery at Enfield. The plants were all young, and possessed a good number of buds, in addition to a fair display of bloom (Silver Banksian Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. J. O'Brien (Sec.), H. M. Pollett, R. Brooman White, Baron Schroder, S. Courtauld, J. Douglas, E. Hill, C. Pilcher, H. Ballantine, H. J. Chapman, and T. Statter.

Baron Schroder, The Dell, Egham (gr., Mr. H. Ballantine), showed Phaio-Calanthe × Sedeniana (P. grandifolius × C. Veitchii), a beautiful hybrid, raised by Messrs. Jas. Veitch & Son some years

ago, but which seems never to have received an award until the present occasion, when it received a First-class Certificate; its tall spikes of pretty cream-white and pink flowers are very attractive. Baron Schroder also showed the clear yellow Cypripedium insigne Sanderiana, a companion of the remarkable C. i. Sanderæ, and which received an Award of Merit.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed a remarkably fine new hybrid in Lælio-Cattleya × Decia (L. Perrinnii ♀, C. Dowiana aurea ♂). The flower resembled more closely the seed parent than the Cattleya aurea, which, except for giving an ample flower, did not appear to have exercised much influence. In the form of the flower, and especially in the abruptly turned-down front of the lip, L. Perrinii was much in evidence, though in point of size it was equal to Cattleya labiata. The sepals and petals were light rosy-lilac, the basal portions white. The showy lip had the base and interior of the tube pale purple colour, with a beautiful network of white lines; the front portion a rich mauve-purple (First-class Certificate). Messrs. Veitch also sent Cypripedium × Milo (insigne Chantinii ♀, œnanthum superbum ♂), in appearance a great improvement on C. × nitens and Habenaria carnea nivosa.

Messrs. F. Sander & Co., St. Albans, contributed a neat group of rare Orchids, among which the various forms of their fine introduction, Dendrobium Phalænopsis Schroderianum were a telling feature, as they are whenever they appear. With them were a grand white form of Odontoglossum crispum, several very fine Lælia præstans, from out of their last importation; the singular Catasetum Christyanum, Cœlogyne Gardneriana, Cypripedium Sargentianum, with rich red-marked yellowish flowers; the singular Epidendrum Laucheanum; some pretty hybrid Calanthes; the very curious Pleurothallis strupifolia, with thick leaves and pretty racemes of purple and white flowers (Botanical Certificate); Cypripedium × Doncasterianum (hirsutissimum ♀, callosum ♂), a fine hybrid, with bright rose-tinted flowers, the petals spotted with chocolate, the largest and best of its class; and C. × J. Bartels (Boxallii × callosum), a very pleasing variety.

M. Jules Hye-Leysen, Coupure, Ghent, showed his new Cypripedium × triumphans (Sallierii × œnanthum superbum. In general appearance it is nearest to C. × Pollettianum. The upper sepal is green, spotted chocolate at the base; then rich rose-purple, with a broad white margin. The petals and lip are yellow, with a reddish-brown, polished surface (Award of Merit). Mr. Hye also sent C. × Madame Marguerite Hye, a very pretty and floriferous hybrid, between C. × Sallierii Hyeanum and C. Spicerianum; and the prettily-spotted Odontoglossum macrospilum.

M. A. A. Peeters, St. Gilles, Brussels, showed a fine plant of Cattleya labiata, Peeter's variety, with many flowers of good size and fine colour, the peculiarity being that the whole flower is very handsomely variegated with purple on clear lilac-rose ground, a handsome bizarre, and constant evidently, for the flowers come from a vigorous plant, while those usually shown with flaked flowers are often more or less diseased (Award of Merit).

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. W. Murray), sent a fine batch of hybrid Calanthes, of which several had previously received awards. They were C. × Sybil, a blush white; C. rubro-oculata, C. × Bryan, white with rich purple eye; C. × Clive, like Veitchii, but with yellow eye; C. × Kenneth, white, with rose centre; C. × Wm. Murray, a grand form with white petals, and rose lip with purple centre; and C. × Harold, a fine thing of the C. Veitchii class, but with broader and brighter rose-carmine flowers (Award of Merit).

Major Joicey, Sunningdale Park, Sunningdale (gr., Mr. Fred. J. Thorne), showed the singular and pretty Serrastylis modesta, Rolfe, n. gen. et spec.; a most remarkable plant of rare interest, as it is the first of an entirely new genus. In growth the plant is much like Oncidium sarcodes, and it bore a drooping raceme of some forty or fifty flowers. The flowers, which were about 2 inches across, had lanceolate reddish sepals and petals, edged with yellow and white lip, marked with purple, the front lobe being linear. A great peculiarity consists in the column having large whitish wings, irregularly notched at the edge, and marked with purple, and in the base of the lip being furnished with similar appendages. It was a discovery of Mr. F. C. Lehmann, and has only flowered once before—with Sir Trevor Lawrence (Botanical Certificate).

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, showed Cypripedium × Lucienianum, a handsome hybrid, which was figured in the *Lindenia*, and chronicled as a bellatulum cross (Award of Merit).

C. J. Lucas, Esq, Warnham Court, Horsham (gr., Mr. Duncan), sent Odontoglossum Insleayii splendens and O. I. s. aureum, the latter having unblotched, yellowish sepals and petals (Award of Merit).

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), showed Cypripedium × Zeus (callosum × ciliolare), a very pretty hybrid of fine shape, and with attractive rose-tinted flowers, quite intermediate between the forms used in its production; and C. insigne Richardii, of the Maulei class, but with nearly orbicular upper sepal, the upper half of which was white, with pure purple blotches. The broad petals were profusely spotted with chestnut-brown.

Fred. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, sent flowers of Cattleya Mastersoniæ (Loddigesii ♀, labiata ♂), and Lælio-Cattleya × Tydæa, both of which had been previously certificated; Odontoglossum mulus, Hardy's variety; and varieties of Lælia anceps.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), showed a noble plant of the true Cattleya Victoria Regina; an equally good specimen of which was sent by Hamar Bass, Esq., Burton-on-Trent. Mr. Thompson also showed Odontoglossum præstans.

Earl Cowper, Panshanger, Herts (gr., Mr. Fitt), sent Calanthe × Exquisite (luteo-oculata × Turneri), a very pretty white hybrid.

Mr. P. McArthur, The London Nurseries, Maida Vale, W., staged an effective group of Orchids, in the centre of which was the clear-yellow Catasetum Bungerothii aureum, surrounded by good forms of Cattleya labiata and Cypripedium insigne, among which was a curious coppery-yellow form; C. Chamberlainianum macranthum, a very handsome variety; C. × Harrisianum, C. tonsum, and other Cypripediums; Cœlogyne speciosa, Lælia præstans, &c. (Silver Banksian Medal).

Messrs. Hugh Low & Co., Clapton, staged a bright and effective group of Orchids, embracing a great number of forms of Cattleya labiata, Lælio-Cattleya × Schilleriana, Vanda cœrulea, Angræcum sesquipedale, &c. One very interesting plant appeared which resembled Oncidium hæmatochilum, but had foliage as large as O. Lanceanum, between which and O. Carthaginense, it was suggested, to be a hybrid. The pretty cream-coloured lip marked with red at the base, was very attractive (Silver Banksian Medal for the group).

Mr. J. F. Wilkinson, The Gardens, Highlands, Minching Hampton, showed a group of fine plants of Cypripedium insigne (Vote of Thanks).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, had a neat arrangement, in which were the beautiful violet and white Pescatorea Lehmannii, a remarkably pretty Odontoglossum blandum, Cypripedium × Harrisianum superbum, C. × Pitcherianum Williams' var., C. reticulatum, Cœlogyne Gardneriana, Phaio-Calanthe × Sedeni rosea, &c. (Vote of Thanks).

Hy. Tate, Esq., Liverpool, showed Cypripedium insigne montanum.

H. Grindling, Esq., Harrow Weald (gr., Mr. Rapley), showed Calanthe vestita luteo-oculata.

A. H. Smee, Esq., The Grange, Wallington (gr., Mr. G. W. Cummins), sent Cypripedium × Smeeanum (Argus × villosum), and C. × Dauthierii superba.

S. G. Lutwyche, Esq., Eden Park, Beckenham (gr., Mr. Paterson), staged Cypripedium insigne Lutwychianum, C. tonsum, and Lycaste Skinneri amœna.

Mr. P. Weathers, Silverhall Nursery, Isleworth, showed Cattleya labiata Weathersiana, a nearly white form, with a large and beautifully-shaped flower; and J. Foster Alcock, Esq., Northchurch, Berkhamsted, sent a fine variety of Oncidium Forbesii.

Fruit Committee.

Present: P. Crowley, Esq, in the chair; and Messrs. T. F. Rivers, Dr. R. Hogg, W. Wilks, J. H. Veitch, H. J. Pearson, G. W. Cummins, G. T. Miles, A. Dean, J. Willard, J. Hudson, F. Q. Lane, J. Smith, H. Balderson, G. H. Sage, and T. J. Saltmarsh.

There were but few exhibits before this committee, and no awards were made to novelties.

A large exhibit of Apples was made by Messrs. Charles Lee & Co., Hammersmith Road Nursery, London, consisting of selected varieties of especial quality or appearance. Some of the varieties remarked were Bismarck, Golden Reinette, Golden Noble, Court Pendu Plat, Cellini Pippin, Lady Henniker, King of the Pippins, Worcester Pearmain, Warner's King, Stirling Castle, Manx Codling, Lord Derby, Blenheim Orange, Dumelow's Seedling, and Mère de Ménage (Silver Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited a large and excellent collection of Potatos, in about 100 dishes; the tubers, which were the product of field culture, were clean, even, and good (Silver Banksian Medal).

Messrs. H. Lane & Son, Berkhamsted, exhibited half a dozen first-class bunches of highly-finished Grapes (Cultural Commendation), and several specimens of Blenheim Orange Apples, some of which were shown as Red Blenheim Orange, and they were highly coloured, but their origin did not appear.

Messrs. Jno. Laing & Son, Forest Hill, London, S.E., had fruits of two new varieties of Pear, President Drouard, and Fondante de Fondre.

Messrs. Harroway & Scott, nurserymen, Warminster, showed two varieties of Potatos, Sirius and Scott's Maincrop. The former was said to have yielded 5 tons 7 cwt. more per acre than any of the other twenty-four varieties in the experiments under the Wilts County Council at Warminster, and the latter had yielded 240 cwt. per acre in the same experiment, and treated with the Bordeaux Mixture.

Mr. Farr, gr. to A. Peare, Esq., Spring Grove, Isleworth, showed a branch of a free-fruiting Tomato, Farr's All the Year Round.

Lecture by Mr. J. Douglas.

In the afternoon a paper was read by Mr. Douglas on "The Principles of Judging." Mr. Douglas said many of the difficulties that judges are familiar with might easily be prevented by the committee, when framing the schedule, making it as explicit and definite as possible. Reference was made to several cases where dissatisfaction had followed the judges' award. For instance, such indefinite words as "sort" or "kind" should be excluded. They might be interpreted as meaning genera, species, or varieties. In regard to Lilies, which some judges would allow in a collection of herbaceous plants, and others would not, the committee might prevent any trouble by stating in the schedule whether or not Lilies might be included. When the judges have the schedule before them, it should be their business to interpret it literally, and not by any preconceived ideas they may have upon the subject. The lecturer emphatically said that the judges' time should not be wasted by trying to settle such points as could have been settled by a more definite wording of the schedule.

In the matter of fruits and vegetables, difficulties occasionally arose through doubt as to which classes certain fruits could be admitted. A typical one was the Tomato, but the lecturer held that it was better that fruits which were used as vegetables should be classed with them.

The folly of judging fruit by appearance only was dwelt upon, and was declared equal to judging flowers by their scent alone. An unknown variety, especially, should always be tasted. Especially in a case for black Grapes the lecturer had seen exhibits that had been placed first by their colour and size, afterwards relegated to the third place when the fruit had been tasted. Muscats could be judged without tasting, because well-coloured, finished berries of this variety were always of good flavour. Apples and Pears might appear very excellent, and yet be rotten at the core.

Size should not be considered equal to quality, and reference having been made to Gros Colmar Grape, the lecturer said it was perhaps the largest and most handsome of all varieties, but he asked who ate them if they could get others? In a class for Pears, such varieties as Seckle and Winter Nelis should be placed before many finer and larger in appearance, because of their better quality; and in the case of Apples, the same might be said of Cox's Orange Pippin.

In flowers, too, size, in the absence of good form, should count next to nothing, as in Etoile de Lyon, which was generally the largest flower in a collection of Chrysanthemums, should count less than some others, because it lacked refinement. A man who posed as a judge should thoroughly understand the practical culture of all exhibits he adjudicated upon, and he would then know in which bloom or exhibit the greatest cultural skill was manifest.

Mr. Douglas then said, that in a close competition everything should be judged by points, and when a maximum number had been decided upon, care

should be taken to give each item the exact number it deserved, even to awarding the points in halves.

During a short discussion, Mr. A. Dean said that Mr. Douglas had been careful to tread on persons' corns as little as possible, and consequently little had been said but what all could endorse. In regard to the tasting of fruits, though Mr. Dean said he felt he differed from the lecturer a little, and thought that the less high-flavoured Grapes could hardly be ignored, for they were far more refreshing than Muscats, and did not satiate the palate like those of higher flavour. Gros Colmar and like varieties were greatly appreciated by invalids, and the trade thought it one of the very best for the market. He thought then that Mr. Douglas had little reason to ask who ate them. Mr. Geo. Gordon, in the course of a few remarks, protested against the growing practice of dressing Roses, and in regard to the dressing of all flowers he thought we might go back a little and exhibit them more naturally, so that there should be presented before the public the skill of the cultivator rather than the art of the dresser.

The chairman (Mr. C. E. Shea), in proposing a vote of thanks to the lecturer, observed that at the meeting of the Council of the Royal Horticultural Society held that day, enquiries had been made for a code or guide to judges, and he might hint that such was in preparation by that body already, and at the close of this year it was hoped that a code or guide to judges in regard to flowers, fruits, and vegetables, would be followed by the Royal Horticultural Society, and a system started under such auspices would be likely to be followed by others. Several other gentlemen offered remarks.

CUMBERLAND CHRYSANTHEMUM.

November 16.—The fourth annual exhibition of this society was held at Whitehaven on the above date. The quality of the exhibits on the whole was excellent.

The principal exhibitors of plants were J. Gibson Deas, Esq. (gr., Mr. Bell); A. Helder, Esq. (gr., Mr. Thompson); and J. Spittall, Esq. (gr., Mr. Bell), the first-named securing several 1sts, in addition to the National Society's Certificate, for groups of twelve. The plants were, without exception, admirable specimens.

In cut-bloom classes, the chief interest centred in those for Japanese, where the competition was very keen, Mr. Potter, of Whitehall, Carlisle, being the most successful exhibitor.

In addition to carrying off two 1sts, his stand of twenty-four was awarded the National Society's Certificate for the best collection of cut blooms.

Other successful exhibitors in these classes were R. D. Marshall, Esq., of Keswick (gr., Mr. Hartwell), and Jos. Harris, Esq., Greysouthen (gr., Mr. Fixter).

Incurved blooms were only moderate in quality, being, for the most part, deficient in depth.

Mr. James Hay, of Houghton Hall, Carlisle, took 1st for a stand of twelve; and for six blooms of one colour, J. Ritson, Esq., of Maryport (gr., Mr. Tester), was awarded premier position.

Reflexed and Anemone blooms were few in number, though of good quality, and Pompons shown in tall glasses for effect, baskets, and vases of cut blooms, artistically arranged with various foliage, constituted a very attractive and pleasing feature of the show.

SHEFFIELD.

November 16, 17.—The sixteenth annual exhibition of this Society was held in the Corn Exchange, Sheffield, on the above dates, the opening ceremony being attended by a much larger gathering than usual. There was a falling off in the groups of Chrysanthemums, owing to several of the former exhibitors having left the district, otherwise the show was quite up to its usual standard; whilst in the classes for miscellaneous groups, and the local classes for amateurs and cottagers, there was a decided advance both in the number of exhibits, quality, and setting up of the blooms. The paper-collar is still in use here, although much less so than formerly. Another year may witness its departure. How anyone can imagine it adds to the beauty or set-up of a bloom we cannot understand.

Incurved blooms in the open class were not so numerous as on former occasions, probably owing to the adverse summer and damping, which has been such a source of trouble to many this season.

The class for twenty-four incurved, in not fewer than eighteen varieties, brought forth only two competitors, the premier award being easily secured by Mr. C. Crookes, gr. to the Dowager Lady Hindlip, Hadzor House, Droitwich. His blooms were deep, solid, fresh and bright in colour, and well put up. The variety Lucy Kendall won Mr. Robert Owen's Silver Medal for the premier incurved bloom of any variety distributed by him. These blooms would have won in a very strong competition. Mr. J. Jellicoe, gr. to F. H. Gossage, Esq., Liverpool, was 2nd in this class.

Twelve incurved, distinct.—Mr. C. Crookes was again to the front, with first-class blooms; and Mr. J. Vaughan, gr. to S. Brocklebank, Esq., Liverpool, a capital 2nd.

Both the twelve and six incurved bloom classes were very well contested. Six incurved: 1st, Mr. Crookes; 2nd, Mr. J. Vaughan.

The class for twenty-four Japanese, not fewer than eighteen varieties, was well contested, Mr. Wells of Earlswood, Redhill, being awarded the 1st prize; his stands were very even, and contained blooms of good size, well finished, bright in colour, and fresh. Robert Owen gained the Silver Medal for best bloom amongst those distributed by Mr. Owen; 2nd, Mr. G. W. Drake, Cathay's Nurseries, Cardiff.

The best twelve Japanese distinct were from Mr. Alderman, gr. to J. D. Ellis, Esq., Worksop; and the best six blooms distinct were shown by Mr. J. Vaughan. Mr. Jellicoe had the best six Anemones, flowered varieties, and also the best collection of six reflexed blooms. There were also classes for residents within twenty miles of the town, and these were well sustained. Six Japanese: 1st, Mr. J. Vaughan; 2nd, Mr. J. Jellicoe. Six reflexed: 1st, Mr. C. Scott; 2nd, Mr. W. Weaman. Six bunches Pompon: 1st, Mr. C. Scott.

Grapes were better represented than in previous years, Mr. C. Green putting up Gros Colmar, fine in berry, and well finished; and Mr. F. W. Littlewood 2nd. Mr. Green was also 1st with Muscats in the class for white Grapes. Both in the amateurs' and cottagers' classes the competition was keen, and as in each of these eight prizes have to be awarded, the judges had plenty of work to do. There are classes for twelve, six, and three blooms, in both the incurved and Japanese sections, and these were well contested.

Non-competitive Exhibits.—Certificates of Merit were awarded to the following:—Messrs. Charlesworth & Son of Heaton, Bradford, contributed a splendid table of Orchids, interspersed with Palms, consisting chiefly of Cattleya labiata vera, and choice Cypripediums and other plants. Messrs. Fisher, Son & Sibray, a table of foliage and flowering-plants. Mr. S. W. Seagrave, Market Hall, Sheffield, a large group of Palms, Chrysanthemums, and various flowering-plants. Mr. W. Artindale, Sharrow Vale Nurseries, Sheffield, had a very graceful little group of choice Palms, Crotons, and Ferns, interspersed with Spiræas, potfuls of Lily of the Valley, Roman Hyacinths, &c., very nicely arranged.

BIRKENHEAD AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.

November 19.—Between fifty and sixty of the leading gardeners of the district, together with a fair sprinkling of the younger members of the fraternity, assembled in the lecture hall of the Y.M.C.A. on the above date to hear from Mr. R. G. Waterman, Treasurer of the Woolton Gardeners' Mutual Improvement Association, a paper on "Mutual Improvement Associations, their Aims and Objects." Mr. James Smith, of the Palm Grove Nurseries, having been elected to the chair, Mr. Waterman proceeded with his paper. He said it was necessary that gardeners should study with zest and determination if they were to hold their position against foreigners, and maintain their high position as a class of honest workers. To assist them in this object a mutual improvement society was very desirable for the interchange of opinions and comparison of results. They might also have an interchange of lecturers with other associations, and a most important adjunct would be a good horticultural library. The paper concluded with some practical advice respecting the details of the working of such societies. A discussion followed, and on the proposition of Mr. W. H. B. Yeo, seconded by Mr. W. Mercer, a provisional committee of eight gardeners was elected to consider the best lines on which an association could be run, and to draw up rules to be submitted to a general meeting to be called later on, with the object of founding a mutual improvement society. The committee consisted of the following:—Messrs. James Williams, W. H. B. Yeo, William Mercer, Peter Barber, George Lyon, Stephen Haines, Lorenzo Maddox, and Thomas Rigg. On the motion of Mr. George Lyon, seconded by Mr. Yeo, Mr. Thomas D. Smith was appointed secretary to the new association. Votes of thanks to the lecturer and chairman brought the proceedings to a close.

P.S.—The lecturer also advocated a class for young gardeners to fit them for the examinations of the Royal Horticultural Society.

TWICKENHAM HORTICULTURAL.

November 20, 21.—The annual autumn show may be recorded as a success. For a group of Chrysanthemums, quality and effect being the leading features, the premier position for a capital lot of plants was assigned to Mr. A. H. Rickwood, gr. to the Dowager Lady Freake; a good 2nd being Mr. J. Simmonds, gr. to Lady Freake.

Twenty-four blooms, twelve incurved and twelve Japanese, distinct.—1st, Mr. C. J. Waite, gr. to Colonel the Hon. W. P. Talbot. In Japanese he had fine flowers of Mons. H. Payne, Mrs. C. Wheeler, L. Carres, and Viviand Morel. Incurved: Violet Tomlin, M. A. Haggas, and Jardin des Plantes. 2nd, Mr. J. Portbury, with a nice lot of flowers.

Twelve Japanese.—1st, Mr. G. H. Sage, gr. to the Earl of Dysart, a beautiful lot, very fine being Primrose League, Beauty of Castlewood, Etoile de Lyon, and Madame Thérèse Rey; 2nd, Mr. T. Osman. Here were fine blooms of Etoile de Lyon, R. Owen, E. Molyneux, and Viviand Morel.

Twelve Anemone-flowered, well-finished examples gained Mr. C. J. Waite 1st position; 2nd, a good lot, Mr. G. Springthorpe.

Twelve bunches Pompons, six varieties, distinct as grown, a very pretty class, Mr. Springthorpe being placed 1st for fine blooms, noteworthy being La Vogue, Madame Moretels, Regulus, and Perle Margaret; 2nd, Mr. J. T. Hoar.

Twelve incurved.—1st, Mr. J. Simmonds, his best flowers being Queen of England, Emily Dale Improved, Madame Darrier, and John Lambert; the same exhibitor taking the special prize for twelve Japanese with, amongst others, fine flowers of Eda Prass, Colonel W. B. Smith, Chas. Davis, and Thunberg.

Six incurved, one variety.—1st, Mr. G. Springthorpe, with fine blooms of Empress of India; 2nd Mr. J. Simmonds, with Emily Dale Improved.

Six Japanese, one variety.—Striking flowers of Louis Bœhmer gained Mr. G. H. Sage 1st place; 2nd, Mr. C. J. Waite, both having fine blooms of Etoile de Lyon.

Bouquets and buttonholes were successfully shown by Miss Cole, Miss Wright, and Mr. A. Pentney.

For six untrained plants (amateurs only), the prizes for good examples went to Messrs. Attwood, Brill, and Lee. In the cottagers' section, the principal prize-takers were Messrs. Hoar, Collett, Gilbert, and Attwood, the cottagers' also making a good display of vegetables.

Groups of Orchids, Ferns, and foliage plants, well-arranged collections, gained the prizes to Messrs. Tracey and Cross.

Baskets of plants arranged for effect.—This was a pretty and attractive feature of the show, the prizes going to Messrs. Warden, Rickwood, and Cross.

Six Palms or foliage plants. Noble examples of Palms gained Mr. J. Simmonds 1st position; 2nd, also a very good exhibit, Mr. J. E. Burton.

The prizes for well-flowered Cyclamens, went to Messrs. Warden, Pentney, and Smith. Primulas also made an attractive exhibit, the chief prize-winners being Messrs. Garrod, Macgregor, and Warden.

Table plants were shown in splendid condition, principallly Crotons, Dracænas, beautifully coloured. 1st, Mr. J. Macgregor; 2nd, Mr. J. Portbury; 3rd, Mr. C. J. Waite.

An interesting class was that devoted to the best ornamental basket or vase of dried seed-pods and berries for winter decoration, the prize-winners for beautiful exhibits being Miss C. B. Cole, Mr. A. Pentney, and Mr. J. Reynolds.

Collection of Fruit.—This class made a good and interesting display. 1st, Mr. C. Griffin; 2nd, Mr. C. J. Waite (we think the positions should have been reversed). Two bunches white Grapes.—1st, Mr. J. Simmonds; 2nd, Mr. G. Springthorpe. Two bunches black Grapes.—1st, Mr. C. Griffin; 2nd, Mr. C. J. Waite. Four dishes Apples (two dessert, two kitchen).—1st, Mr. G. H. Sage, who had very fine fruits of Blenheim Orange, Bismarck, Lane's

Prince Albert, and Ribston Pippin; 2nd, Mr. W. Tayler, who showed well.

Tomatos were well shown by Messrs. Simmonds, Sage, and Griffin.

For a collection of vegetables, Mr. C. J. Waite gained premier place for an extremely fine lot. Specially noticeable were the examples of Ailsa Craig Onion, Sutton's Exhibition Brussels Sprouts, New Red Intermediate Carrot, Surprise Potato, and Autumn Mammoth Cauliflower; good, too, were the collections staged by Messrs. Garrod and Sage.

DOUGLAS, ISLE OF MAN.

November 21, 22.—The society which exists under the title of the Douglas and Isle of Man Chrysanthemum Society, held its fifth annual exhibition of plants, cut flowers, fruit, and vegetables, in the Pavilion, at Douglas, on the dates above-mentioned, and fine weather prevailed on both days. The exhibition was graced by the presence of his Excellency the Lieut.-Governor and Lady Ridgway, and many of the well-to-do people of the neighbourhood. The show was the largest which has as yet been held in the island, and its success was complete, the excellent quality and number of exhibits affording much pleasure to the visitors. A new seedling Chrysanthemum named Lady Ridgway, shown by Mr. Douglas, of the lawn-tennis grounds, received the society's Certificate of Merit. In the open class for Chrysanthemums in pots, some excellent specimens were shown by Mr. Clague, gr. to Dr. Clague, Castletown, Mr. Douglas, the lawn-tennis grounds, and Mr. Curphey, gr. to Rev. F. B. Walters, who shared amongst them the principal prizes.

In the cut blooms competition, Mr. Clague again took the leading position; Mr. Dixon, gr. to Mrs. Clucas, being a good 2nd. The miscellaneous class of plants grouped for effect in a space not exceeding 10 feet by 6 feet, this forming one of the chief features of the show. J. Murphy, gr. to W. F. Moore, Esq., was 1st; F. Gardener, gr. to W. J. Ashburner, Esq, 2nd. Some beautifully-arranged epergnes and baskets of flowers, &c, were exhibited, J. Murphy securing the 1st prize in that class; and Mr. Quinney for one in bouquets. The chief amateur prize-takers were Mr. Quinney, Mr. Quiggin, and Mr. Warner. Special prizes presented by the tradesmen of Douglas were awarded in almost every class. *From a Correspondent.*

GLASGOW CHRYSANTHEMUM.

November 21, 22, 23.—The newly-formed society in the western capital of Scotland, opened their first exhibition on the above dates. The President (Mr. Dewar, of the Botanic Gardens), with his staff on the executive council, laboured assiduously to render the first exhibition of the new Society worthy of such a great horticultural district as that around Glasgow undoubtedly is. So far as a grand display of flowers which filled the city halls, was to be seen, the Society must have reached its highest aspirations. Mr. Renshaw, M.P., opened the exhibition with a very felicitous speech. The leading exhibitor was Mr. Rushton, gr. Cochno House, Duntocher, who obtained 1st for thirty-six blooms (Japanese), in distinct varieties. The exhibit was admitted on all hands to be of great merit, many of the blooms being among the finest yet seen at northern shows. His blooms of J. S. Dibbins, capital yellow; Mdlle. Thérèse Rey, a superb white; and International, received special notice; William Rushton, Princess May, Viviand Morel, President Borel, Henry Jacotat, Stanstead White, Charles Davis, Etoile de Lyon, M. Bernard, Mrs. H. Payne, Mdlle. Marie Hoste, Mr. W. Clarke, Mr. H. Atkinson, Sunflower, Amos Perry, Niveus (a very fine white), were conspicuous in this beautiful collection for fine form and freshness. The 2nd prize exhibit was also of much excellence, and went to Mr. Machar, gr., Broughty Ferry, whose Stanstead White, Charles Davis, Etoile de Lyon, G. C. Schwabe, Florence Davis, Viscountess Hambledon, M. C. Capitante, and Viviand Morel were first-rate blooms; and Mr. Nicol, Rossie Gardens, Forgandenny, was a capital 3rd. Two other lots in this class were most creditable.

For twenty-four Japanese, Mr. Rushton again had an excellent exhibit, and easily took 1st prize; Mr. Lunt, Keir House, Dunblane, was 2nd; and Mr. D. Halliday, Ayr, 3rd.

For twelve Japanese and twelve incurved, Mr. Geddes, of Largs, was 1st. There were other fine noticeable stands in this class, especially those of Mr. Rose, Helensburgh, and Mr. Mathieson, Kirn.

For twelve distinct Japanese, Mr. Rushton again was placed 1st, with a fine exhibit; and Mr. Airdrie, Larbert, was a good 2nd.

Mr. Rushton was 1st for six whites, and held good positions in several other classes. Among pot plants this fortunate exhibitor had it nearly all his own way—the floor of a lesser hall was filled with them.

The side tables were loaded with crosses, wreaths, and other saleable devices, in variety, formed mostly of Chrysanthemums; and Messrs. Thyne had a great display, filling one end of the hall with Chrysanthemums, fine foliage plants, &c.

A Certificate of Merit was awarded to Mr. Airdrie, Larbert, for his new seedling, Mrs. Airdrie, a very fine white Japanese incurved. Mr. Jones, nurseryman, Lewisham, had first for three blooms not in commerce. Mr. Wells, nurseryman, Redhill, Surrey, took 1st prize in the nurseryman's class for thirty-six blooms; and Mr. Campbell, nurseryman, Blantyre, was 2nd.

Two groups of pot plants, arranged tastefully to fill up corners of the hall, were awarded 1st and 2nd prizes to Mr. Dale, Aitkenhead, 1st; and Mr. Archibald, gr., Bothwell Castle, was 2nd, respectively.

There were 400 entries in the competitive classes, and the prize-money amounted to £250; on the whole the competition was remarkably keen, Mr. Molyneux, one of the censors for cut blooms, spoke highly of the excellence of the show. There were long lines of dwarf plants in classes for table decoration, classes for Palms, Ferns, and other popular plants. Roman Hyacinths in lots of sixes, were competed for keenly, and were finer than usually seen at exhibitions. Many of the local nurserymen brought their quota in fine form; Messrs. Austin & McAslan's display in front of the platform was arranged with fine effect, Heaths, Palms, &c., being in fine form. Near to this was a choice display of cut blooms of Orchids, which was crowded by admirers. They were brought together from Bantaskin Gardens by Mr. Mitchell, Mr. Wilson's able gardener; Cypripedium Leeanum superbum, Odontoglossum grande, Cymbidium giganteum, Cattleya labiata, Cypripedium violaceum, C. Harrisianum, and others, were among the best of the exhibit, which were all in bunches.

Fruit.—There was a capital display of Grapes in front of Messrs. Austin & McAslan's plants, which enhanced the excellence of this fine show, and this part of the hall was crowded at all times. There was a trayful of black Grapes, exhibited by Mr. Murray, with bloom as perfect as when they hung on the Vines at Park Hall, and which were justly awarded the 1st prize; they were an imitation of the excellent exhibit of Messrs. Thomson at Edinburgh the week before, and no doubt the transit in this form is more perfect than by any other method of sending to market. Mr. Leslie, Pitcullen, Perth, had a cross-handled basket, and the bunches were tied to the sides; and these Grapes were also in capital condition, the exhibit receiving a 2nd prize.

For the best four bunches of Grapes the competition was strong, and Mr. Leslie secured the 1st place, his Muscats and Gros Colmars being first-rate; Mr. Murray was 2nd, with good produce; and Mr. Maconochie, Cameron House, was a capital 3rd.

Among other prizes, a 1st was awarded to Mr. Leslie, for Gros Colmar and for any other Grape (for which he tabled capital Muscat), and Alicantes. Mr. Lunt, Keir, had large bunches of Mrs. Pince, but they had been rubbed prior to their being tabled. Mr. Murray also had several other leading prizes.

Vegetables were not extensively exhibited, but a 1st prize was taken by splendidly-grown produce from Lenzie by Mr. Delgarno, whose Parsnips, Carrots, Onions, Leeks, Tomatos, and Celery, were of special merit. Other collections in this class were good. Leeks and Tomatos were a capital display.

Mr. Murray tabled his Parkhall seedling Tomato in as fine condition as anyone could desire. (This variety had taken first honours for the same exhibition at Edinburgh). Mr. Harris's Leeks, which he brought from Carluke, were among many fine exhibits, a splendid 1st.

The grand exhibit of Grapes, beautifully-coloured Vine-leaves, and Tomatos, from Messrs. Buchanan, Kippen, were among the best of the ornamental exhibits, and the varied and brilliantly-coloured Vine-leaves was a source of great attraction to visitors. The Grapes arranged in trays were of first-rate quality, and had been carried remarkably well. They received a Certificate of Merit which was justly awarded. Messrs. Smith and Simons, and Messrs. Cunningham and Wyllie had their choicest plants in a line (for exhibition) with Messrs. Buchanan's display, and filled up one side of the hall. It was stated that there were exhibitors from nearly every district of Scotland at this fine exhibition. *M. Temple, Carron.*

NEATH, GLAMORGANSHIRE, SOUTH WALES.

November 22.—This show was held in the Gwyn Hall on the above date, and, notwithstanding no show was held last year, the present one was a great advance on the previous ones; and, taking into consideration the very bad weather and the lateness of the season, the exhibits, especially in the cut-bloom section, were excellent, no finer blooms ever having been seen at Neath. Amongst the exhibitors were such well-known growers in this part of the country as the Earl of Lisburne, Aberystwith; Sir Charles Philips, Haverfordwest; Mr. J. H. Rogers, Llanelly; Mr. E. P. Martyn, Dowlais, Mon.

Competitive exhibits were also good; Messrs. Clibran and Sons, Altrincham, had a fine stand of fruit and cut blooms of the newer varieties of Chrysanthemum; Messrs. Cox Bros., Cardiff; Mr. C. Phelps, Cardiff; Mr. W. Treseder, Cardiff; Messrs. E. Parsons and Sons, Swansea; and Messrs. H. Farrant and Sons, Swansea, were all strongly represented.

The chief prize was for twenty-four cut blooms, half to be incurved and half Japanese (distinct). Mr. Damble, gr. to Sir Chas. Philips, Picton Castle, Haverfordwest, was a good 1st, his incurved being in his well-known finished style; and Mr. Rogers, of Llanelly, was 2nd.

For twelve incurved distinct, Mr. Williams was 1st with fresh and heavy blooms; 2nd, Mr. Mabbott, gr. to Mr. E. P. Martyn, Dowlais.

For twelve incurved distinct, Mr. Williams was again 1st with fresh even blooms, and Mr. Damble 2nd.

For twelve incurved blooms, limited to growers in South Wales and Monmouthshire, Mr. Damble was 1st, and Mr. Williams 2nd.

For twelve Japanese, limited the same as the previous class, Mr. Rogers was 1st; and Mr. Thomas, gr. to Mr. Rees, Swansea, 2nd; Mr. Williams, 3rd.

There were numerous other small classes which were all well filled.

For group of Chrysanthemums, open to amateurs will regular gardeners, Mrs. H. H. Price was 1st, and Mrs. Gwyn-Daffryn, 2nd.

For a collection of Chrysanthemums intermixed with foliage and Ferns, Mrs. Gwyn was 1st.

For a group limited to 7 miles of Neath, 1st, Mr. T. Powell; 2nd, Miss Bevan.

MANCHESTER ROYAL BOTANIC.

November 23, 24.—What was admitted by general consent to be the finest autumn show ever staged in Manchester, took place in the principal room of the spacious Town Hall. Chrysanthemums were the chief feature, but reinforced with such a display of beautiful Orchids, that heightened the colour effect, and contrasted grandly with the beautiful frescoed walls, and the elliptic stained-glass windows, all the more appreciable, too, because of the dull, foggy day. The attendance was much better than we have seen for years, and the golden opinions evoked are sure to tell on future exhibitions.

Plants.

For nine large-flowered Chrysanthemums in pots there was a spirited competition, the best cultivated coming from Mr. T. Hasker, Brook House, Fallowfield, the plants being large-sized and leaved to the bottom—splendid healthy greenery with correspondingly large flowers; Mr. G. H. Gaddum, Adrea House, Didsbury, was 2nd; and Mr. J. C. Cherlton, Didsbury, was 3rd; an extra being awarded to Mr. Heine, Fallowfield. For six Japanese Chrysanthemums in pots Mr. Hasker was again 1st; Mr. R. S. Boddington, Park Lea, Higher Burghton, was 2nd; and Mr. Gaddum, 3rd. The best varieties in both these classes were Etoile de Lyon, W. H. Lincoln, Lord Alcester, Empress of India, Dr. Hermon Page, Sunflower, and Mons. Bernard. For six Pompon Chrysanthemums in pots, Mr. J. Brown, Longfield, Heaton Mersey, was 1st; Mr. T. C. Cleether, 2nd; and Mr. N. A. Earle, Edgemoor House, Kersal, was 3rd. Plants were well grown, but this is a class not so much admired by the general sightseer. The most prominent sorts were Nellie Rainsford, Cardinal Wiseman, and the old Cedo Nulli.

Cut Blooms.

For thirty-six incurved blooms, not fewer than eighteen varieties, or more than two blooms of one variety, Mr. Behrens, Whitchurch, was 1st; Mrs. Banner, Roby, Liverpool, was 2nd; and Mr. Goodacre, Elvaston Castle, was 3rd. The best blooms were A. Salter, Princess of Wales, Baron Hirsch, Golden Empress of India, Lord Rosebery (very full), Violet Tomlin, Lord Alcester (extra), Mons. Bahuant, Queen of England, and C. B. Whitnal.

For twelve incurved blooms, distinct, Mr. Brocklebank, The Hollies, Woolton, was 1st; Mr. T. Stanning, Broadfield, Leyland, was 2nd; and Mr. E. Behrens 3rd.

For twenty-four Japanese cut blooms, there was a good competition, Mr. Goodacre being placed 1st, Mr. E. Behrens 2nd; and Mr. W. Wells, Redhill, 3rd. The more prominent blooms were Primrose League, Lord Brooke, E. D. Smith, M. Henri Roberts, Theresa Davis, Charles Davis, W. H. Lincoln, Madame Carnot, Sir Trevor Lawrence, W. E. Hewitt, Col. Smith, Crown of Flowers, and Charles Buck.

For thirty-six miscellaneous cut blooms, Mr. Brocklebank was 1st, Mr. Wells 2nd, and Mrs. Banner 3rd, with an extra to Mr. J. W. Makant, Bolton.

Orchids.

As to the Orchid display, the post of honour was filled on this occasion by Messrs. Heath & Son, of Cheltenham. Looking at the time of the year, this was a marvellous display of well-cultivated Orchids, while the setting was made up of Palms and varieties of Ferns, enriched with coloured Crotons that told well, and the whole attracted marked attention. Cattleya labiata was abundantly in evidence in many of its choicest coloured forms. There was a rich-coloured Lælia anceps, like a "bowing bush" amongst the crowd; and the chaste paper-white L. anceps, Bull's var., which only lacks size to take forefront rank. There were several choice Cattleya crosses, the most conspicuous among among them being ×C. Mastersiana and ×Lælio-Cattleya Tresederiana. There was a good lot also of Cypripeds, conspicuous among them being C. Sanderæ, a beautiful form of C. insigne; a very good variety indeed this was, with but a few faint spots on the centre limb. C. × Swinburnei was another gem of first water; the Indian-red solid spots on the petaliferous limb invests this with special character. Moth Orchids, and the Dendrobe Moth Orchid, were in the group. This fine collection was awarded a Gold Medal.

Mr. Jas. Cypher, Cheltenham, had a choice lot. His Dendrobium Phalænopsis Schroderianum were in splendid growth, and in excellent variety, one particularly being of large size of flower, which had a rich vinous glow, that entrances the eye of any beholder. There were also some good Vanda cœrulea on exhibit, as well as several good Ladies' Slippers; and that bright, useful Orchid, Sophronitis grandiflora. We were glad to see that Masdevallias are not forgotten altogether; here was a good example of the sepia-brown coloured M. Schlimii, in fine health and inflorescence.

Messrs. Charlesworth & Co., Bradford, had also a very good lot, comprising several excellent species, prominent among them being a brilliant-coloured Cattleya labiata, one or two good Odontoglossum crispum, the beautiful Catasetum Bungerothii, Cypripedium Charlesworthii, and the scarlet Sophronitis.

Mr. Johnson, gr. to Thos. Statter, Esq., Stand Hall, had a splendid assortment of Cypripediums, the chief among them being hybrids. C. × Statterianum is a beautiful thing, and seems to be a good grower; × Southgatense, the spotting here being rich and solid; × Aphrodite, one of the best in respect of having a finish in it of surprising brilliancy—pity its peduncle was not longer; indeed, that is the prime fault with many of our most beautiful hybrids.

Mr. Hinde, gr. to M. Wells, Esq., Broomfield, had a few good Orchids, and he also exhibited the mounted dried flowers for which he had a Silver Medal in London. Mr. Ball, Bowdon, exhibited Cypridedium Sanderæ—not quite so good a form as was exhibited in Messrs. Heath's collection; and Mr. Ashworth, Wilmslow, showed two after the same strain, but not quite so good. These greenish-white Cypripediums are much in vogue now, and command large prices. Mr. O. O. Wrigley showed about 100 cut blooms of Cypripedium insigne taken off mostly different plants, and very effective. The exhibit was showing what a variety there is even in one species of Orchid.

Miscellaneous.

Messrs. Cannell & Sons had a good display of cut Pelargoniums; Messrs. Clibran & Sons, Altrincham, had cut Chrysanthemums, well-grown Roses, set in posies with the stems and leaves attached to them, more novel than beautiful, as the rank leafage does not go very well in this kind of decoration; they had also some excellent coloured and formed Amaryllis, in which the green base is all but obliterated, thanks to the blood of Roi Leopold.

Messrs. Dickson, Brown & Tait had a nice display of Cyclamens set amidst Ferns and Palms; and so had also Messrs. Dickson and Robinson.

Mr. Joseph Brown sent some seedlings from his flower borders at Llandudno, all bright and beautiful; and so did Messrs. Cole & Son, from the same district, consisting of Roses, Wallflowers, Carnations, Gladioli, Centaureas, Lobelias, Snapdragon, Violets, Cyatheas, Coleus, Vines, and Mignonette, forming effective and beautiful poses.

Messrs. Lord, Oakleigh House, had a very effective combination of cut flowers, comprising the choicest stove and greenhouse plants; and Mr. Mason had elegant bouquets loosely arranged and light, both to look at and for a lady to carry—a move in the right direction. Mr. T. Mosley, Halliwell, and Mr. J. Greenhalgh, Bolton, had also good examples.

DUNDEE.

November 23, 24.—The third show of this Chrysanthemum Society was held in the Kinnaird Hall, and was a success. Cut blooms were the most important part of the exhibition, and the Japanese were extensively staged. In the principal class, that for thirty-six, in not fewer than twenty-four varieties, for which a silver cup was offered as 1st prize, there were three competitors; this Mr. Smith, Taymount, West Ferry, won rather easily, with a stand of finely-developed blooms, all of them being fresh-looking, and of good colour. Mr. T. Mackie, Abbey Bank, Arbroath, was 2nd.

The class for twenty-four blooms produced six competitors, and Mr. R. Cairns, Balruddery, Dundee, was the winner of the 1st prize; Mr. Ruckbie, Linfield, West Ferry, being 2nd.

Mr. J. Fearn, Bourtree Bank, was 1st for twelve blooms, Japanese; and Mr. James Grant, Crimonmogate, Lowway, in the class for six, he having grand blooms. Incurved varieties were well shown by Mr. D. Nicoll, Rossie, Forgandenny, in the class for eighteen, for which a silver cup as 1st prize was offered; Mr. Beissant, Castle Huntley, was 2nd. Mr. Nicoll secured the highest award for twelve blooms.

Prizes were offered for a stand 30 by 24 inches, filled with naturally-grown blooms on long stems, arranged for effect in conjunction with any kind of foliage; and here Mr. Grossart, Binrock, Dundee, won the 1st prize, with an arrangement that was very pleasing. Mr. W. Kennedy, Ardarroch, Dundee, had the best grown and bloomed plants of incurved and Japanese varieties.

The arrangements of Mr. W. P. Laird, the Hon. Secretary, were most creditable, and afforded the utmost satisfaction to those concerned.

ROYAL BOTANICAL GARDENS, EDINBURGH.

The following plants are now in flower in these gardens:—

Barleria strigosa.—This Acanthaceous shrub-like plant is a native of India, and as stated in the *Flora of British India*, its habitats reach an altitude of 4000 feet. A plant in one of the beds of the Palm-house in these gardens has been flowering freely for several weeks. The large blue-coloured corollas make it a very acceptable flower at the present season. The plant is about five feet in height, the inflorescences are borne upon short axillary shoots, and sometimes terminally. The green bract-like sepals are very conspicuous. Grown in a pot, it does not attain to its full size, neither does it flower freely, which may account for its rarity in our gardens; otherwise the plant is of easy culture.

Sonerila margaritacea var. Hendersoni.—The silvery, blotched foliage of this plant make it a desirable stove plant at any season; but it is when seen in full flower as it now is that its full beauty is observable. The great number of rosy-pink flowers with their pointed yellow anthers form a pretty harmony of colour with the silvery foliage. In these gardens the plant is grown in a plant-case of about one yard square, and one foot in height, in which is placed a bed of sphagnum moss, no pots or pans being used, and the only requirements are the renewing of the sphagnum, and pinching-out of the tops when the shoots are three inches high, putting these tops into the case, where they soon root, and discarding the old plants.

Sonerila orientalis, is a stronger plant with a stiffer habit of growth. The foliage of a velvety texture, is of a reddish-brown tint, and the flowers are darker in colour. It is a very useful edging plant; for a stove plant stage, a compost consisting of peat, loam, and sphagnum moss chopped up suit its requirements.

Psychotria cyanococca.—The blue-coloured fruits of this plant, which hang in pendent clusters, are just now very attractive in the stove. The flowers are white and inconspicuous, but the plant has a neat habit, and undulated light green foliage. It is a native of Ecuador, and was introduced in 1870, and is of easy culture. It is propagated from half-ripened shoots.

Bignonia venusta.—Too much cannot be said in praise of this lovely Brazilian species. A fine plant trained on the roof of the Palm-house is putting forth its lovely orange corymbs of flowers. It is a fast grower, and our plant, which is planted under the stage in loam, was, when turned out of its pot last year, quite small, but shoots now measure nine or more yards in length. At Edinburgh it never requires to be shaded, and the well-ripened wood flowers freely. A fine plant, of great age, is growing at Syon House, Brentford, and the flowering shoots exhibited by Mr. G. Wythes occasionally at the meetings of the Royal Horticultural Society are justly admired.

Pitcairnia Roezlii.—This is one of the brightest-coloured Bromeliads, and an effective plant. The many-flowered racemes rise well above the long foliage; the sepals and petals are bright scarlet in colour, the stamens and pistil just protruding beyond the petals, the stigma being tinged with violet. Raised in the spring, it can be flowered in October or November. It is a native of the Andes of Peru, and was introduced about 1882. *R. L. Harrow.*

GLASGOW BOTANIC GARDEN.

There is always much to interest lovers of plants and flowers in well-appointed botanic gardens, but to attract the general public something special is necessary, and for some time past the Chrysanthemums at the Botanic Garden of Glasgow have given much pleasure to the flower-loving people of St. Mungo. This, we noticed, was strikingly evinced on the above date, which was the second Saturday of the special exhibition. Great crowds flocked to the gardens, especially the Keble Palace, where the choicest of the plants loaded with inflorescence were arranged in the centre of the western dome in pyramidal form. The finer flowers (all were good), were artistically interspersed in order to show their peculiar colours and forms.

It was noticeable that in this choice collection many of the older varieties held their own against the newest comers (this is so at many of the leading exhibitions elsewhere), and those older varieties well-grown, have been the chief prize-winners of the season. Around the group at the Botanic Garden was arranged (with a path between) specimen Palms, Camellias, choice Conifers, Dracænas, &c., with Chrysanthemums laden with flowers interspersed among them. The houses and corridors leading out of this division were likewise filled with Chrysanthemums in standard and dwarf forms, in company with Pelargoniums, foliage, hard-wooded greenhouse plants, sweet-scented Pelargoniums (plants which have been much neglected in many gardens), were much admired, as such always are, by reason of their perfume.

Mr. Dewar (the talented curator), seems thoroughly alive to the need to meet the tastes of the citizens of Glasgow, as well as all other requirements. Among the finest flowers in the exhibition were (whites) Beauty of Exmouth, Etoile de Lyons, Avalanche, White Globe, White Venus, Viviand Morel, Stanstead White, Ethel Paul, Condor, Jeanne d'Arc, Bouquet de Dame, and Mr. Campbell. The yellows were very brilliant, and well represented. W. H. Lincoln, Peter the Great, Golden Queen of England, Sarah Owen, and some fine varieties among the Anemone and Marguerite classes gave capital relief to the larger and more formal varieties. Among other

colours very fine was Dr. Macray, Edwin Molyneux Val d'Andorre, Jewess, Madame Braco, Mrs. Sharpe, Mons. Bernard, Wm. Holmes, Wm. Lane, Amy Furze, and John Shrimpton. We notice among many large growers that selections of the best are preferred to great collections. From the Chrysanthemums we went through the other structures. The large dome of the "palace" was full of shrubs and trees in luxuriant health, and all clean; Camellias full of buds, Araucaria excelsa, A. Bidwillii var. Joseph Napoleon, Palms, Dracænas, &c.; and among the other plants were tall standards of Chrysanthemum var. Little Rose, one of the most attractive plants in the building, loaded with its star-like flowers.

From here, other structures full of healthy plants were traversed, till the Azalea-house was entered. It was filled with specimens, Rhododendron Dalhousieanum, and others of its class in fine form; and Epacris with long growths and finely set with flowers, are well worthy of the position which they occupy. Other houses were filled with choice stove, foliaged plants, Ferns, and Orchids, Lycaste Skinneri, Cypripediums (especially insigne), finely in flower; and Lælias opening.

Other houses we went through were filled with succulents. Stove and greenhouse plants were most creditable to all concerned, by reason of health, cleanliness, and order. *M. Temple, Carron.*

CULTURAL MEMORANDA.

SOME NOTES ON THE CULTURE OF TREE CARNATIONS.

HAVING studied the requirements of these plants for some time, I may be allowed to make a few remarks in regard to my methods of cultivating them, but with which I have no doubt many will already be well acquainted. The old plants are layered about the end of July or beginning of August, and the layering is done in a cold frame. After layering I keep the sashes on for a week or so, shading the plants on bright days, gradually admitting light and air, till in about ten days after layering, I leave them uncovered altogether. In about a month or six weeks the layers are well-rooted, and I pot them into 3-inch pots, using a compost consisting of loam one part, leaf-mould two parts, and one part of sharp sand. I then place them into a cool-house or frame, where they are not long in filling their pots with roots. When their roots have thoroughly filled the new soil, they are re-potted, this time into 6-inch pots, using for a compost two parts good loam, one of exhausted mushroom-bed material, and one of old fern roots, adding charcoal, sand, and some artificial aid, such as Cross's or Thomson's Vine and Plant Manure. The plants flower in these pots in June or July, throwing up one spike, or perhaps more. After flowering is passed, I cut back the flower-spikes, and re-pot into 10-inch pots in a like compost to the last, and then I have nice bushy plants for the following year. To some gardeners the shift from a 3-inch to a 6-inch pot may seem too large, but I find that the plants do best when given a large shift. Green and black-fly are great enemies of the Tree Carnation, and my method of dealing with these pests is to dust the plants with tobacco-powder, and syringe them a day or two afterwards, laying the plants on their sides when doing this. In winter I keep the temperature for them about 45° at night. *J. B. Crichton, Meadowbank, Kirkminton.*

VEGETABLES.

PEA DUCHESS.

THIS variety is highly thought of as a summer Pea. I look upon this Pea as being superior even to Duke of Albany, and it has the great merit of coming into use late. I have been gathering Peas from a sowing made at the end of the month of June; excellent produce for the season. Instead of growing as usual between 6 and 7 feet high, the plants are not above 5½ feet. *E. M., October.*

A GOOD LATE PEA.

This description may be fairly applied to Sutton's Latest of All green Marrow, from which variety the gardener at Orchard Dene, Ealing, had been gathering pods since August up to the Lord Mayor's day (November 9th), and then there was not the slightest sign of mildew. The peas are a delicate green tint and of delicious flavour. The pods commence setting at the bottom of the plant, and they are thickly produced in pairs over the dark-green haulm. The pods contain from nine to twelve seeds. *J. B.*

LAW NOTE.

(*Before the* LORD CHANCELLOR, LORD MACNAUGHTEN, *and* LORD DAVEY).

LEMMON *v.* WEBB.

THIS was an appeal from a decision of the Court of Appeal, reversing a judgment of Mr. Justice Kekewich, who decided in favour of the present appellant. In 1869 the appellant purchased a property called Malquoits, situated near Guildford, in the county of Surrey, and comprising about 21 acres, and in 1879 he purchased another estate, called Ewhurst Place, of about 106 acres, the boundaries of which marched with those of Malquoits. In 1878, the appellant sold Malquoits to the respondent. At the time of the purchase by the respondent of the latter property there were growing on the boundary of the two estates, but upon the land of Ewhurst Place, a number of large timber trees, the branches of which overhung the land and soil of Malquoits. The respondent, without giving any notice to the appellant, after he took possession of Malquoits, proceeded to lop off the branches of the trees that overhung his land, whereupon the appellant instituted the present proceedings with the object of obtaining a declaration that the respondent was not entitled to cut any branches of the appellant's trees which overhung the respondent's land when such overhanging had continued for many years, for an injunction to restrain the respondent from cutting the branches, and for damages. The action was heard before Mr. Justice Kekewich, who ordered the respondent to pay the appellant the sum of £5 damages and costs. The respondent having appealed, the Court of Appeal reversed the decision of Mr. Justice Kekewich, and gave judgment for the respondent. The appellant now sought to have the decision of the Court of Appeal reversed, contending that notice was necessary before the branches could be cut.

Mr. Warmington, Q.C., and Mr. R. F. Norton appeared for the appellant; and Mr. Marten, Q.C., and Mr. J. Bradford for the respondent.

At the conclusion of the arguments for the appellant, their Lordships dismissed the appeal, being of opinion that the respondent was not bound to give notice before abating the nuisance.

Appeal dismissed with costs. *Times, Nov.* 28.

ENQUIRIES.

"*He that questioneth much shall learn much.*"—BACON.

PERRY.—The Rev. G. H. ENGLEHEART, Appleshaw, Andover, will be much obliged if any reader will give him a practical receipt for making "Perry" out of a few bushels of Pears, without any proper mill or crushing machinery; but, if feasible, simply by the use of ordinary kitchen tubs, &c.

COVENT GARDEN.—When did Covent Garden first become a market? *Ignoramus.*

THE WINDLESHAM NURSERIES BAGSHOT.—Messrs. PROTHEROE & MORRIS, who have recently sold these well-known nurseries which were formerly carried on by the late Mr. R. MASON, conducted last week a highly successful six days auction sale of a portion of the nursery stock which extended over 30 acres. These nurseries have been noted for Rhododendrons, Acacias, and young Conifers. The sale was probably the most important and largest that has taken place for many years, the attendance being large, and competition brisk throughout the six days.

Obituary.

JAMES COCKER, JUNIOR.—We regret to announce the death, at the age of thirty-nine years, of Mr. James Cocker, Junior, of Messrs. J. Cocker & Sons, nurserymen, Aberdeen, which took place at his residence, 91, Leslie Terrace, in that town, on Wednesday, November 21. He is survived by a widow and family of five young children.

MARKETS.

COVENT GARDEN, November 29.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	2 6	5 0
Azaleas, doz. sprays	0 6	1 0
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	2 6	4 0
Gardenias, per doz.	3 0	4 0
Geraniums, scarlet, per 12 bunches ...	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz. sprays ...	0 6	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	3 0	5 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	2 6	3 6
— Czar (French), per bunch ...	1 6	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Cooking, p. sieve	4 0	6 0
— Dessert, half-sieve	2 6	3 6
Grapes, 1st quality, black, English, per lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	3 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb. ...	25 0	27 6
Pears, Dessert, half-sieve	3 0	6 0
Pine-apples, St. Michael, each ...	2 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cauliflowers, p. doz.	1 0	1 6
Cucumbers, per doz.	5 0	6 0
Mushrooms, per lb.	0 10	1 0
Onions, per bush....	1 6	2 0
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 6	0 7

POTATOS.

The demand for the best samples has much improved since our last report, as well as for good quality tubers from dark soils. Beauty of Hebrons, first quality, 95*s.* to 105*s.*; Snowdrops, do., 95*s.* to 105*s.*; Main Crop, do., 95*s.* to 105*s.*; Imperators, do., 80*s.* to 90*s.*; Bruces, do., 80*s.* to 90*s* Magnums, do., 70*s.* to 80*s.*; do., dark soil, 65*s.* to 70*s.* ordinary sample, 55*s.* to 60*s.* *J. B. Thomas.*

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending November 24, and for the corresponding period last year:—1894: Wheat, 19*s.* 11*d.*; Barley, 22*s.* 4*d.*; Oats, 14*s.* 3*d.* 1893: Wheat, 27*s.* 1*d.*; Barley, 28*s.* 9*d.*; Oats, 18*s.* 3*d.*

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 128*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 60*s.* to 105*s.*; do., inferior, 38*s.* to 60*s.*; mixture 90*s.* to 105*s.*; and Straw, 22*s.* to 38*s.* per load.

SEEDS.

LONDON: *November* 28.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that American cables quote Red sixpence and Alsyke eighteenpence dearer. White Clover-seed exhibits increasing weakness. No attention is given to Trefoil or Rye-grasses. A further advance is asked for Scarlet Runners. Giant Haricots keep scarce and strong. Peas are still slow. There is no change in either Canary or Hempseed. Rapeseed hardens in value. The new Kœnigsberg Tares come cheap and good. Linseed is improving. Mustard unaltered.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending November 24.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 +	29	6	+ 336	— 61	4 —	207	46·4	11	31
1	3 +	27	15	— 69	+ 17	4 —	185	31·8	18	34
2	4 +	27	5	+ 49	— 84	5 —	191	24·2	6	31
3	1 +	31	18	+ 87	— 145	5 —	187	25·0	25	34
4	3 +	30	11	+ 79	— 140	4 —	179	25·2	15	31
5	3 +	33	5	+ 165	— 462	6 —	180	30·1	39	35
6	4 +	35	6	+ 72	— 84	1 —	194	44·9	10	32
7	5 +	39	0	+ 231	— 154	4 —	190	32·7	7	32
8	3 +	36	0	+ 144	— 99	5 —	193	41·2	22	37
9	2 +	30	12	+ 71	— 39	3 —	212	34·2	15	30
10	1 +	35	6	+ 77	— 87	3 —	194	40·0	21	32
*	2 +	52	0	+ 333	— 19	8 —	199	36·1	23	42

The districts indicated by number in the first column are the following:—
0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 24, is furnished from the Meteorological Office:—

"The *weather* continued somewhat changeable, with occasional rain during the earlier part of the period, but subsequently became drier and more settled than for many weeks past. Bright aurora was observed on several occasions over the extreme north of Scotland, and a very brilliant display over all the more northern parts of that country on the 23rd.

"The *temperature* was above the mean in all districts, the excess varying from 1° in 'England, E. and Ireland, S.,' to 4° in 'England, N.E. and Scotland, W.,' and to 5° in 'Scotland, N. and England, N.W.' The highest of the maxima were recorded during the earlier days of the week over 'England,' and rather later in Ireland and Scotland, they ranged from 61° in 'Scotland, W.,' to 55° in 'Scotland, E. and Ireland, N.,' and also in 'England, E. and the Midland Counties.' The lowest of the minima occurred on the 24th, when they varied from 21° in 'Scotland, E.,' and 24° in 'Ireland. N.,' to 34° in 'England, N.W.,' and to 40° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts, the deficit in most instances being considerable.

"The following additional information has been received concerning the rainfall in Dorsetshire for the preceding week. At Cattistock and at Hazelbury the amounts measured between the 11th and 14th were 5·06 ins. and 6·63 ins. respectively, while the amounts recorded from Oct. 20 to Nov. 16 were 13·45 ins. at Cattistock, 14·73 ins. at Godmanstone, and 16·28 ins. at Hazelbury.

"The *bright sunshine* varied a good deal in amount in different parts of the country, being above the mean in most of the southern and northern districts, and below it at most of the western stations and in 'England, N.E.' The percentage of the possible duration ranged from 39 in 'England, S.,' and from 28 in the 'Channel Islands,' to between 10 and 18 in 'Scotland,' to 7 in 'England, N.W.,' and to 6 in 'England, N.E.'"

NOTICES TO CORRESPONDENTS.

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

BONÂ FIDE COTTAGER AND AMATEUR: *S. W.* One who is not a gardener by profession; and who does the work of his garden with his own hands, or at the most only employs an unskilled labourer for the digging and other heavy jobs. A coachman and gardener is not an amateur. A cottager might possess a small heated greenhouse without ceasing to be a cottager exhibitor. It is extremely difficult to frame a rule that shall fit all cases. Cases of doubt should be decided on their merits by the committee.

CATTLEYA, DENDROBIUMS, AND ODONTOGLOSSUM (CRISPUM?), &C., IN WARDIAN CASES: *W. B.* We have no confidence in any system of Orchid culture carried on in one Wardian case. For one thing, three separate cases would be required for the genera you mention, their treatment being dissimilar; and we do not believe that the necessary amount of ventilation could be secured. Moreover, the variations of temperature would be as erratic as those of the rooms in which they stood, and would necessarily be very great, and consequently injurious to the health of the plants. "Spot" would also be a plague that would have to be contended with. Camellias and Rhododendrons might be forced into bloom in such cases, but the plants would not remain in health if kept a long time in them.

COVENT GARDEN: *Ignoramus.* The name is a corruption of Convent Garden, of which the present market occupies the site.

CELERY: *H. J. F.* The leaves are first attacked by a fungus, Cercospora apii, Fres.; then, owing to lowered vitality, the "heart" of the Celery is attacked by "eel-worms," which are present in immense numbers. The diseased plants should be burnt, and the soil disinfected. *G. Massee.*

CHRYSANTHEMUM: *M. P. B. G.* The bloom you send appears to be that of Empress of India grown without thinning, and minus its chief characteristics.

CHRYSANTHEMUM SHOW: *F. M.* 1. Yes; there is no reason why the disqualification in the one case should affect the best bloom in the show. 2. We cannot say what happened in 1892. It is already ancient history.

COX'S POMONA APPLE: *C. R.* It is both a culinary and dessert variety.

FIVE OF THE BEST PEACHES AND THREE NECTARINES FOR FORCING: *A Reader.* Alexander, Waterloo, Hale's Early, Early Grosse Mignonne, Violette Hâtive (English Galande); Grosse Mignonne. These varieties ripen from July to September, in the order of their names. If you like novelties, plant Early Rivers instead of Alexander; and Early Silver, a very large fruit, might take the place of Hale's Early. The Nectarines might consist of Advance, Dryden or the Improved Downton, and Spenser. These are new varieties; older ones are Violette Hâtive, Elruge, and Hardwick.

JAPAN ANEMONE: *X.* The outermost sepals are developed in the guise of leaves. We do not remember to have seen this change before in this plant, though it is common enough in other plants.

LYCASTE SKINNERI: *N. B.* It is, as you remark, an unusual occurrence for two flowers to grow on one spike.

NAMES OF FRUITS: *M. P. B. G.* Pear, Winter Nelis.—*Cider.* 1, Cellini; 2, Claygate Pearmain; 3, 4, 5, poor, bruised examples; we cannot identify them.—*H. H. H.* 1, Easter Beurré; 4, Beurré d'Aremberg; 5, Beurré Diel; others not recognisable.—*W. G.* Chaumontelle true.—*L. J. G.* Very similar to Queen Caroline.

NAMES OF PLANTS: *Derrywin.* 1, Garry elliptica; 2, Rhus Cotinus, Wigtree.—*W. W.* Phœnocoma prolifera Barnesii.—*J. C. S.* 1, Boletus bovinus; 2, Tremella frondosa; 3, Lælia lubrica; 4, probably Hygrophorus discoideus, but no information given; 5, Ag. (Flammula) sapineus possibly, but no locality given; 6, Dacrymyces deliquescens. *M. C.*—*G. T.* Cratægus coccinea.—*W. T. Burton.* 1, Cymbidium giganteum; 2, Vanda suavis; 3, Vanda tricolor; 4, Phalænopsis Schilleriana. The variety of Odontoglossum crispum is not a good one.—*J. F.* Should address the Editor. 18, Sedum Sieboldi; 17, Cupressus funebris; 16, Retinospora squarrosa, grown under glass and out of character. The others will be named next week. Another time do not send more than six.—*M. K. G.* 1, Salvia involucrata; 2, Dracæna metallica; 3, Cheilanthes lendigera; 4, Asplenium bulbiferum biforme; 5, Pteris argyræa; 6, Nephrodium molle; 7, Polypodium aureum.—*A. M.* 1, Cyperorchis elegans, syn. Cymbidium elegans; 2, Bambusa Fortunei variegata; 3, Carex variegatus; 4, Panicum plicatum; 5, Chamæranthemum igneum.—*C. Walker.* 1, Salvia involucrata; 2, Send when in flower.

TACSONIA VAN VOLXEMI: *C. W., Norwich.* Doubtless the roots of the plant are in an unhealthy condition. In February you should examine the state of the soil, and the roots; the border may be found to require entire renewal. If that should be the case, excavate the whole to a depth of 1½ to 2 feet, and put in clean drainage-materials to a depth of 6 or 8 inches, and fill up with good fibry loam two-thirds, peat one-third, and a little leaf-mould, and plenty of sharp sand. Use the soil in a roughish lumpy condition. Prune off the decayed roots back to healthy tissue, and, shaking off most of the old mould, and replant not deeper than 2 to 3 inches below the surface. Tacsonias and Passifloras require roomy root-runs, say 8 to 10 feet square, and a depth of 1½ feet of mould.

THE USE OF ELECTRIC LIGHT IN FORCING VEGETABLES: *W. G.* We are unable to find any notice of experiments in this direction carried out at the Columbian Exhibition. The more recent accounts of electricity used as an illuminant in forcing-houses during the winter season, will be found in *Gardeners' Chronicle* for August 20 and October 15, 1892; and September 2 and 30, 1893. The first two refer to American experiments.

YORK CHRYSANTHEMUM SHOW: *J. Lazenby.* As the certificates granted by small provincial societies have small value, compared with those of the Royal Horticultural Society or of the National Chrysanthemum Society, they are seldom given in our reports of shows.

WATER LILIES IN LONDON: *M. S.* The notice to which you refer was in our issue for September 9, 1893, p. 301.

COMMUNICATIONS RECEIVED.—Revue Scientifique.—C. Ballet Troyes.—W. R.—R. D. B.—P. I.—G. G.—W. M.—Harrison Weir.—J. C.—W. C. G. L.—Canon E.—A. P.—J. L. & Sons.—J. L.—J. C.—W. W.—Dr. de Varigny, Paris.—E. C.—W. Sowerby—J. L.—J. H.—D. T. F.—C. T. D.—M. T.—H. M.—E. J.—E. C.—J. J. W.—A. C. F.—G. B.—F. S. & Co.—F. T.—R. O.—C. B. P.—T. D. S.—R. C. W.—H. Rogers.—A. G.—J. P. L.—A. Fellow.—J. B. C., Meadow Bank.—Nemo.—A. D.—H. C. P.—E. H. J.—J.—Phytoptus.

PHOTOGRAPHS, SPECIMENS, ETC., RECEIVED.—S. C.—W. W.

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("THE TIMES OF HORTICULTURE")

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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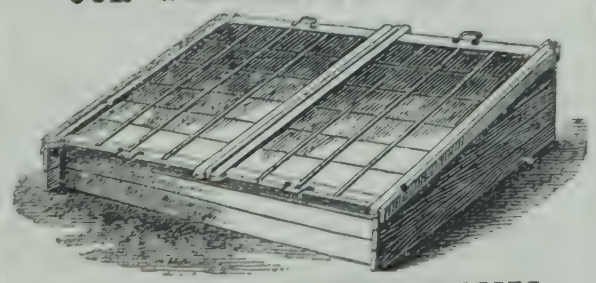
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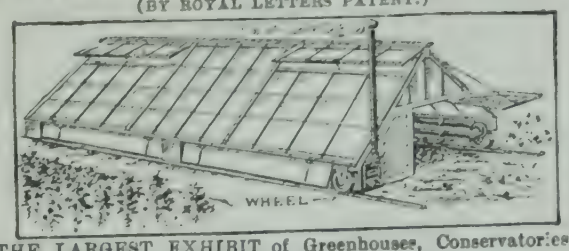
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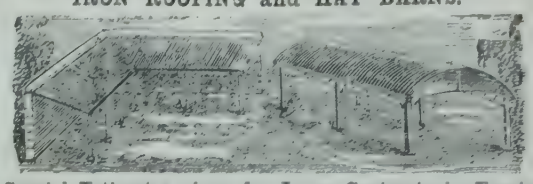
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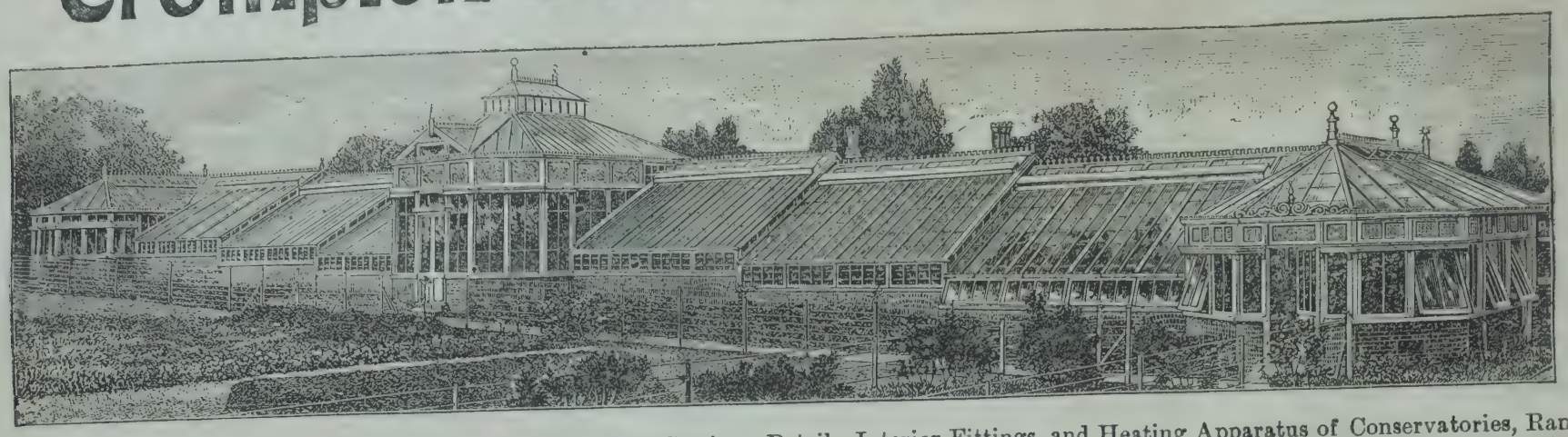
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To issue a full Catalogue of Chrysanthemums until the flowering season is over. If this is done, many of the best are left out, and many worthless varieties recommended. I have, therefore, issued a Preliminary List, which can be had free on application.

My full Catalogue is in preparation, and will again stand alone as the most perfect and useful Guide up to date. This is not only a Guide which Varieties to select, but will also give treatment, such as size of pot, which bud to take out, and will be invaluable to the Gardener as well as the Amateur. It will also contain beautiful Illustrations of New Varieties, as well as several new features, and

Will be posted to Customers free immediately it is ready.

This is produced at great cost, and not being one of those who can give } **SOMETHING FOR NOTHING,** { I will forward it to non-Customers post-free, for seven stamps.

H. J. JONES, RYECROFT NURSERY, LEWISHAM.

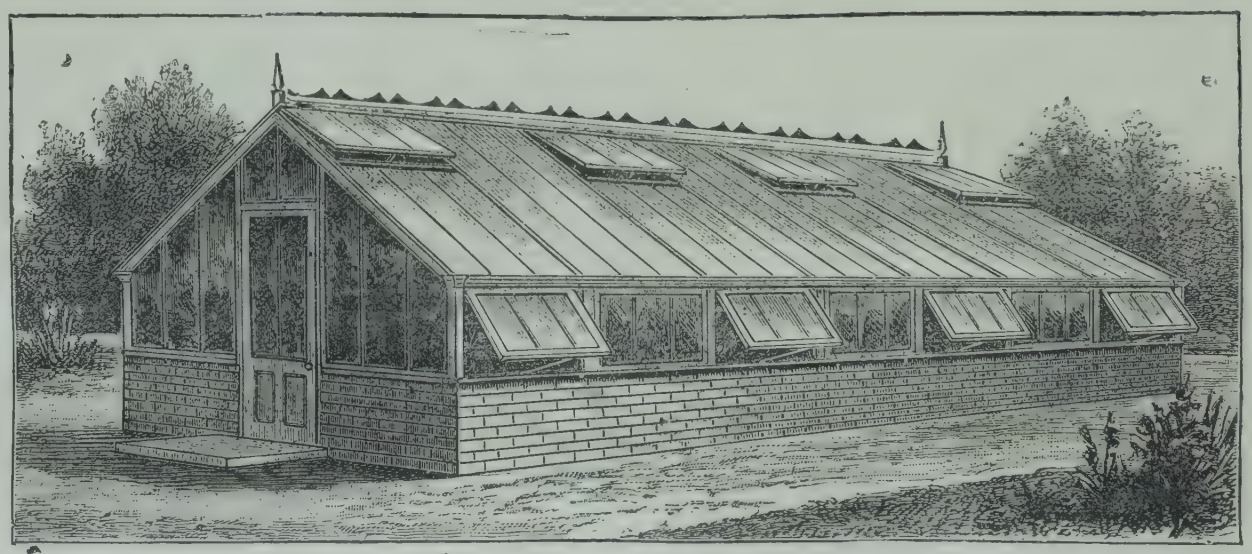
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

CHRYSANTHEMUMS. — Ours, the largest and most complete Collection, is now truly splendidly in flower. Our house, 160 feet long by 25 feet wide, is the grandest and most interesting sight in England. We should be much pleased to send our Descriptive and Illustrated CATALOGUE of ours, the best country-grown plants in England, post-free. H. CANNELL AND SONS, Swanley.

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Two miles from Dartford Station, S.E. Railway.

IMPORTANT TO FRUIT GROWERS, FLORISTS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Mart, Tokenhouse Yard, London, E.C., on MONDAY NEXT, Dec. 10, at 2 o'Clock, in one Lot, the capital NURSERY, comprising part of Great Hawley Fields, abutting on Shire Hall Lane, in the Parish of Sutton-at-Hone, near Dartford. It comprises nearly 4 acres of land, 5 well-built span-roofed Greenhouses, with a superficial area of 40,000 feet, heated by 6000 feet of 4 inch piping, and three boilers. The Nursery is specially suitable for growing Fruit, Cut Flowers, and Plants.

May be viewed. Particulars may be had on the premises, of Messrs. METCALFE AND SHARPE, Solicitors, 40, Chancery Lane, W.C., and of the Auctioneers, 67 & 68, Cheapside, London, E.C.

The Windlesham Nurseries, near Bagshot, Surrey.

FINAL CLEARANCE SALE of the remaining valuable NURSERY STOCK, STACK of HAY, HORSES, CARTS, VAN, and EFFECTS, by order of the Executors of the late Mr. Richard Mason, in consequence of the Freehold and Leasehold Nurseries having been sold. Two days.

MESSRS. PROTHEROE AND MORRIS (having disposed of the Nurseries) will SELL by AUCTION, on the Premises as above, on MONDAY and TUESDAY NEXT, Dec. 10 and 11, at 12 o'Clock each day, the remaining beautifully grown NURSERY STOCK, in excellent condition for removal.

40,000 Rhododendrons, named hybrids, seedlings, and ponticum, 1 to 3 feet	5,000 Standard and Dwarf Roses
2,500 Kalmia latifolia, 1 to 1½ foot	Daphne Cneorum Lilacs
2,000 Andromeda floribunda	Hardy Climbers in pots
4,000 Azalea Mollis, Ghent, &c	Dwarf-trained Peaches
	Nectarines and other Stock

Ten Loads of prime Meadow Hay, also the Horses, Carts, Van, and Utensils in Trade.

May be viewed. Catalogues may be had on the premises; of Messrs. REEP, LANE & Co., Solicitors, 4, Gt. St. Thomas Apostle, E.C., and Bagshot; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

Streatham, S.W.

Unreserved sale of ESTABLISHED ORCHIDS; also some PALMS and STOVE and GREENHOUSE PLANTS, mostly from two well-known private collections.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Streatham Town Hall, Streatham, S.W. (close to the Streatham Station), on WEDNESDAY NEXT, December 12, at half-past 12 o'Clock, without reserve, a choice selection of ESTABLISHED ORCHIDS, including—

Cœlogyne cristata alba	Odontoglossum Insleayi splendens
Cypripediums, the rarest and most popular	Saccolabium giganteum album
Cattleya Gaskelliana albens	Lælia anceps alba
,, Skinneri alba	Vanda Batemaniana var. Clarkei
,, Trianæ ,,	Dendrobium Cooksonii
,, aurea	Trichopilia cortile alba, in flower
,, Eldorado Wallisi alba	
Sobralia xantholeuca alba	

And many other Orchids in flower or bud.

May be viewed morning of Sale. Catalogues had at the place of Sale, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Ealing Dean, W.

CLEARANCE SALE of a Portion of the Stock, by order of Messrs. Lee & Son, of their far-famed collection of Fruit Trees of nearly every description.

MESSRS. PROTHEROE & MORRIS will SELL by AUCTION, on the Premises, Messrs. Charles Lee & Son's Nurseries, Uxbridge Road, Ealing Dean, five minute's walk from Castle Station, G.W. Ry., and 15 minutes from Ealing District Railway Station, on WEDNESDAY and THURSDAY NEXT, Dec. 12 and 13, at 12 o'Clock precisely each day, thousands of FRUIT TREES, consisting of Standard and Pyramid APPLES, some extra large Horizontal-trained APPLES and PEARS; Dwarf-trained PEARS, several thousands Standard and Pyramid PEARS; a large portion of their Standard, Half-Standard, and Trained PEACHES and NECTARINES, the finest and healthiest stock in the Kingdom, and the most important lot ever included in a Sale; fine Dwarf-trained PEACHES and NECTARINES; Standard and Pyramid PLUMS, a Collection of DAMSONS of the best sorts; CURRANTS and GOOSEBERRY BUSHES, all the best sorts and fine healthy plants; 3000 Golden and Green EUONYMUS, from 9 to 15 inches, in splendid colour, for potting and planting in window boxes, &c.; a grand variety of hundreds of Ornamental, Foliage and Flowering TREES, for Gardens and Parks; a large collection of HERBACEOUS PLANTS, IRIS, &c.

May be viewed. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Thursday Next.

279 CASES of LILIES.

DIRECT FROM JAPAN, COMPRISING:—

21,680 LILIUM AURATUM
6,080 ,, SPECIOSUM RUBRUM
1,990 ,, ,, ALBUM
8,500 NERINE JAPONICA
1,700 JAPANESE NARCISSUS (JOSS LILY)
2,000 LYCORIS RADIATA (orange-red flowers)

Also 400 Dwarf ROSES, STOVE and GREENHOUSE PLANTS, SPIRÆAS, HARDY BORDER BULBS and PLANTS, CALOCHORTI, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, December 13, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Monday, Tuesday, and Thursday Next.

DUTCH BULBS—GREAT UNRESERVED SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C. on the ABOVE DAYS, at 12 o'Clock each day, large Consignments of first-class HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, lotted to suit large and small buyers.

On view mornings of Sales, and Catalogues had.

Monday Next.

SPECIAL SALE OF 10,000 HARDY PERENNIALS, CARNATIONS, PICOTEES, LILIES, and IRIS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, on MONDAY NEXT, December 10, at 12 o'Clock, hundreds of choice Hardy Perennials in great variety, from one of the largest growers in this country; thousands of Carnations, Picotees, Hollyhocks, Pyrethrums, Pæonies, Phlox, and Delphiniums of the most popular sorts, 10,000 Galanthus Elwesii, Chionodoxas, Anemone fulgens, Scillas, and other Bulbs, a magnificent collection of the finest kinds of Lilies, including Browni, Lowi, Colchicum, testaceum, rubrum, album, and many others; also a grand assortment of Iris germanica, sibirica, Kempferi, Olbiensis, and others.

On view morning of Sale, and Catalogues had.

JAPANESE and CHINESE CURIOS, and ORNAMENTAL and USEFUL ARTICLES for CHRISTMAS PRESENTS, the latter being the Surplus Stock of a West-end House.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY, THURSDAY, and FRIDAY NEXT, December 12, 13, and 14, at half-past 12 o'Clock each day, a large ASSORTMENT of JAPANESE and CHINESE CURIOS, including Chinese Blue and White Vases, Jars and Covers, and Plates, Lacquered Trays, Satsuma Vases, Centre Jars and Covers, Ivory Swords, fine-toned Gongs on Stands, Tea-sets, Jars, Covers, and Bowls, in different Wares; Metal Card trays, Stamp-boxes, Pin-trays, &c.; Embroidered Folding Draught-screens, Japanese Bronze Vases, large Chinese Plant-pots, Lacquered Tables, Chinese Fancy Cane-chairs and Tables; also a LARGE ASSORTMENT of USEFUL and FANCY ARTICLES, being the Surplus Stock of a West-end House, suitable for Christmas, Birthday, or Wedding Presents, consisting of Writing-table Sets, Ladies' and Gentlemen's Dressing-bags, Ladies' Silver-mounted Dressing cases, Albums, Frames, Fans, Purses, Screens, China Clocks, Workboxes, and numerous other articles.

May be viewed day prior and mornings of Sales. Catalogues of the Auctioneers, 67 and 67, Cheapside, E.C.

Friday Next.

An Importation of LÆLIA TENEBROSA, in sheath, including many grand specimens, from Messrs. F. Horsman & Co.; also 400 lots of ODONTOGLOSSUM CRISPUM, in splendid masses, from Mr. A. Van der Bogoerde, together with ESTABLISHED ORCHIDS and ORCHIDS in FLOWER.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, December 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Choice Artist Proof Etchings, Engravings, PHOTOGRAVURES, PRINTS, &c.—Important FIVE DAYS' UNRESERVED SALE, by order of Messrs. B. Brooks & Sons, the old-established art publishers, of 171, Strand, W.C.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67, and 68, Cheapside, London, E.C., on MONDAY, December 17, and four following days, at half-past twelve o'clock each day, PROOF ETCHINGS and ENGRAVINGS, PHOTOGRAVURES, &c., embracing well-known examples of all the eminent artists, scarce signed artist proofs, including some of the most noted publications of the day. The whole are, with few exceptions, in the remarque and artist proof state of the plate, mostly signed by the respective artists and etchers, and retaining all their cream and beauty.

The whole of the stock will be on view Saturday, December 15, and morning of each day's sale. Catalogues may be had either of Messrs. Brooks & Sons, 171, Strand, W.C., or of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday, December 21.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE, on FRIDAY, December 21, a fine plant in flower of a new variety of a

YELLOW CYPRIPEDIUM INSIGNE,

very similar to C. insigne Ernestii.

On view morning of Sale.

Hawkstone Gardens, Shropshire.

SALE of the whole of the VALUABLE STOVE and GREENHOUSE PLANTS (including several important specimens), to be held at the "County Mart," Shrewsbury, where the whole of the Plants will be removed for the convenience of selling.

MESSRS. WM. HALL, WATERIDGE AND OWEN are honoured with instructions from C. E. Bullock, Esq., Hanley, Staffordshire, to conduct this important Sale as above, on THURSDAY, December 20, 1894, Sale at 11 o'Clock precisely.

Full particulars in Catalogues, forwarded on application to the Auctioneer's Offices, High Street, Shrewsbury.

Thursday and Friday, December 20 and 21.

The Hoyland Hall collection of established Orchids.

MESSRS. WILLIAM BUSH AND SON respectfully give notice that they are instructed by C. W. Fincken, Esq., J.P. (who is giving up collecting on account of ill health), to SELL by AUCTION, at their Rooms, 2 and 3, East Parade, Sheffield, as above, at 11 o'clock each day, about 800 established Orchids, including, in addition to many rare and valuable plants, Lælia Finckeniana, F.C.C.R.H.S., the only known specimen in Europe.

Catalogues are ready, and may be had; also orders to view one week prior to sale, of Mr. JOSEPH MILBURN, the Head Gardener (who is open to another engagement), Hoyland Hall, near Barnsley, or of the Auctioneers at their offices as above.

Wednesday Next.

GREAT SALE OF PLANTS, BULBS, LILIUMS SHRUBS, &c.

An Extensive Consignment of Choice Named HYACINTHS, TULIPS, CROCUSES, NARCISSUS, LILIUMS, and other BULBS, from well-known Growers in Holland, in the finest order.

A Grand Importation of small beautifully-grown Hardy Ornamental Shrubs for Pot or Border cultivation, Hydrangeas, Clematis, and other climbers, Pæonies, &c.

22 Specimen Palms, 200 Azaleas Mollis, and 100 Azalea Indica, well set with buds. Best Ghent Begonias, Gloxinias, &c., from Belgium.

Lilium auratum, L. longiflorum, L. Krætzeri, &c., from Japan; LILIUM HARRISI, SACRED LILIES, LILY of the VALLEY Crowns and Clumps; SPIRÆA JAPONICA and PALMATA, DIELYTRA SPECTABILE, &c.

A splendid Collection of over 2,000 Choice Named Standard, Dwarf, and Climbing ROSES, including many of the newest and best sorts.

1000 Choice-named Pyramid and Dwarf-trained APPLES, PEARS, PLUMS, NECTARINES, PEACHES, CHERRIES, and other FRUIT TREES. BLACK and RED CURRANTS, GOOSEBERRIES, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, December 12, at half past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Orchids.—Wednesday, December 12.

MESSRS. JAMES AND BAXTER have been instructed by Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, in their Sale Rooms, 35, Temple Street, Birmingham, on WEDNESDAY, December 12, at 12 o'Clock prompt, a magnificent lot of Established and Imported ORCHIDS, including new and extremely rare varieties, many in flower, bud, and sheath. Amongst the numerous varieties may be mentioned many fine specimens of the following:—Lælia tenebrosa, Dendrobium Owenianum, Cypripedium Chamberlainianum, Sander's celebrated and wonderful type of Cypripedium insigne var. montanum, Sobralia Veitchii, Calanthe Victoria Regina, Phaio-Calanthe Arnoldiæ, Oncidium Marshalianum, Dendrobium Phalænopsis Schroderianum, D. nobile (Cookson's variety), D. hybridum Leechianum, Peristeria elata, Cœlogyne Dayana (the Garland or Necklace Orchid), Dendrobium Venus, &c.; also newly-imported BULBS of the lovely Crinum nobile album and Hæmanthus Kalbreyerii, and some New and Rare Plants.

On view morning of Sale, and Catalogues had. Commissions carefully executed.

MESSRS. JAMES & BAXTER will include in their ORCHID SALE on WEDNESDAY NEXT, Dec. 12, several duplicate and surplus plants, by order of Charles Winn, Esq., of Selly Park, Birmingham, amongst which will be found—

Cypripedium Morganiæ	Cypripedium Lathamianum
,, Leeanum superbum, in flower	,, Harrisianum Backhouse superbum
,, grande atratum	,, Crossianum
,, Mrs. Canham	,, Schroderæ
,, Arthurianum	,, Chamberlainianum
,, insigne Wallacei	,, Harrisianum splendens
,, seedling, in flower	,, Cardinale
,, calurum	,, insigne sylitense specimen
,, Seegerianum [flower	,, polystigmaticum
,, Maulei, fine specimen, in	

And other fine varieties.

Also a few Cattleyas, Oncidiums, Dendrobiums, Vandas, Lælia anceps alba in flower, &c.

The above are all fine healthy plants.

Catalogues of the Auctioneers at their offices, 35, Temple Street, Birmingham.

Thursday Next, December 13.

MESSRS. JAMES AND BAXTER (instructed by Messrs. Cranston, of Hereford), will SELL by AUCTION, at their City Sale Rooms, 35, Temple Street, Birmingham, on THURSDAY NEXT, December 13, at half-past 11 o'Clock, a large consignment of FRUIT TREES, comprising Standard, Pyramid, Cordon, and Dwarf-trained Apples, Pears, Plums, Cherries, Apricots, Peaches, also Gooseberries, Currants, &c.; also RHODODENDRONS, HOLLIES, LAURELS, CONIFERS, Hardy CLIMBING PLANTS, Standard ORNAMENTAL TREES, and

4500 DWARF ROSES,

in fifty leading varieties, low-budded on the Manetti. CARNATIONS in many varieties, TEA ROSES, &c.

Catalogues post free. Commissions carefully executed.

Thursday Next.

MESSRS. JAMES AND BAXTER will include in above Sale Five Cases of HYACINTHS, TULIPS, and other DUTCH BULBS, White Roman Hyacinths, Paper-white Freesias, &c.; a Collection of Rare Daffodils, 2000 Hybrid Gladiolus, 5000 Berlin Crowns Lily of the Valley, 12,000 Spiræa astilboides and japonica, Dielytra spectabilis, 20,000 Gladiolus Brenchleyensis, 2000 Ground Roots of Dahlias, in many varieties, various Liliums, and an endless variety of other things.

Catalogues free. Commissions carefully executed. Goods despatched.

MESSRS. JAMES AND BAXTER (both many years with Messrs. Protheroe & Morris), AUCTIONEERS, VALUERS, LAND AND ESTATE AGENTS, undertake the Sale of Horticultural Produce, Live and Dead Farming Stock, Stock-in-Trade, Freehold Properties, &c. Valuations made for Probate, Succession Duties, &c. Terms moderate. Prompt Settlements. Fourteen years' experience.

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Balham.—To Florists and Others.

SMALL FREEHOLD NURSERY, including large Vinery, Tomato-house, Forcing-frames, Conservatory and Furnace-house, to be SOLD by AUCTION, at low reserve, at Balham Assembly Rooms, on THURSDAY EVENING, December 13, by

MESSRS. CLIMPSON AND JOHNSON,
122, High Road, Balham, S.W.

WANTED, to Purchase or RENT, a SMALL NURSERY, with Dwelling House; no stock. Chiefly Glass, in Midland Counties.—W. B., 41, Wellington Street, Strand, W.C.

WANTED, a PIECE of LAND, from 4 to 6 acres, suitable for Fruit Growing under Glass. London district.—Price, &c., to W. DYKE, Turnford, Herts.

WANTED to Rent, SMALL NURSERY (chiefly Glass), with Dwelling House, suitable for Market Growing. Within 20 miles of London.
ALPHA, 41, Wellington Street, Strand, W.C.

WANTED, on Lease, or on Lease with option to Buy, 500 to 600 feet of GLASS for Cucumbers. No Stock. London, N., preferred.—P. H. E. NASH, 5, Littler's Cottages, Felixstowe Road, Tottenham.

FOR SALE, a Compact NURSERY and FLORIST'S BUSINESS, with good Seed and Jobbing Trade attached, in a Country Market Town. Glasshouses and Pits well stocked. Large Stock of Fruit Trees and Shrubs. Good Stabling, Potting and Packing Sheds. Commodious Dwelling, twenty years' Lease unexpired. No opposition within ten miles. Rent £27 per annum. Particulars of—
SEXTON AND TAYLOR, Auctioneers, Hadleigh, Suffolk.

TO FLORISTS.—A large piece of GROUND to be LET on Lease, or SOLD. Situate Kennington Oval, near Vauxhall. No opposition in or near the neighbourhood. Size 150 feet long, 30 feet frontage, widening to 85 feet. Rent £35 per annum, or £350 for lease of twenty-five years less three months. Write, making appointment, H. KNIGHT, 12, Guildford Road, South Lambeth, S.W.

FOR SALE, Cheap, a Small NURSERY, and FLORIST BUSINESS, four Glasshouses and Propagation House, &c., heated by Hot-Water, near main road.—Apply to W. H., Park Row Nursery, Greenwich.

To Mushroom Growers.

TO BE LET, in the town of Poole, and close to Railway Station, a MUSHROOM HOUSE 270 feet long by 16 feet wide, with earthen floor. Can be made perfectly dark if desired. Apply to—
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Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

PRITCHARDIA (LICUALA) GRANDIS.—This, one of the most beautiful of Palms, is offered in good Plants, about 1½ feet high, by—
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

FOR SALE.—Several thousand GLADIOLI, "The Bride," and Freesias, all good blooming Bulbs, second size, 7*s.* 6*d.* per 1000.
H. A. GAVEY, Thornhill, St. Jacques, Guernsey.

CHRYSANTHEMUMS. — Strong Cuttings, now ready, of Col. Chase, Mrs. Cox, Rose Wynne, Julian Hillport, Lord Rosebery, F. Waterton, Louise, M. C. Molin, Mdlle. Thérèse Rey, Baron Hirsch, Mrs. Bruce Findlay, Internationale, and other leading sorts. For price, see Catalogue. Best old sorts, Cuttings, 1*s.* 6*d.* per doz., 10*s.* per 100. Catalogue two stems, of WM. ETHERINGTON, Chrysanthemum Grower, Swanscombe, Kent.

PEACHES and NECTARINES.—Standard trained. Fine trees, bearing wood, fibrous roots.
CHERRIES.—Transplanted, Fruiting Standards.
VICTORIA PLUMS.—Excellent Standards, fibrous roots, clean stout stems, fruiting heads.
CORDON PEARS and APPLES.—Well-spurred fruiting trees, 5, 6, and 7 feet.
ASPARAGUS for FORCING.—Grand Clumps.
PLUM STOCKS.—Trimmed for quartering.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

Walmer Local Board.—To Landscape Gardeners.

THE WALMER LOCAL BOARD invite Competitive Designs and Tenders from Landscape Gardeners for LAYING OUT and PLANTING with SHRUBS, &c., the piece of ground (at present levelled and sown with Grass), lying between the New Promenade and The Strand, on both sides of the Life-boat House. The ground is in an exposed position near the Sea, and the Shrubs, &c., should be such as will be suitable for this position. The total outlay is not to exceed £100, and the Board do not bind themselves to accept the lowest or any tender. Further particulars may be had of the Board's Surveyer, Mr. J. E. Turner, Cornwall Road, Walmer. Tenders indorsed "Laying out Green," to be sent to me not later than December 24.
F. W. HARDMAN, Clerk, 4 & 5, Park Street, Deal.
Dated December 4, 1894.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FOR SALE.—2000 ARUMS, in 48's, all showing bloom-spikes, 6*s.* per dozen on Rail; cheaper in large quantities.—A. TULETT, Swanley.

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5000 Golden and Silver EUONYMUS, 12 to 15 inches, 25*s.* to 30*s.* per 100. Best in the market.—R. CHALLEN, Nurseryman, Twickenham, Middlesex.

CUT ROSES.—Large yellow and red, 1*s.* 3*d.* per doz. MAIDENHAIR FERN, first, 6*d.*, second, 4*d.* per bunch; 5*s.* orders carriage free.—H. LEAR, Victor Street, Hull.

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CHRYSANTHEMUMS. — Our Descriptive List of above, including M. Calvat's novelties, and all the newer varieties of merit, now ready, post free. Warranted to please, or cash returned.—RAY AND CO., Teynham, Kent.

20,000 CARNATIONS.—Gloire de Nancy, 16*s.* per 100, special price per 1000; also good mixed at 14*s.* per 100, all thorough good and well-rooted layers; also Gold-laced Polyanthus, 4*s.* per 100. Free on rail. Cash with order E. PHIPPEN, Nurseryman, Highgate, London.

CHRYSANTHEMUM CUTTINGS, 1*s.* per doz., to include C. Davis, 1*s.* 6*d.*; Beauty of Exmouth, 6*d.*; Charles Blick, 9*d.*; G. W. Childs, 9*d.*; Louise, 1*s.* Thérèse Rey, 9*d.*; Princess Victoria, 9*d*; Excelsior, 4*d.*
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AND OTHERS WHO INTEND
PLANTING TREES, and SHRUBS THIS SEASON.

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CATALOGUES free on application.

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PALMS, FICUS, FERNS, in any quantity.—Kentias, Latania, Corypha, Seaforthia, Arecas, Chamærops, in 48's, 12*s.* p. doz.; do. in 60's, 5*s.* p. doz.; do. in Thumbs, 3*s.* p. doz.; Aralias, 5*s.* and 6*s.* p. doz.; Aspidistras, 48's and 32's, 18*s.*, 24*s.*, and 30*s.* p. doz.; Cyperus 5*s.* and 6*s.* p. doz.; Ficus, 12*s.* p. doz.; Adiantums 6*s.* and 8*s.* p. doz.; do. in Thumbs, 12*s.*, 16*s.*, p. 100; Six sorts good Market Ferns, 6*s.* p. doz.; Asparagus, 18*s.*, 24*s.*, p. doz.; Solanums, Heaths, Cyclamens, Marguerites, &c., 10*s.*, 12*s.* p. doz. Free on rail, carefully packed. *Cash with Order.*—ALFRED MARTIN, Angell Town Nursery, Wiltshire Road, Brixton, London.

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ROUNDHAY, LEEDS.

EXHIBITION.

BOURNEMOUTH and DISTRICT CHRYSANTHEMUM and HORTICULTURAL SOCIETY.—The NINTH ANNUAL EXHIBITION of this Society will be held November 13 and 14, 1895. JAMES SPONG, Secretary.

FOR SALE, being over-stocked, Six splendid Plants of EUCHARIS, in 12-inch pots. Also one dozen plants of GARDENIAS (Florida), in 24-pots. Good healthy Plants.—Apply J. W., Holmbury Gardens, Dorking.

CARNATION "Countess of Paris," finest blush Perpetual Tree Carnation, large Malmaison-coloured flowers, splendid grower, easy forcer. Very strong layers, for immediate potting, 4*s.* per doz., 30*s.* per 100, carriage paid for cash. Large forcing plants, established in 4 to 6-inch pots, 12*s.* to 20*s.* per dozen.
BECKER, Nurseries, Jersey.

GLADIOLUS BRENCHLEYENSIS, extra strong flowering bulbs, 23*s.* per 1000; 220*s.* per 10,000, f.o.b. Rotterdam. Also strong LILY OF THE VALLEY Crowns, at 18*s.* per 1000; 170*s.* per 10,000. Scarlet Runner BEANS, a great quantity to offer. Apply to—
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ASPARAGUS, for Forcing; five years old, splendid roots, 12*s.* 6*d.* per 100; extra fine, 6 years old, 15*s.* per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
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FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* per 100; large ditto, in 48's, 10 best selling sorts, 6*s.* per dozen, Adiantum cuneatum, in 48's, for cutting (value in fronds), 6*s.* and 8*s.* per dozen; ditto, for making large plants quickly (bushy), 16*s.* and 20*s.* per 100. Aralias, Grevilleas, Solanums, Cyperus, in 48's, 6*s.* per dozen. Ficus, Palms, Dracænas, Ericas and Bouvardias, in 48's, 1*s.* each. Seedling Ferns, 6*s.* per 100. Packed free. Cash with Order. List free.—J. SMITH. London Fern Nurseries, Loughborough Junction, London, S.W.

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ALL IN FINE CONDITION AT GREATLY REDUCED PRICES.
Price List on Application. Finest named Hyacinths, per doz., 3*s.* 6*d.*; best mixed Hyacinths, per 100, 14*s.* 6*d.*, per doz. 2*s.*; miniature Hyacinths mixed, per 100, 10*s.* 6*d.*, per doz., 1*s.* 6*d.*; Choice mixed Daffodils, per 1,000, 21*s.*, per 100, 2*s.* 6*d.*; Double White Sweet-scented Gardenia-Flowered Narcissus, per 100, 3*s.* 6*d.*; Choice mixed Polyanthus Narcissi, per 100, 4*s.* 6*d.*; Rainbow mixture of Single Tulips, per 100, 4*s.* 6*d.*; Rainbow mixture of Double Tulips, per 100, 4*s.* 6*d.*; Scilla Sibirica, per 100, 2*s.* All sent Carriage Paid on receipt of remittance.
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IN POTS.

STRONG PLANTS
In Great Variety.
Splendid Quality.
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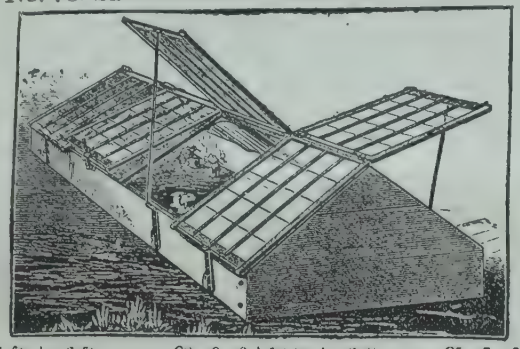
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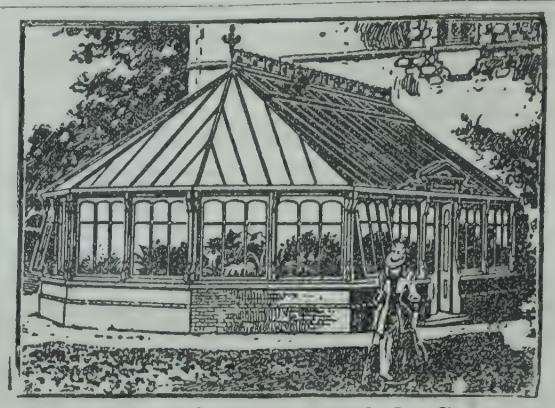
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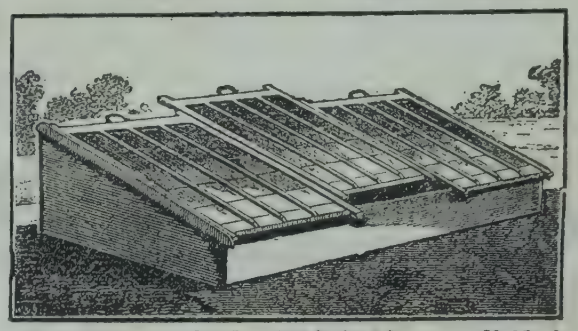
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4 ft. by 6 ft. ... £1 15 0 | 12 ft. by 6 ft. ... £3 15 0
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My full Catalogue is in preparation, and will again stand alone as the most perfect and useful Guide up to date. This is not only a Guide which Varieties to select, but will also give treatment, such as size of pot, which bud to take out, and will be invaluable to the Gardener as well as the Amateur. It will also contain beautiful Illustrations of New Varieties, as well as several new features, and

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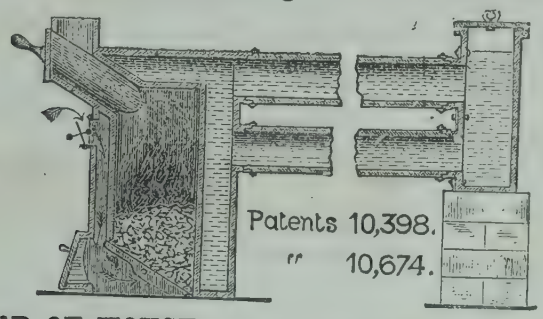
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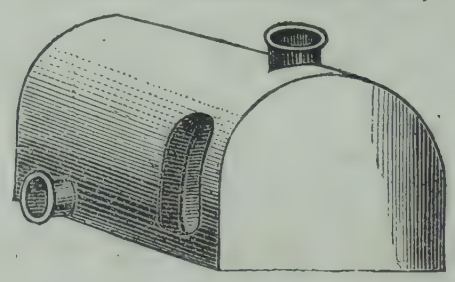
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Overcoatings, Ulsterings, Serges, Trouserings.
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RAISED BY MR. HUGH GRAHAM.

Awarded First Prize on every occasion exhibited, as the Best Seedling of the Year, and the SILVER-GILT MEDAL of the National Chrysanthemum Society, at the Aquarium, on November 7, 1894.

B. S. WILLIAMS & SON

Have acquired the stock for European distribution. It will be sent out simultaneously in Philadelphia and London on March 1, 1895. Orders are now being booked.

Strong Plants, 7s. 6d. each, Six for 42s. Special Quotations to the Trade.

VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

NOW READY.—Crown 8vo, price 1s.; Post-free, 1s. 3d.

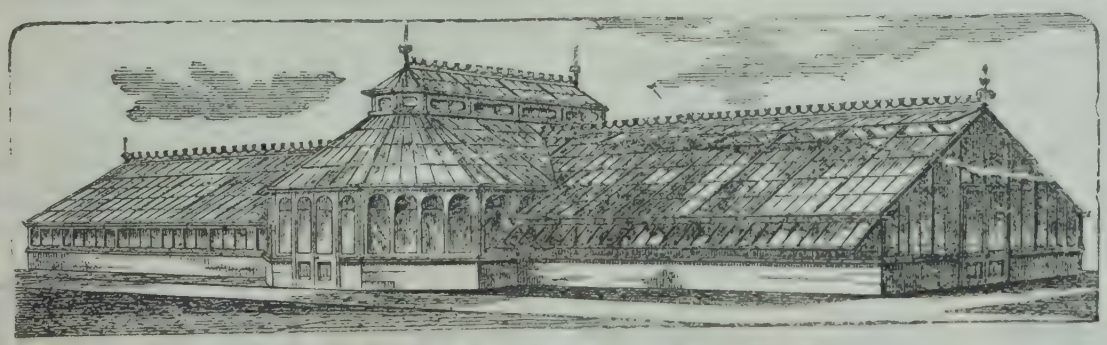
THE HORTICULTURAL DIRECTORY FOR 1895.

THIRTY-SIXTH YEAR OF PUBLICATION.

CONTENTS.—Calendar, Postal, and other Tables, with Miscellaneous Information useful to Gardeners.—Garden Recipes.—Certificates Awarded by the Royal Horticultural Society from October, 1893, to October, 1894.—Nurserymen, Seedsmen, and Florists in the United Kingdom.—Seats of the Nobility and Gentry in Great Britain, Ireland, and the Channel Islands, with their Post Towns.—Alphabetical List of the Gardeners, and their Full Addresses, in Great Britain, Ireland, and Channel Islands.—Commission Agents and Salesmen at Covent Garden Market, London.—Landscape Gardeners.—Horticultural Builders, Engineers, &c.—Botanical, Horticultural, and Floral Societies in Great Britain and Ireland.—The Principal Nurserymen, Seedsmen, and Florists on the Continent, in America, and the Colonies.—Botanical Gardens and Public Parks in the British Empire.—Metropolitan Parks, with their Superintendents.

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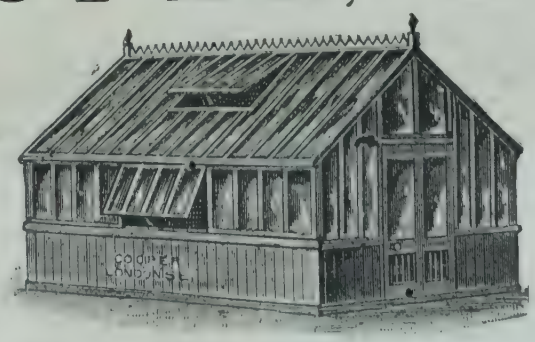
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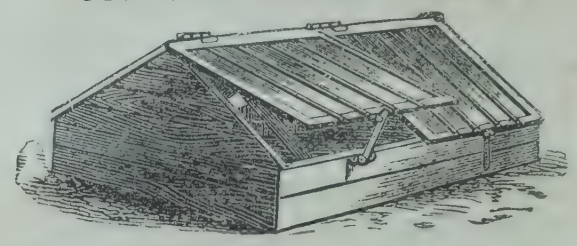
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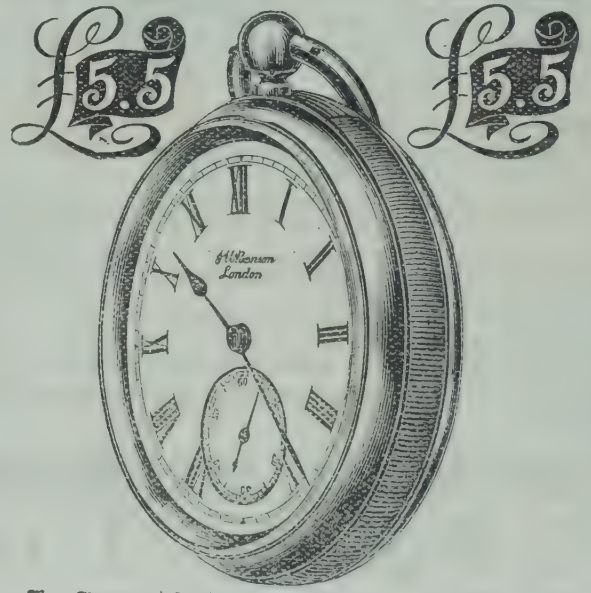
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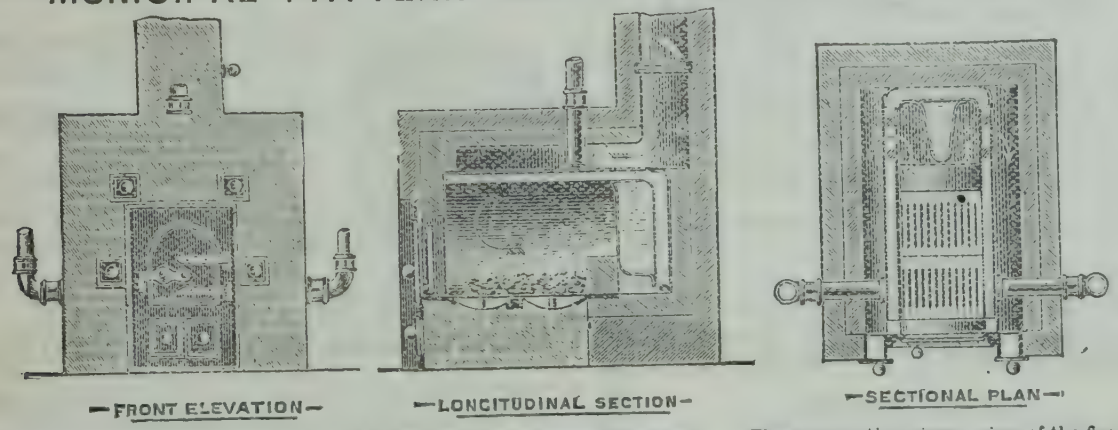
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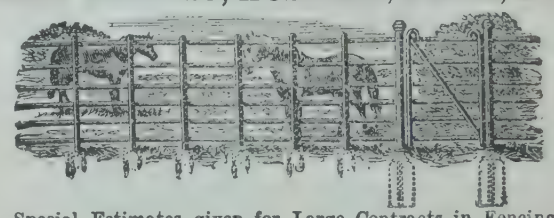
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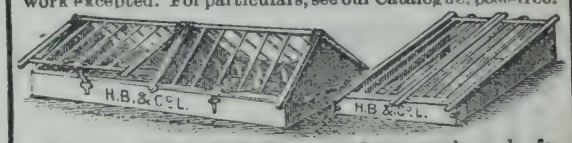
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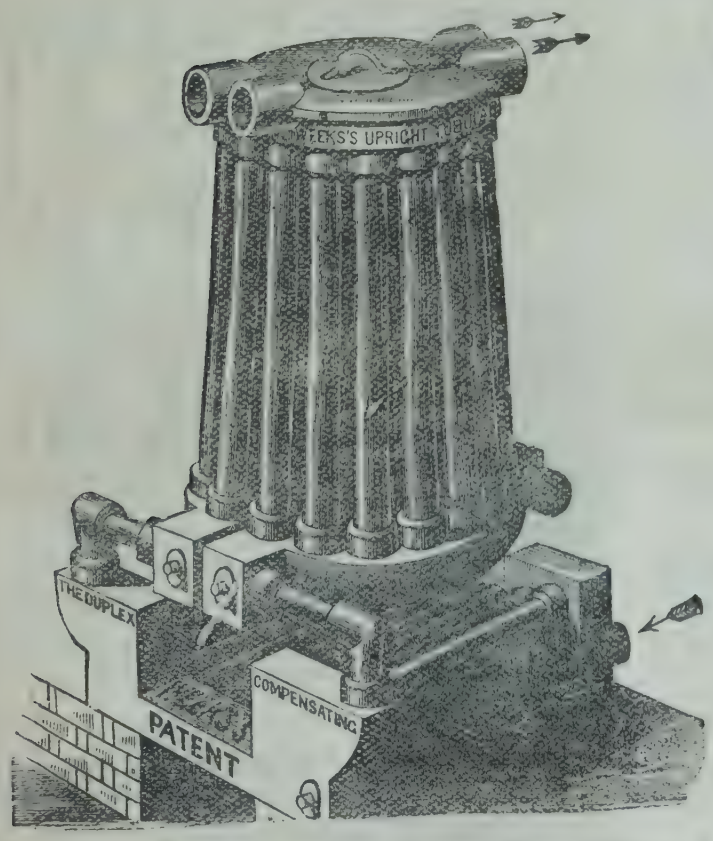
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 8, 1894.

CHRISTMAS REQUIREMENTS.

AS London, Brighton, and most of our fashionable towns have their seasons, when a harvest more or less abundant is reaped by the shop-keepers; so, in the gardening world, the market-grower has his "little day," and it behoves him to be ready to meet it with the best that he can produce. After the busy rush of summer supplies is past, there comes a lull in the markets, lasting usually till nearly Christmas time, at which festive season trade seems to take a fresh lease of life, which extends into the first few months of the new year. But it is Christmastide that brings about this revival, and the lull in the autumn must not mean a cessation of labour to the market-gardener, but must be to him a period of serious preparation for the demand for his produce, which he knows he can count upon towards the close of the year.

What has the public learnt to want? for, after all, it is habit that creates demand from the market-grower at Christmas. What vegetables, flowers, and fruit does it ask for? It is the object of this little paper to suggest to those new to the work some of the produce that is always in requisition at Christmas and the new year.

Seakale.—The demand for this luxury really begins about the time of the Lord Mayor's banquet, and a small quantity is always saleable during November and December, though we do not recommend any serious production till Christmas time. Most large growers, we believe, force their Seakale out-of-doors by means of fermenting horse-manure, and covering the beds with litter. In adopting this plan, about one month is usually required to bring the crop to maturity, so that the beds, in order to cut Kale at Christmas, must be started not later than the last week in November. Another method, adopted as a rule where matters are carried on in a smaller way, is to plant the roots closely together in a Mushroom-house or the pit of a Cucumber-house, covering the crop most carefully and scrupulously, so as to exclude all light, with about 1 foot of litter, a temperature of about 55° being maintained by means of hot-water pipes. Seakale can be thus produced in from twenty-one to twenty-four days; the shoots, when ready to cut, should be about 8 inches long, of compact growth, and of a creamy-whiteness to suit the public taste.

Rhubarb.—January calls for Rhubarb unfailingly, and the importation of foreign Apples, though to some extent affecting the price, has not as yet driven it out of the field. The same method may be adopted, in forcing Rhubarb, as has been described above for Seakale; or it will do well in an out-house, covered with leaves or

long manure. Early Victoria is, to our mind, the best kind for forcing. Allow about six weeks for the crop to mature.

French Beans.—This is perhaps the quickest crop to yield of any grown from seed. Beans may be picked, with good cultivation and a reasonable season, in two months from sowing. The most speedy method of raising Beans for winter-cropping is to sow and plant out on a hot-bed in a minimum temperature of 65°. Another, rather slower plan, is to raise the seed in a hot-bed, and to transplant into pots or boxes as soon as the plants have two leaves. Let the soil used be of a good rich composition; keep well watered, and, at fruiting time, supply the plants with liquid-manure liberally. Beans always sell well at and after Christmas, half-a-crown a pound, and even more, being not infrequently realised.

Mushrooms.—This esculent is always a favourite, and the demand at Christmas is naturally large. Get the bed prepared, and of the right temperature for spawning, between 80° and 90°, and allow seven or eight weeks for the crop to reach maturity. Six weeks is generally considered an average period to allow, but so much depends upon the spawn itself, the exact temperature of the bed, its dryness, and other unforeseen events, that two months is not too long to ensure the crop being ready by any particular date.

Strawberries.—There are, and always will be, a few pounds of Strawberries grown for Christmas, but the demand is very limited, and the supply already more than equal to it, so that we cannot honestly recommend the production of this costly luxury at this season. To produce ripe fruit by Christmas entails nearly a year's preparation, ceaseless care and method, and no inconsiderable expense. In our opinion Strawberries in March and April pay infinitely better.

Brussels Sprouts and Artichokes are, as outdoor crops, the next in demand.

Celery has had its day, but Sprouts are called for at every table, and Artichokes always have their value.

Flowers.—Turning to the florists' department, we note first the pot-plants. Primulas are general favourites, and plants of some of the strains propagated by Mr. Cannell, of Swanley, are deservedly popular. In order to get Primulas healthy as well as fine, grow them as coolly as possible. This can easily be managed by a little forethought and a rough calculation as to the time for sowing. Cyclamens are much sought after, and certainly a good corm, with its massive variegated leaves and thickly-clustered spears of bloom, is a cheering sight at a cheerless time of year. Cinerarias—the colours are multitudinous—have a certain fascination for a section of the public, and it is worth while having a few plants ready for the winter festival. To grow them successfully, keeping them free from their arch enemy, green-fly, the plants must be kept in as cool a temperature as is possible, compatible with a steady growth; observing this, they are easy of cultivation. Of bulbs in pots, Roman Hyacinths, Polyanthus Narcissus, and Tulips, are sure to sell—though, unless the bulbs can be bought direct from the growers in Holland, we do not believe there is much profit in their culture.

Cut Flowers.—Christmas and Easter give the Richardias (Arum Lily of the markets) a chance, and the grower who can produce good blooms at this time will not have much difficulty in disposing of them. Roses, of course, and Azaleas are always wanted, Christmas Roses have a ready sale, whilst Roman Hyacinths, Tulips, Freesias, &c., are in great demand. Mignonette sells well at and after Christmas. That never-failing favourite, the Violet (Single, Czars, Marie Louise, and Neapolitan), is especially worth growing for Christmas, and the English flowers, in spite of the Italian and French importations, always hold their own for superiority of scent and quality. We have endeavoured here to throw a little light upon the public taste at Christmas time, and if this short paper meets the eye of any to whom it may contain something that is news, we shall feel that our efforts have not been entirely wasted, and be thankful. *A Market Gardener.*

NEW OR NOTEWORTHY PLANTS.

ADIANTUM CAPILLUS-VENERIS, *L.*

In the *Jamaica Bulletin of the Botanical Department*, No. 34, August, 1892, p. 7, I stated in the footnote to Adiantum emarginatum, Bory, that West Indian specimens of A. capillus-veneris, gathered in Cuba, St. Vincent, and Trinidad, I had verified, possessing the characteristic unjointed pedicels of the leaflets, and that the species was reported as having been gathered in Jamaica in Pedro Cave, St. Ann's Parish, but that I had seen no true specimens, and I therefore did not include it in the flora. That this renowned species, the most interesting of all in the genus, is certainly a denizen of Jamaica, to which country it has been assigned for 200 years on a false specimen of Sloane's, is now and for all time settled. I have in my hands a sheet of four beautiful fronds, absolutely true and characteristic, gathered by Mr. Hart when resident at the Cinchona plantation eight or ten years ago. *G. S. Jenman, Demerara, August* 21, 1894.

Asplenium (Diplazium) tenebrosum, *Jenm., n. sp.*

Rootstock erect or decumbent, finger-thick, but apparently much thicker from the bases of former stipites adhering; the strong, wiry roots extruding between, densely clothed at the apex with linear dark-brown scales; stipites contiguous, a span or more long, very dark, puberulous, channelled, densely clothed like the rootstock; fronds erect, $1\frac{3}{4}$ to $2\frac{1}{2}$ feet long, $\frac{3}{4}$ to 1 foot wide pinnate, the acuminate apex pinnatifid, chartaceous, glabrous, dark, dull, brownish-green; rachis dark, puberulous, channelled; pinnæ spreading nearly horizontally, a dozen, more or less, to a side below the lobed upper part, alternate, oblong-lanceolate, the sessile base truncate, roundly but obliquely-lobed to a quarter or one-third the depth, the acuminate apex serrate, 6 to 8 inches long, $1\frac{1}{4}$ to $1\frac{1}{2}$ inch wide, faced apart, the lower entire ones distant and reduced; lobes $\frac{1}{4}$ inch wide; veins open, few, running in fascicles to the margins; sori 2 to 3 lines long, confined to the base of each pair of the inferior veinlets, often double; involucres narrow, very dark brown. Jamaica. In damp forests of the middle or upper mountain regions. Communicated by Mr. Hart. Differs from all the larger simply pinnate species in nearly all its particulars, especially in the lobing of the margins, character of the venation and sori, and the relatively slender ligneous rootstock devoid of fibre. *G. S. Jenman.*

Nerine × Stricklandii (*Fothergilli* × *pudica*).

Another beautiful garden hybrid, now to be added to those already existing, and ranking with the best of them, has been raised by Sir C. W. Strickland, Bart., Hildenly, Malton, an enthusiast in bulbous plants. Its showy flowers, which are of a very pleasing and uncommon tint, will commend it to general admiration. The plant has broadish leaves; the peduncle is nearly 18 inches high, and bore an umbel of seven flowers on pedicels 2 inches long. The perianth segments are not reflexed, and measure $1\frac{1}{2}$ inch in length, and $\frac{1}{2}$ inch at the widest part, slightly undulate, of a soft scarlet hue with a tinge of reddish-salmon in it. Each segment has a red line bordered with white running up the middle, the red colour growing faint towards the tips. Stamens and pistil blush-white, the latter purple at the tip. In form it comes the nearest to N. × O'Brienii (rosea × pudica). *James O'Brien.*

In the catalogue sent out by M. V. Lemoine et fils, of Nancy, we find accounts of the following novelties:—

Begonia Haageana erecta,

from B. Haageana × B. Scharffiana, unlike either parent, has small dwarf foliage and stiff flower-stems. The stems are short and upright; leaves hairy, bronze-green above, bronze-red below. Flowers numerous, white, tinged with rose underneath; a perpetually blooming plant.

Begonia semperflorens elegantissima alba

is a white variety of a coloured hybrid; the foliage is sturdy, the leaves of average size, firm, bright green, the inflorescences bear many flowers, each with four pure white petals, and very fine. The plant is a perpetual bloomer, and was first shown at the Nancy Exposition last June.

Crassula hybrida albiflora

is a hybrid from C. jasminea × Rochea odorata, and a small plant of erect dwarf habit, not exceeding 10 inches (25 c.) high; leaves fleshy, triangular, decussate, and each stem crowned with a wide corymbose inflorescence composed of many white flowers. A good, floriferous plant, and easily cultivated.

Crotalaria longerostrata.

A leguminous plant, from Mexico; stems semi-woody, bearing ternate dark green leaves, and producing, even when the plants are quite young, long racemes of papilionaceous flowers, more than $\frac{1}{2}$ inch (2 cents.) across, deep golden-yellow, with a brown palmate spot at the base of the standard. This plant continues in bloom all the winter in a temperate-house, and is easy both of cultivation and propagation.

DENDROBIUMS.*

After alluding to some of the most important species and varieties, Mr. Cypher proceeded to explain his system of management:—

Cultivation.—As to the successful cultivation of Dendrobiums, there are several important points that must be strictly adhered to, such as the use of small pots, pans, or baskets, in which to grow the plants. Many growers fail through having too much material about the roots of their plants. They must also have plenty of heat and moisture during the growing season, and be kept perfectly clean and free from all insect pests, such as red-spider and thrips, both of which are very destructive, and soon disfigure the young growths and weaken the plants.

During hot weather the plants should be thoroughly syringed twice daily, taking care to get at the under side of the foliage, where the insects usually attack them. Another important matter is care in dipping the plants, especially during winter and early spring, when the young growths are starting; if great care be not exercised then, and plants are carelessly dipped, many of the young growths will be lost, and the plants thus weakened. They should never be plunged below the base of the plant, and the tender young breaks must by no means touch the water. The best compost I have found to consist of good fibrous peat and fresh sphagnum, in equal parts, with a liberal addition of broken crocks and charcoal, and the soil should in most cases be renewed annually; the roots will not enter sour material.

Thorough good drainage must always be given, and new clean pots or pans, always remembering to use them as small as possible, according to the size of plants. I generally use pans in preference to baskets; the pans are easily broken when plants require shifting, and it is almost impossible to get the plants out of baskets without injuring many of the tender roots; and when one basket is placed inside a larger one, the soil in the small basket becomes worn out, and it is very difficult to replace with new material.

I may also mention that galvanised wire should never be used for suspending any of the choice varieties, the growths being frequently injured by contact with the wires, and should the roof-wires on

* Read at a meeting of the Birmingham and Midland Counties Gardeners' Mutual Improvement Association, Cheltenham, November 19, 1894, by Mr. J. Cypher.

which the plants are suspended be galvanised, they should receive two coats of white paint before any plants come in contact with them. I have several times noticed bulbs of Dendrobes almost ruined by contact with the wires during hot sunshine.

Another important point is a good and continuous supply of rain-water; the plants will not thrive if frequently watered with hard-water, and in all Orchid-houses provision should be made for storing all the rain-water possible, and if in good large open tanks, so much the better.

The water used for dipping should be of about the same temperature as the house in which plants are grown, and this can be secured by having a small tank over the hotwater-pipes. I do not care to have hot pipes constantly running through the tanks, but prefer having a small tank above the hotwater-pipes, to be kept filled up as desired. The Dendrobe-house should also be provided with trough-pipes, and these should be kept filled during the growing season, and should occasionally have a little manure-water and soot placed in them, but taking care that they never become dry, or the foliage may be injured. The floor of the house should also be sprinkled with manure-water twice a week during the summer months, the best time being when the house is closed at night.

Another important matter is to secure plenty of light, Dendrobes enjoy all the light possible and a little sunshine (morning and evening), but must be shaded from the hot sun during the day. Many people say that Dendrobes are so well grown at Cheltenham because we have so much sunshine, but I saw a few Dendrobes, not many weeks ago, at Stand Hall, near Manchester, and I can truly say I never saw any better-grown plants, and Manchester is not blessed with any great amount of sunshine.

There are also some splendidly-grown plants in the collection of Mr. Lee of Manchester, and also at Highbury and The Uplands, both in Birmingham. No doubt they must receive less shade near any large town, and cultivators must use their own discretion, always striving to give the plants all the light possible and a little sunshine, never by any chance use a permanent shade or allow the blinds to remain down during dull periods.

The plants should receive more shade for a week or two after repotting, and very great care in watering, until the roots take hold of the new soil, when they should receive a liberal supply until the growths are matured, when the supply must be gradually withheld and the plants hardened as much as possible to mature the growths, and in autumn the plants should receive only sufficient moisture to prevent shrivelling.

I think many cultivators dry their plants too much, because we are told they receive no water for several months in their native habitats, but I generally notice plants of imported Dendrobes are plump and the bulbs seldom shrivelled, and no doubt many plants are weakened and some almost killed by too much drought in winter. I strongly advise giving plants water immediately they show signs of shrivelling.

I also advise wintering the choice hybrids in a fairly warm house, never falling below 55°. Such varieties as D. Bensoniæ, aureum, lituiflorum, and all the Australian and New Guinea Dendrobes should never be placed in a cool house, but be kept warm and dry during the resting period. The plants retaining their foliage always make better and much stronger growths than those allowed to lose their leaves (I allude to the Australian Dendrobes).

Dendrobium Dearei should never be kept dry nor placed in a cool house. It appears to grow and bloom all the year round, and should on that account be kept moist.

D. Jamesianum and infundibulum are not usually seen in good condition. They should be grown cool and moist during summer, and in autumn placed at the cool end of the Cattleya-house and kept moist to mature their growths, which are not in some plants fully matured till the spring, and at once produce their flower-buds.

D. formosum is a grand autumn-blooming variety, which requires plenty of heat and moisture during the growing season, and well repays the grower by producing its splendid blooms during autumn, when choice white Orchids are scarce.

D. Bensoniæ is considered a very difficult plant to cultivate for many years, but I have grown it for eight years, and had finer bulbs at that period than when plants were imported; and I believe many or nearly all are lost by having too much water during winter and early spring, and even when the new growths are several inches long, they should receive very little water. Red-spider should also be kept in check; it seems to have a particular fancy for this variety, and soon injures the tender young growths if not checked immediately it makes its appearance. This should be done by sponging the under side of the leaves with weak Fir-tree oil and water.

D. Falconeri is another plant that seems subject to the attacks of red spider, and should be carefully watched. I find it grows best when kept rather cool and shaded during summer, and well saturated with water. More light to cause the plant to ripen should be afforded in autumn, and the plant kept dry and cool during winter, to induce them to bloom freely. It is, no doubt, one of the handsomest Dendrobes when in bloom, and well repays any care bestowed on its cultivation. The variety delicata or albens is almost white, and a very beautiful and scarce variety.

No doubt the nobile section are easiest to cultivate, and are all beautiful when in bloom, especially such varieties as D. nobile nobilius, D. n. Cooksoni, D. n. pendulum, D. n. Hardyanum, D. n. Cypheri, &c.

It is not necessary to have a house specially devoted to Dendrobes; anyone having a warm plant-stove may cultivate many varieties to perfection. I have often noticed better specimens in ordinary plant-stoves than in a mixed house of warm Orchids, or in houses specially devoted to Dendrobiums, and they produce a beautiful effect, hanging in bloom from the roof of any plant-stove.

PEACH CULTURE IN BELGIUM.

Some interesting facts relating to the culture of Peaches in Belgium are to be found in the recently-published report of the United States Consul at Liège. It appears that the kingdom of Belgium after supplying a population of 500 to the square mile, exports 105,000,000 lb. of fruit. The value of foreign shipments last year amounted to about £600,000.

A very large proportion of the fruit shipped consisted of Peaches. Mr. Smith, the United States Consul, gives an account of the methods of grafting and budding in vogue in Belgium. A long series of experiments, to ascertain the best stock on which to bud, were tried again and again upon all varieties of Plum, Apricot, Sweet and Bitter Almonds, every tree in fact of a kindred nature; till the conclusion was reached that the best stem for grafting was the Red Plum. This hardy plant, whose roots spread wide and strike deep, imparts much of its own vitality to its foster scions. Grafting or budding is done out-of-doors so as not to weaken the young tree by accustoming it to unnatural conditions. The next question to be considered is that of soil. In sandy and dry earth it was found that neither the plant nor the Peach flourished; the one being spindly, and the other small, while in rich and moist alluvial soil the tree prospered at the expense of the fruit. A calcareous soil, neither wet nor dry, is preferred by the Peach, the young trees requiring a great deal of lime.

As it is impossible to tell, without chemical analysis, the exact amount of this element contained in any given quantity of earth, its application must be more or less experimental. The rule in Belgium is to first thoroughly fertilise the soil with manure, and then, after planting the tree, to add a peck of lime to every cubic yard of earth, placing it near the surface. As it is necessary to loosen the earth for at least 6 feet square, and 3 feet deep, this quantity—a bushel to a tree—may seem large, but the authorities in Belgium are all agreed that more, rather than less, would be better. The application should be repeated every three years.

Turning from the standard tree, which too often failed to be profitable, Belgian agriculturists experimented with espaliers or wooden railings, but these were found to be so open and exposed, that the young trees fared very little better than in the orchard. They next tried the wall, not as in some countries, where mural enclosures are built at great expense for the special protection of delicate fruit, but the sunny sides of their houses, and this met with such astonishing success, that there are few houses to-day in Belgium upon whose southern exposed side trees are not trained. No château is too grand, and no cottage too humble, to furnish them protection and support. Mr. Smith says that last summer he saw ripening upon the gable-end of a town-house, a surface of about 30 feet square, over 2,300 Peaches. There were four trees, two of them with dwarf stems, not more than 12 inches high, and branches 6 feet long, radiating like the ribs of a fan; and two "riders," or bushes grafted upon tall stocks, whose boughs began to spread where the others terminated. At the time of flowering, it is always necessary to shield the buds from the action of frost, and this is done by various methods, the best of which experience has shown to be the placing among the upper boughs of the trees, branches cut from other green trees. This plan has been attended by good results, though it should be employed with caution, as too much shade is apt to stifle the buds, by excluding the rays of the sun.

Another method, until recently very much in vogue, and always effective, is the employment of mosquito-netting or other cheap material, with meshes large enough to admit the free passage of light and air. The old custom of using closely-woven cloth, like table or bed-linen, at night, and removing it in the morning, is said to be more dangerous than the frost itself, as the trees at this season cannot be deprived of air without serious injury.

In addition, this artificial heat at night, succeeded by the warmth of the sun, hastens their flowering, when the object is to delay it as long as possible. Shading at noon is sometimes as essential as covering at night. The poor succeed very well in protecting their fruit by placing a number of horizontal poles about 18 inches apart, and from 4 to 6 inches from the trees, and covering them with light wisps of straw. In good situations, penthouses will sometimes suffice to protect the fruit; in any case, they are extremely useful in checking the flow of sap. Since 1876, the following addition to this method has made assurance doubly sure: A fringe made of unthreshed Rye-straw, by tying the cut ends of the stalk together with twine or cord six or eight in a loop, with spaces of about 3 inches between the wisps, is attached to a pole and suspended under the eaves of the penthouse and in front of the trees. The texture being open, it does not prevent the light and air from reaching the buds. These shields are usually placed in position about March 1, and are not removed, except in cloudy weather, until all danger from frost has passed. *Herbert C. Fyfe.*

WEATHER OF THE PHENOLOGICAL YEAR, 1893—94.

The following abstract is taken from a short account of the weather of the natural year, commencing with the autumnal equinox in 1893, and ending with the similar event in 1894, read before the Bradford Naturalists' Society:—

On October 30 and 31, 1893, occurred the first frosts of winter, and on November 6 there was the first appearance of snow that season. On Thursday, November 16, the barometer fell rapidly, and by night a tempest had arisen, which culminated on the 18th and 19th. It was fearfully violent, and caused disasters over a wide area, but on the west coast of France and the east coast of England its destructive power was most felt. The wind came from a northerly quarter, accompanied by biting hail, snow and sleet. The accounts of suffering and shipwrecks published by the newspapers for some days after the storm were very harrowing and painful to read.

The first week of 1894 commenced mild, but by Saturday the cold was more intense than I have recorded before. My thermometer registered 5° above zero, but some observers in the neighbourhood asserted that the temperature had been below zero. All the day on Saturday the severity of the cold was extreme. On Sunday it scarcely abated, but after that it gradually relaxed till Wednesday, when the temperature had so far moderated that a great sense of relief was felt by all.

From the second week in January to the end of the third week in February, the weather was generally of a boisterous character, and though little actual damage was done, at times the wind was frightful. All this time the temperature was above the average, and the Hazels very largely came into bloom; but unfortunately the fourth week of February, if not quite the coldest, was the most winterly week of the season, and, as a consequence, the Hazel flowers

were extensively destroyed, appearing afterwards as if they had passed through a flame of fire. The following week temperature rose again, and sustained a mean above the average till into the last week of April. For nine weeks (the last one ending March 17) the downfall and that mainly rain, was nearly three times the average amount. Notwithstanding, there were many bright days in early March, which suited the flowering Aid-rs [?] and Crocuses. Such a profusion of blossom on these species was extraordinary, and a splendid sight. Rain ceased March 14, and for about a month scarcely any fell; the weather in other respects was superb. Temperature was above the average; there was a liberal amount of sunshine, and not much wind—what there was, was easterly. With these conditions, vegetation became abnormally forward—perhaps a fortnight to three weeks earlier than in 1893, and in 1893 vegetation was a month to five weeks earlier than in 1892.

All through April to the last week there was warm growing weather, and before the end of the month forest trees had begun to enlarge their girths, whilst their tops became green with partially-developed leaves. These latter remarks do not apply to Oak and Ash trees; but the Ash trees at this time were in full flower, and they bloomed more freely than they have done since 1888, though last year (1893) many trees flowered very well, and, indeed, seeded better than they have done this year. The grass grew wonderfully; newspaper reports from all parts were full of promise, and a plentiful hay-harvest seemed to be certain.

The fourth week of May was very cold; during the nights of Sunday and Monday, the 20th and 21st, the temperature fell below freezing many degrees. This cold wave was experienced all over the kingdom, and wrought ruin and destruction in blossoming orchards everywhere. The foliage of many Oaks and Beeches on the sun side was damaged, just as if it had been scorched with fire. A similar frost produced like results on Sunday, May 17, 1891. And it is remarkable the same trees suffered on both occasions.

The week of the frost ending May 26, had a mean temperature of 8° below the average, and the following week it was as low, though the thermometer did not register frost at 4 feet from the ground, and with scarcely any sun; but the next week, or the second in June there was less sun and a flood of rain, when none was needed. The third and fourth weeks of June, were scarcely any better for vegetation, in both there was a lack of sunshine, and temperature remained below the average. It is impossible for me to adequately state the baneful effects of the weather to vegetation since the beginning of May (about eight weeks), just at the most critical time. During the time vegetation had been nearly at a standstill. At the end of April things were five to six weeks earlier than sometimes, but in the fourth week of June they were decidedly backward, forest trees had been about nine weeks in leafing (a longer period than I have known before), and not since the spring of 1888 had there been more flower-buds on Sycamore, Horse Chestnut, Beech, Birch, Alder, Ash, Mountain Ash, Hazels, and Thorns, but never I should think with so fair a promise has there been so poor a fruition, and that the result of those uncongenial weeks. The last week of June and the first of July were splendid with sunshine, there was a dry atmosphere and a high temperature, suiting exactly the hay-makers and favouring the blooming of the Wild Roses. The following five weeks had a temperature above the average, with rather too little sun and more rain than needful—this state of things favoured growth in vegetation generally. Nor was it so wet as to hinder the farmers from gathering in their hay, for by the end of the second week in August the fields were cleared, the crop being a fairly good one and much better than that of last year or year before. Henceforward, to the second week of September, the weather was hardly as favourable as it would have been, had it been equal to average. It was too cold, and there was not sufficient sunshine. The weather of the week ending September 15 was splendid, and to the end of the Phenological Year it was not unsuitable for harvest work.

Briefly, the remarkable meteorological events in the year under review are the storms of November, 1893, the frost of January 6th, and the early spring, the frost of May and the low temperature and meagre amount of sunshine during May, June, July, and August. The sunshine of this time was 412 hours, whilst last year in the same period there were 542 hours.

The cereal crop in quantity is estimated to be over the average, but in quality of grain, it is not equal to that of last year. Peas and Beans have produced scarcely an average crop, whilst Potatos and Turnips, upon the whole, can hardly be reckoned as any better. The fruit crop was greatly damaged by the frosts in May. Harvesting commenced about a fortnight later than last year; it was a little more costly, but by no means could it be called expensive.

The foliage of the trees has not suffered this year, excepting that of those trees which the May frost injured. No wind, hail, caterpillars, insects, honeydew, or anything else has damaged it, and what I regard as a consequence is this, there has been very little second growth, or elongation of twigs and new leaves in late summer. This year the newspapers have said nothing about wasps or acorns; last year they did. This year they have mentioned the Hazel-nuts, but last year there were none worth mentioning.

Of the thirty-five forest trees whose girths I regularly measure, twenty-two trees have increased less than they did in 1893, and nine trees have increased more, whilst four trees have grown alike in both years. Altogether this year the thirty-five trees have increased in girth 328 fractions of an inch ($\frac{1}{16}$), as against 396 last year, that is about as $3\frac{1}{4}$ is to 4. *John Clayton, Bradford, November*, 1894.

NURSERY NOTES.

MESSRS. J. PEED AND SONS' NURSERIES.

Norwood.—At this branch are grown stove and greenhouse plants, Vines, &c. A fine collection of Gloxinias was noted recently in flower, and merit a few remarks. For some years this beautiful class of plants has received special attention at the hands of Messrs. Peed, and, as a result, their strain has become much improved. A few of the newer varieties may be mentioned: William Roupell, white edge, heliotrope ring round centre of flower, with lavender throat, One of the best is Thomas Carlyle, a very free-flowering, dark purple-spotted variety, shading violet to edge; Mrs. John Peed, the most distinct of all, pure white from base of throat up to quarter of an inch of tip, then charmingly encircled with lilac; W. E. Gladstone, good-formed flower, lobes thickly spotted, pinkish-rose, and throat delicately-sprinkled pale rose; Minnie Peed, exquisitely and thickly spotted with purplish-maroon, light spotted edges, good habit, and free. A very striking variety is Queen Victoria, entirely spotted purple, with heavy blotches of same colour; Prince of Wales, a good white, slightly spotted dark brown—very distinct; Princess of Wales, beautifully spotted in French grey; the most charming of all the type is John Peed, immense flowers, crimson-spotted throat, white edge; Jeanne d'Arc, very compact, rather small flower, but of fine form and substance—a good variety.

Of Begonias (single and double), first-rate strains are cultivated. A very fine bank of Caladiums—a great specialty here—presented grand plants in perfect condition. Amongst good new varieties, we noted:—Wm. Marshall, a splendid variety, large rosy-red leaf, golden-green margin, leaf-stalks red; this variety is hardy, and will grow in a frame. Racine, large heart-shaped leaf, standing well up; rose ground, mottled with green, bright carmine-red veins. John Peed, very dark red, transparent, with light-green margin. Linnæus, a good dwarf variety, with light greyish ground, marked with fresh rose veins, and large white spots. Le Caravage is a distinct variety, with a longish leaf, white ground, with greenish border, and beautiful red veins. Madame Rose Laing, very large, a noble variety, leaves long, and all white, also the veins, which are bordered with crimson. Rayon d'Or, very large golden-yellow leaf, very effective, vigorous grower. Very beautiful is Altair, leaf very large, with a deep crimson centre, rose and dark-green spotted border. Anthuriums are represented by some fine specimens in the best varieties; and Crotons—a good collection, plants very finely coloured—deserve notice. A big batch of Cœlogyne cristata is grown into large vigorous clumps. Odontoglossum crispum and the old O. grande—a good stock—were noted with fine plump pseudo-bulbs. A fine batch of Araucaria excelsa in 48 and 32-sized pots also arrested attention.

Grape Vines.—These are grown in all the leading varieties, extra strong fruiting canes being observed. The Vines in pots are placed on hot-water pipes, the advantages accruing from this mode of treatment being, that when a young Vine has been shaken out of the pot and soil, and is placed into its fruiting-pot with a mass of new soil about its roots, the warmth from the pipe warms the soil, and stimulates root-action quickly, and sets moving the otherwise stagnant life of the Vine, and the vigorously-grown pot-vine can be more effectually ripened off, and matured fruit-buds secured for the next year's crop of fruit, and that is emphatically the case with the Muscats, which are sometimes prone to grow on, and the wood to keep green, and therefore immature. Some vineries in full bearing of the following varieties were recently a picture of productiveness:—Madresfield Court, Black Alicante, Gros Maroc, and Muscat of Alexandria.

A newish red-fruited Tomato, named Dunedin Favourite, is grown here; it is a fine cropper, and of good flavour.

A good stock in frames was noted of that charming rock-work plant, Nertera depressa, so pretty when in fruit.

Streatham.

This is considered a poor Apple year,; an inspection, however, of the fine stock here in fruit dispelled that illusion—so far, at any rate, as regards this nursery, and, to write the sober truth about the fruitfulness of the trees might be deemed an exaggeration. Young standard Apples were quite exceptional in their fruiting capabilities; clean, straight stems and good heads. Bush and pyramid Apples on Paradise, and Pears on Quince, were also bearing great crops. The deep crumbly soil evidently meets the requirements of the trees; the situation is somewhat exposed, and the subsoil well drained, the wood is ripened early, and the trees bear early removal better than those which are grown in a sheltered and moist land. Twenty or more acres have just been added to the nursery, showing the demand for this particular stock. To refer to a few amongst the many varieties noted. Apples: on horizontal cordons, small trees of Tower of Glamis (quite distinct from Warner's King, with which it is sometimes confounded), were bearing remarkable crops. This good market variety has been found to be too spreading for a pyramid, but may be grown in any other form. An Apple which is just now in great perfection is one called Gold Medal (Froughton's)—an early and excellent Apple of great fertility. Perhaps the most handsome British Apple in cultivation is Peasgood's Nonsuch. It may be used either for kitchen or dessert. Bush-trees and other forms here were loaded with fruit; it may be grown in any form. That fine new variety, Bismarck, is getting somewhat scarce in the trade, it was fruiting remarkably well here. Fruits were very large and handsome, in the style of Warner's King, but more highly coloured, and striped crimson; the variety has a trick of bearing close home on the old wood. It was very interesting to learn that the Germans (naturally) are eagerly inquiring of Messrs. Peed for Bismarck—well, there is plenty of wood here for grafts. A kitchen Apple, very suitable for cottage gardens, is Pott's Seedling; fruits very large, and abundantly prolific. Cellini, fine for bush or pyramid, and a good bearer, but in gravelly soils it is liable to canker. Baumann's Red Winter Reinette bears freely on the Paradise. Referring to handsome Apples that do well, we may mention Lady Sudeley and Irish Peach, a beautiful and valuable early Apple tree, very hardy and prolific, and equally adapted for a standard, pyramid, or espalier. Other good varieties are Worcester Pearmain, Gascoigne's Scarlet, Gravenstein, Duchess of Oldenburgh, Lord Suffield, and New Hawthornden, all varieties that are getting well known and very generally planted as market fruits.

Pears were bearing large crops, many of the hardier varieties flourishing as standards. There are a good

many Pears which do well on the Quince stock as pyramids, &c., but some of the finer, and especially the later-ripening varieties, require and deserve a good wall. Beurré d'Amanlis, juicy, richly-perfumed fruit, is a vigorous grower, and abundant bearer. It succeeds as a standard, and makes a good pyramid or wall tree, either on Pear or Quince stock. Pitmaston Duchess is vigorous and prolific on the Quince, and may be grown in any form. A new variety of great excellence is Triomphe de Vienne, of rich flavour, a very free bearer, the fruit having to be tied up. Souvenir du Congrès is a handsome early variety, juicy, and melting—trees loaded with fruit; it is not a long-liver on the Quince, doing better on the free stock. Bearing great crops were trees of Knight's Monarch; as this sort sometimes casts its fruit prematurely, it should not be heavily thinned. On Pear or Quince, Clapp's Favourite (an American introduction) is a free-grower and great cropper. The very early Doyenné d'Été (ripening in July), of rich and agreeable flavour, is a moderate grower, and a hardy and abundant bearer; it forms a good standard on the Pear stock. A valuable Pear for market purposes is Fertility; it is a great cropper, very hardy, of brilliant colour (that essential characteristic in a market sort), and of high flavour. On Quince, the well-known rich and highly aromatic-flavoured Williams' Bon Chrétien is a very large and handsome fruit-tree, healthy, a good bearer, vigorous, and upright grower. The buttery and melting Marie Louise—one of the best of autumn sorts, will not succeed on the Quince unless double-worked. The well-known and richly-flavoured Louise Bonne of Jersey, one of the most delicious Pears, was bearing very heavy crops. The tree is a healthy, somewhat erect grower, succeeds well on the Quince, and may be grown in any form, but should not be planted as a standard in very cold localities. Plums Victoria, &c., were bearing very heavily.

Roses.—The Mitcham loam is adapted to the successful cultivation of the Rose, judging by the healthy condition of the stock, and all the finest exhibition, and the so-called garden Roses, were found in great numbers.

Mr. John Peed, sen., has a very high opinion of Royal Sovereign Strawberry, of which the firm holds a good stock. He says it will live as long as those standard varieties, Keen's Seedling and British Queen. A large quantity of John Ruskin for forcing in pots is grown.

A sign of the times is seen in the good collection of hardy herbaceous plants grown, anything good in this way being added to it from time to time. Cactus and Pompon Dahlias are grown very largely, and form one of the sights of the nursery in their season.

THE OSAGE ORANGE.

The Osage Orange (Maclura aurantiaca) is common enough in some of the south-eastern States of America, where it is much used for hedges. In this country, though it is quite hardy, we seldom see it, and still more rarely meet with it in fruit, our summers not usually being hot enough for that purpose. The specimen we now figure, a legacy from the hot summer of 1893, was obligingly sent to us by Mr. Mitten, who obtained it from the garden of the Rev. B. Belcher, of Bodiam Vicarage, Hawkhurst. The



Fig. 88.—Maclura aurantiaca: osage orange. (for details, see p. 694.)

shrub or low tree is near in family kinship to Mulberries, Bread Fruits, Broussonettias, and the Fig. It is dicœcious, spiny, producing globular heads of male flowers on one plant, female heads of similar shape on another. In each case the isolated flower has a perianth of four pieces. These in the female flower ultimately become fleshy, and coalesce into a warted globular fruit. Superficially it is something like an Orange, but the resemblance is as deceptive as that of the Bitter Apple of Sodom. The fruit shown is smaller than American specimens, the ovaries in the absence of male flowers not having been fertilised. The books tell us the fruit has a yellow fetid juice, with which the Indians paint their faces when they go to war. The Sussex specimens are not suited for this purpose, for the juice

is hardly yellow—perhaps it might have become so had maturation been more perfect; and so far from being fetid, the fruits sent have a delicate citrine perfume, something between that of the rind of a Lemon and that of an Orange. The name Orange is, after all, not so very inappropriate.

There is a good figure of the foliage and fruit in the Appendix to the folio edition of *Lambert's Pinus*, t. 12, but, as this is a work not readily accessible to the majority of our readers, we commissioned Mr. W. G. Smith to make a drawing of an interesting plant, which is of much importance in the States, and in some of our colonies. Lambert tells us it was introduced into this country by Lord Bagot, and that it was cultivated in the open air at Boyton in Wilts.

Not only is it useful for hedges, but in favourable localities it attains a height of 60 feet, and becomes serviceable as a timber tree, the wood being very elastic and tough. Baron Sir Ferdinand von Mueller recommends the foliage for feeding silkworms, and tells us (*Select Plants for Industrial Culture, &c.*, p. 230) that the silk thus obtained is in no way inferior to ordinary silk.

The references in fig. 88 are as follows:—A, the head of female flowers, real size; B, the same seen in section; C, the perianth of four pieces, long and slender below, expanding into a peltate disc at the upper part (magn. 2 diams.); D, section showing the position of the ovary with its long style; E, section through an ovary, showing an imperfectly developed ovule and a long style; magn. 4 diameters

Continental Novelties.

A NEW MELON.

A Melon which can be dried when ripe and used as a cooked vegetable, has been imported into Germany by Mr. R. Gaertner, pomologist in Halle, on the Saale. The Melon prospers here (Meran), in the open ground, bearing numerous large fruits. One plant covered 26 square mètres; the largest fruit weighed 15 kilos. It is a species of Water-Melon. The fruit dark green, marbled with light green, that becomes pale yellow when more ripe. The pulp yellowish-white, and the seeds are dark. The fruit when young is hairy, and ripens at the end of September or beginning of October, forming a very nice change to the vegetables in season at that time of the year. A great advantage the variety has over most others, is that the fruit keeps for a long time.
W. Reitling, Seed grower, Meran, Austria.

CHARCOAL BURNING.

The season having arrived when the making of charcoal is usually undertaken, some instructions in the art, simple as it may be taken to be, will not be unacceptable to some of the readers of these pages. Charcoal being one of the constituents of most vine-borders, and of the compost used in cultivating many kinds of plants in pots, the gardener will naturally like to know how it is made, so that when opportunity serves he may be able to do so.

Chrysanthemums are all the better for plenty of charcoal if the soil is heavy, as, whilst lightening the soil mechanically by its presence, it retains moisture that the plant greatly needs. In most country establishments lop and top crooked limbs from trees that are felled or blown down, and trees whose value in carpentry is nothing, such as Poplars and Willows, can all be made into charcoal. It does not matter in what month charcoal-burning is done, provided growth is dormant; and the work of burning often provides men with employment at a season of frost when they would otherwise be out of work. Beech is considered to be one of the best kinds of wood, and Spruce Fir about the worst, the latter is very liable to burn to ashes rather than make charcoal. Practised charcoal burners on commencing dig a hole commensurate with the size of the stack to be built, but this is not necessary; we make ours in the reserve ground, where are stored the manure-heaps, vegetable refuse, and worn-out potting-soil, and by so doing we reduce the labour considerably, as we make use of the materials named in covering the heap whilst burning. For convenience in burning, the wood should be cut into lengths of about 2½ to 3 feet, and should average 4 inches in thickness. If larger pieces than these are used, there is often much waste through the complete burning of the outsides before the central part is turned into charcoal. Where the wood is of a mixed character, it is important to have the pieces of smaller size than if they were all of one kind of wood, as some woods need more charring than others. Proceed to form the base of the heap, which may be 6 feet in diameter, although far larger heaps can just as well be made. I mention this size to convey to those inexperienced in the matter some idea of what amount should be got together when beginning the job. Where the heaps are larger, the stack may be made of that width at the base, but longer than broad; or the circular area may be increased—it is a matter of little account. Whether it is a round heap or a long one, in the centre a small bundle of straw is laid as a beginning, which is covered with small sticks—old Pea-sticks, or the like. This is done for the ignition of the larger pieces of wood, which are stacked on their end round about the straw so as to form a pyramid, building from the centre outwards, and placing the wood so that the flames can pass evenly through the whole heap. The wood may be stacked in one or two layers to a height of 6 feet. It is necessary to leave a hole under the heap by which fire can be communicated to the bundle of straw, and this hole should extend right through the heap. When the stack is formed, cover it over with half-decayed wettish stable-manure or leaves.

In the case of a heap 6 feet high, the manure may be placed round it to a height of 4 feet, and a thickness of 1 foot. The reason for laying it on before the wood is lighted is that owing to the heat of the fire when once well alight, the burners cannot get near enough to place the smothering materials around it quickly enough. The straw is ignited at both sides at the same time through the holes at the base previously mentioned, and in from three to four hours the wood will be sufficiently aglow to require the whole heap to be gradually covered all over with the manure. Where much green wood is used, a longer time should be allowed for thorough ignition before covering the heap, and this kind of wood should not be placed together but distributed amongst that which is drier. In some cases less time than that named will be required, and no exact rule will apply, a good deal depending on the condition and kind of wood used, whether there is much or little wind, the position of the heap, and its dimensions. The outside surface of the manure must be airtight, or the air passing through it will cause the wood to burn into ashes. To render the manure covering still more impervious to the air, some fine soil or sods should be laid over it and be battened down with a spade. Some burners use nothing but soil to cover the heaps, but I prefer manure, as it is not so liable to fall through into the fire, the manure catching on the outside, and not falling inwards. The holes at the bottom should be blocked up last when the heap has got alight on all parts, and it is a useful precaution if a man be appointed to watch the heap for the first night or two, for should any part fall in, the air would cause the total consumption of the stack. If the wood consists entirely of freshly-cut stuff, holes should be pushed through the bank of manure with a long stick, to encourage its charring by the admission of air, allowing it to burn freely for a time, until it is thought the whole is well alight again, as green wood does not burn so evenly and freely as dry wood when finally covered. The holes made in the sides should be covered again as before. When the wood has been cut several months, four days will be long enough to keep the heap smothered, but green wood must have one day longer. When uncovering the heap, commence at the top, and take the partially-charred manure and soil away without allowing them to mix with the charcoal. If there are signs of fire breaking out afresh, water should be used to extinguish it. This is a very essential point, as any delay then would lead to the loss of probably the entire heap. Some charcoal-burners make sure against an accident of this kind by first deluging the heap with water. When cool enough to handle, sort the charcoal into two or three sizes, and secure the finer particles, sifting them from that which is larger, and storing the whole in a dry place under cover. Charcoal is soon spoiled by exposure to the weather. *E. M.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

Miltonia vexillaria.—This plant grows rapidly at the present season, the roots being very active. Enough water should be afforded to keep the sphagnum moss in a growing state. During the past week it has been found necessary to examine each plant, picking out the pieces of sphagnum moss which were not thriving, and carefully pricking into the surface pieces of living sphagnum. These pieces will soon grow, and keep an equable degree of moisture about the roots. This species should, during the winter, be kept at the cooler part of the intermediate-house, where plenty of fresh air can be afforded, the bottom ventilators beneath these plants, except in very severe weather not being entirely closed, always supposing that there is sufficient artificial heat to keep up the warmth to the proper degree. A worthy companion to the above-named Miltonia as regards beauty and form of flower, is the pretty rose-scented M. Roezlii, which is a more delicate species, requiring several degrees more heat at all times to grow it satisfactorily, and a steady temperature like that maintained at the warmer end of the Cattleya-house, where the thermometer does not fall below 58°. When cultivated in the higher warmth of the East Indian-house, the leaves of this plant are liable to be attacked by thrips, which if not soon detected, cause disfigurement of the plants. Under cooler treatment they are not only comparatively free from these insects, but grow more strongly, and flower well. Many plants of this species are now in mid-growth, and should be abundantly supplied with water at the root, especially such as are well established in pots of small size. Where large numbers of M. Roezlii are grown, some will be in flower at the present time, but even these must not be allowed to become too dry. It is now advisable to look over the plants of Dendrobium Wardianum, D. crassinode, D. moniliforme, D. nobile and its varieties; also the garden hybrids, D. Aspasia×, D. Ainsworthii×, D. Wardiano-japonicum×, D. splendidissimum×, D. Dominianum×, and others, including the D. melanodiscus, D. chlorostele, and D. xanthocentrum×, the majority of these plants having prominent flower-buds, and they may be brought from places where they have been resting into a house where the night temperature is about 55°, here to remain till the bloom-buds are fully developed, when removal to the East Indian-house, choosing the lightest position available, will be a suitable change. Water at the root must be very carefully applied, at comparatively long intervals of time, any undue excitement at this period frequently causing the growths that are now visible at the base of the pseudobulbs to break away, and preventing the flower-buds from coming to perfection. When the plants are placed in the East Indian-house, a slight syringing overhead with soft tepid water on sunny days, if judiciously afforded, will tend to the freer expansion of the flowers. There are some few species of Dendrobium which are sometimes late in finishing their growths, and these plants should be kept in a stove-warmth, and liberally watered till growth is fully made up. Among the small-flowered Oncidiums, O. cheirophorum is a general favourite, and the plants are now opening their pretty yellow-coloured flowers. The plants should be hung up to the roof of the intermediate-house, and when the flowers begin to open, less water will be required. They will last in good order for several weeks if not injured by damp. A charming plant when in bloom is Angræcum pellucidum, now showing its flower-spikes, which should be constantly directed in the way they should go, or they will descend into the compost, and probably be lost. It is important at this season that more heat be afforded in the houses; and that Cypripediums

Schizlias, Epidendrums, Bolleas, and others, which are growing freely, do not suffer for lack of water at the root, and to make sure, they should be examined almost every day, and if found to be dry in the least degree, a thorough soaking must be afforded them; especially is this applicable to Cypripediums, which are plants that do not like dryness at the root at any season. Plants on blocks or rafts should on no account be neglected as regards watering.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

VINES.—Plants started during November will require a gradual increase of the warmth, and it may range from 55° to 60° by night, 65° to 70° by day, with air afforded freely at the top of the vinery on sunny days, the house being closed early in the afternoon with plenty of moisture about. The Vines should be daily syringed till they come into leaf. Canes which were loosened from their trellis and lowered to induce an even break, should be fastened up as soon as the buds have become equally prominent at the top and bottom. At this time a selection should be made of those buds which come in the best positions on the canes, and are showing the best bunches. There should be no steaming beds of hot manure inside the house after the Vines are well started, the resulting ammonia being apt to cause injury to the leaves at this early stage.

EARLY POT-VINES started about the beginning of last month, which may be growing freely, should have an increase of warmth night and day, with air afforded on fine days, a moist growing atmosphere being maintained, but not by syringing, which should be discontinued as soon as the Vines are well into leaf. Select the bearing shoots as soon as possible, stop them at the third leaf above the bunch, and gradually bring them to the right position on the trellis. The soil should be afforded free supplies of tepid water when water is needed. If the soil be allowed to become unduly dry after starting, the bunches will be checked, and perhaps stunted in development.

SUCCESSION VINERIES may now be prepared for starting by pruning, and cleaning the canes, washing the wood-work, glass, walls, and floors, and removing the upper crust of the borders to the depth of a few inches, and replacing it with new loam, some bone-meal, or special Vine-manure being added. Vines which were infested with red-spider, mealy-bug, or other insects, should have the canes thoroughly brushed with soap-suds, and then be painted with the composition previously recommended for early Vines. The inside borders should receive a thorough soaking with tepid water.

YOUNG VINES IN POTS intended for fruiting-canes in 1896 should be cut back; if intended for early forcing, they should be potted into their fruiting pots at once, ready for starting into growth early in the year; 12 or 14-inch pots are the most suitable sizes. The pots should be quite clean, or new, and well drained with crocks, oyster-shells, and half-inch bones; for a potting-soil, make use of turfy-loam, rather adhesive than light, which has been stacked for one year, mixing with it a rather large quantity of bone-meal and half-inch bones. This soil, when used, should be neither too dry or too wet, as it will require to be made very firm with a potting-stick, and a wet soil would be spoiled under that method. The pots must not be filled within 2 inches of the top.

VINE-CUTTINGS required for striking in the spring should be taken off, labelled, and laid in damp soil till required.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

HORSERADISH.—This should be lifted whilst the soil is unfrozen, and stored in moist soil for use. If this method be not practised, still it is advisable to lift a sufficient number to supply the needs of the family during the winter months, as it will keep quite fresh and good for a long time if stored in moist soil or sand in a place protected from frost. A sufficient number of small roots with crowns can generally be found from which to make a fresh planting.

CAULIFLOWER PLANTS.—These will need as much air as possible, or drawing will occur. During very severe weather the hand-lights or frames should be kept close, except when the sun shines for a few hours in the middle of the day. It is prudent to throw a little light dry litter or Fern protection over the glass on very frosty nights; occasionally the dead leaves should be removed, and the soil stirred, and if mouldiness be present, a dusting of dry wood-ashes will be beneficial. Cauliflowers which are stored in pots may be sunk in sifted coal-ashes up to the rims, so as to protect the roots from frost, and prevent the loss of moisture from the soil.

BROCCOLI.—The season has come when Broccoli with heads already formed may be lifted with what soil hangs to the roots, and placed thickly together in a cool shed, or similar place, that affords a certain amount of protection against frost, and is light. Those which are but just forming heads may be planted in deep frames or any cool glass structure from which frost can be excluded. As these latter will need root-nutriment, to enable them to form good heads, a good quantity of soil should be placed around and pressed against the balls to fulfil the object in view, and if it is moist little or no water will be needed.

POTATOS IN DUNG FRAMES.—The first planting may be made in beds made up of sweetened stable manure about 3 feet thick. The soil with which the beds are covered should be of a light rich sandy nature, and not less than 6 inches in depth, being brought up to within 1 foot of the glass. When planting, place the sets, previously sprouted, in shallow drills, adding more soil to the bed as the shoots protrude, so as to obtain as much from the bed as possible. The breakfast Radishes, red and parti-coloured, may be dibbled in lines between the rows of Potatos when moulding up is finished. Dung linings will be required by both pits and frames, to maintain a temperature of not less than 60°, and coverings must be employed at night.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

THE TREATMENT OF THE CALADIUM.—The tubers which were ripened early in the autumn may now be started into growth. Although it may seem early for doing so, it is in many respects an advantage, for in the case of weak-constitutioned varieties it affords a longer season of growth, and a greater amount of time with sun-heat in which to ripen the tubers. The best time for Caladiums to finish up is during August and September. Where the stock is large enough to allow of dividing it, there may be three different succession batches made, starting one at the present time, another at about the end of the month, and the last towards the end of the month of January. Caladium argyrites and C. minus erubescens should be the first dealt with, these varieties taking a little longer time to establish themselves. Bearing in mind that the tubers may be increased by division, a stock of plants can soon be obtained, as each little crown, if severed with a sharp pen-knife, will in due course form a plant. When a tuber has been cut up, or a piece taken off, it should have the bare surface rubbed with charcoal-powder, so that the escape of sap may be prevented. If the stock plants are young ones, and it is intended to increase the number, the crowns being small, three sizes of pots should be used, the smallest crowns going into small thumbs, and the larger crowns in pots slightly larger. Finely-sifted peat two parts, one part of silver-sand, and one part leaf-soil, or cocoa-nut fibre refuse, may be used as a potting soil at this stage. After potting, and watering with tepid water, plunge them in a propagating-case or hot-bed frame, in a bottom-heat of 90° to 95°, afterwards applying water very sparingly until the first leaf shows colour on a plant, when the amount may be gradually increased.

TEMPERATURE.—With the fall in the external temperature, a corresponding fall must take place in the house, or the results may prove disastrous, plant-life in general being in a more or less inactive state at this period. It is observable after a severe winter that when the growth of plants has been retarded by lowered temperatures, the plants are usually in much better condition in the summer following than is the case after a mild winter. This, however, will not apply to plants which are forced at this season, most of these being matured in a warmer climate than ours, and being treated by us as of annual duration, they may be pushed on into flower without much regard being had to future growth. The mixed plant-stove should now be kept at 60° to 65° at night, with a maximum of 70° by day. The Crotons should have a similar heat, while Ixoras and Eucharis grandiflora may be treated to 5° less. The greenhouse should be kept from 40° to 45° at night, in accordance with the outside temperature, admitting air by day whenever prudent to do so. The conservatory, containing, as it may do, plants requiring a little warmth, may be kept at 50° to 55° by night, with 5° more by day. The warm Fern-house should have like conditions as regards warmth, and in the cool fernery very little heat will be required. Ericas and Epacris should be merely protected from frost.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

HERBACEOUS PÆONIES.—These are fast coming into favour, and justly so, being so easy of cultivation, and the flowers very effective, either on the plant or when cut. If they are removed from the plant as soon as they expand, or even before, they last a long time in water, and the foliage is very ornamental. The plants are decidedly ornamental, even after the flowering season is past, and act as capital foils to other kinds of plants. In regard to soil, Pæonies are not fastidious, doing well in almost any kind of garden soil, providing it is fairly good, and not shallow. If planted in large masses the land should be well-manured and trenched; but when occupying stations only in the herbaceous perennial border, holes in accordance with the size of the masses of tubers should be thrown out and filled with partially-decayed turf and rich manure, in which mixture they will thrive for several years with occasional dressings. Pæonies are improved by being transplanted once in six years or thereabouts. Little or no protection is required by them through the winter in the south, but in cold districts of the country and exposed positions it may be needful to afford them some slight protection such as is afforded by a heap of leaf-mould, cocoa-nut refuse fibre, or spent Mushroom-bed manure placed over the crowns. Many new varieties can now be obtained at the nurseries, and some of these are undoubted improvements on the old varieties. A succession of flowers may be had for about two months by having a good selection of varieties; these bloom in May and June, when other flowers are not abundant in the borders. The singles are, perhaps, the best for filling vases, having less heavy heads of bloom, and therefore carrying themselves more erect. Some of these, as well as the doubles, are fragrant. For colour we have from white in almost every shade down to velvety-crimson. Among the doubles, Abotis, flesh colour; Auguste Miellez, blush-white; Agnes Mary Kelway, delicate rose (a new variety); Constance, fragrant, creamy-white centre, outside of petals purple; Comte de Paris, delicate pink; Charles Verdier, deep purple, inside pale rose; Emile Lemoine, white, streaked with carmine; General Cavaignac, a large flower, scented, the colour purplish-rose; Globosa, rose-pink; Gloire de Douai, deep crimson; Hortense, rose-pink; imbricata plena, lilac; Labolas, pink, centre tipped yellow; Lady Carrington, one of recent introduction, a lovely flower, white, flushed with pale rose; Lady Dartmouth, white; Leonie, flesh; Lucrise, peach and white; Macilla, pink and yellow, scented; nivalis, yellow and white; Pottsii superba, purple-crimson; and purpurea superba, purple. Excellent single-flowered varieties are Trophy, purple; Pantheon, salmon; Orobis, primrose; Endymion, sulphur; Laconi, salmon; Fundanus, red; Bacchus, crimson; Quintilius, white; Rabelais, pink; and many more.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

LIFTING AND RE-PLANTING WALL TREES.—All young trees which are planted on walls should be re-planted the second winter after receiving them from the nursery. This plan, besides inducing early fruit bearing, prevents the formation of strong tap-roots. The neglect of this measure, besides making the subsequent transplanting of the trees a difficult operation, also encourages a strong and sappy growth, which is bad to ripen in the majority of years. If the garden has long been under cultivation, the lifting and re-planting of the trees keeps the roots in the prepared soil of the fruit border for a long period, and conduces to the future well-being of the trees. No opportunity should now be missed to get such work carried out whilst the weather is open, as the season, being far advanced, frost may set in at any time, and put a stop to the work for some long time. In re-planting the trees, one or two wheel-barrow loads of old Melon-bed mould or other turfy loam mixed with charred garden refuse and placed about the roots will encourage healthy growth in the trees.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	DEC. 11	Royal Horticultural Society: All Committees, at the Drill Hall, James Street, Westminster. Horticultural Club.
WEDNESDAY,	DEC. 12	East Anglian Horticultural Club, Norwich.
THURSDAY,	DEC. 13	National Rose Society, at Hotel Windsor, Victoria Street.

SHOW.

MONDAY,	DEC. 10	Smithfield Club Show, after 2 P.M.
TUESDAY, to FRIDAY,	DEC. 11 to DEC. 14	Smithfield Club Show, from 9 A.M. to 9 P.M.

SALES.

MONDAY,	DEC. 10	Final Clearance Sale of Nursery Stock at the Windlesham Nurseries, Bagshot, by order of the Executors of Mr. R. Mason, deceased, by Protheroe & Morris (two days). Dutch Bulbs at Protheroe & Morris' Rooms. Special Sale of Hardy Perennials, Carnations, Lilies, Iris, &c., at Protheroe & Morris' Rooms. Sale of Leasehold Nursery at Sutton-at-Hone, by Dartford, Kent, at the Mart, London, by Protheroe & Morris.
TUESDAY,	DEC. 11	Dutch Bulbs at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 12	Sale of Fruit Trees, Euonymus, &c., at Chas. Lee & Sons' Nurseries, Ealing Dean, by Protheroe & Morris (two days). Sale of Established Orchids at the Town Hall, Streatham, S.W., by Protheroe & Morris.
THURSDAY,	DEC. 13	Dutch Bulbs at Protheroe & Morris' Rooms. 279 Cases of Japanese Lilies, Roses, Spiræas, &c., at Protheroe & Morris' Room.
FRIDAY,	DEC. 14	Established and Imported Orchids at Protheroe & Morris.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.8.

The Lindley Library.

IN view of the steps now being taken to increase the utility of the Lindley Library, and as a beginning, to issue a printed catalogue of its contents, we lay before our readers some suggestions of Mr. W. ROBERTS, in the hope that they may fructify and help on the movement. Many of our readers will remember that on the occasion of the Potato Exhibition at the Aquarium some years ago, the collection of books got together formed a most interesting and valuable part of the programme. Some also will recall a great International Exhibition at Amsterdam, where the exhibit of Mr. KRELAGE'S magnificent collection of horticultural books excited the greatest interest.

"It may be asked, can the movement to develop the Lindley Library receive an impetus which shall at once draw public attention to it, and ensure its ultimate success? It seems to me that the answer is not a difficult one. A conference on, and an exhibition of, books dealing with horticulture and nearly allied subjects would, I am convinced, be extremely popular, and equally interesting. It is scarcely necessary to point out at the start that such an exhibition would have to be first-class and comprehensive to be at all successful. I should like to emphasise this, as I feel confident that if such an exhibition and such a conference were done in a half-hearted manner, it would not have the desired and far-reaching results which I venture to anticipate from the more comprehensive scheme. The idea suggests two alternatives.

The more ambitious plan of the proposed scheme might be based upon the various and successful exhibitions of the Arts and Crafts Society, and the New Gallery in Regent Street might be rented for a brief period as the centre of operations. It is the most central and the most convenient place of its kind in London. It may be urged that the interest of a horticultural and floricultural exhibition would be much more circumscribed than that of the Arts and Crafts. I do not admit of any such objection; on the contrary, it could be made of a much more general interest, without sacrificing its importance to the specialist. Here, for example, are a few of the branches or divisions into which one section alone of the exhibits might be classified:—

Pictures in oils of floral subjects: (*a*) ancient; (*b*) modern.
Water-colour drawings.
Sketches in black and white.
Early *Herbals* with illustrations.

The five foregoing sections would of themselves constitute a very interesting exhibition, for we have all ages and all countries to draw upon. The old masters of floral design constitute a very wide and a very interesting field, and a few examples of the best French and Dutch schools, Jan Van Huysum, Synders, Rubens, Jan David de Heem, Jan Wieninx, among the latter, and Jean Baptiste, Belin de Fontenay, Chardin, Desportes, Monnoyer, among the former. The second, third, and fourth sections might be extremely interesting and representative, including, as it ought, examples of book and other floral illustrations, not only by British, or even European artists generally, but also of work by Chinese, Japanese, Persian, and other draughtsmen. This section should also include books illustrating the rise, progress, and present condition of illustrated books, from Curtis's to Hooker's *Botanical Magazine*, Maund's *Botanic Garden*, and the *Floricultural Cabinet* of the past, with Sowerby's *English Botany*, and a legion of other books with coloured illustrations of the present day. The early English and other herbals would include many illustrated works of the highest curiosity and interest. Of Gerarde's *Herbal* for example, how many have heard, and how few have actually seen? This book is, to those interested in the gardening literature of this country, quite as important a volume as the First Folio Shakespeare is to the student of English history—it is a volume of perennial interest, the essential corner-stone of any horticultural library.

The exhibition of ancient and modern gardening and horticultural books might be made extremely interesting, illustrating, as it would, the evolution of practical gardening and scientific horticulture from the crude and legendary theories of the ancient "natural history" writers to its present high state of perfection. Such a wide and varied section does not very readily lend itself to classification, and a division according to the successive centuries would be arbitrary, and consequently both anomalous and confusing. The *incunabula*, or books printed before the commencement of the sixteenth century, might very well stand alone. A rough classification of the remainder may be suggested as follows:—

Early (16th century) books dealing with the subject generally.
Early books dealing with trees.
The first books dealing with garden botany, 1, English; 2, French; 3, German; 4, Dutch.
Early books dealing with landscape gardening.
Early books dealing with vegetable gardening.
Early books dealing with flower gardening.
The first or early gardening periodicals.
Early books dealing with Kew and other Botanic Gardens.
Early books written by botanical explorers (English and foreign).
Gardening dictionaries.
Transactions of the early societies, with treatises on plants, &c.
Portraits of past celebrities (Gerarde, Tradescant, Miller, Knight, Herbert, Lindley, &c.).
Early seed and plant catalogues.

Those who know anything of the bibliography of gardening, need not be told that the book exhibition alone might not only be extremely extensive, but that it would be of remarkable interest. The old gardening books are not perhaps as easy to read, or as quickly digested as a modern novel, but each one is nevertheless a more or less important contribution to the history of gardening, which is still waiting a competent chronicler. In this age, the tendency to ignore the past is much too keen and too general, and it is not often enough remembered that the successes of to-day are the result of the failures or partial successes of yesterday. It is well to—

"Look unto the rock whence ye are hewn,
And to the hole of the pit whence ye are digged."

A third feature of the purposed exhibition would partake of the nature of a *hortus siccus*. To my mind, nothing can be more interesting or more instructive than the development of a large number of garden flowers and vegetables, and such an exhibition would permit of this being carried out in a very successful degree. Specimens, for example, of the common Potato, of the typical species of Begonias, Asters, Chrysanthemums, and a thousand and one flowers and vegetables which are now only generally known by their garden varieties, would prove, as has been said, highly instructive. They might not reconcile one altogether to the soapy Potato tubers, stale Cabbages, or stringy Turnips, which our greengrocer assures us are the best in the market, but they would suggest many object-lessons.

The Conference, which inevitably suggests itself in connection with such an exhibition would, of course, consist of papers on various phases of what may be termed the intellectual history of gardening; and a properly drawn-up report would form as invaluable a book of reference as that, for example, on the Conifers. There is no lack of material for such papers—rather, indeed, an overplus.

It may be asked, where are all the pictures, books, and so forth, to come from? A glance through the list of Fellows of the Royal Horticultural Society leads one to the conclusion that a very large number of items could be borrowed from the members—more than sufficient with which to make a good start, and other sources could be drawn upon afterwards.

The comprehensiveness of the foregoing scheme, doubtless, at once prevents its official adoption by the Royal Horticultural Society, but a strong committee could be formed out of the Society. Unfortunately, the Royal Horticultural Society is afflicted with the *res angusta domi*, when it comes to anything or exhibition of a relaxing nature. Other societies take their dissipations in the shape of fashionable evening conversaziones and semi-private exhibitions, but the severely practical Royal Horticultural Society only relaxes to the extent of one brass band annually. I doubt whether there is any other first rate society in London which does so much useful work as the Royal Horticultural Society does, but that usefulness might be extended in many directions.

Failing the foregoing scheme, which, as a society, the Royal Horticultural Society may not be disposed to take up, I venture to submit a much less elaborate proposal, which they might with great profit act upon. And that is to hold, instead of one of the fortnightly shows, an Exhibition of Gardening Books—at the Drill Hall, if no better place can be secured. This might be made fairly comprehensive and certainly very attractive, at a very small outlay; and if the exhibition were properly advertised and paragraphed, it would undoubtedly be a success. The publishers who make a specialty of gardening books would, I have no doubt, give such a scheme practical help, and the catalogue of the loan exhibition might be so arranged as to include the whole of the books in the Lindley Library, thus serving a double purpose. I believe that the library itself would receive many gifts of rare or noteworthy books by such publicity. Nobody outside knows what the Lindley Library contains, and they do not care about the bother of enquiring. If they knew positively, the Library would receive many additions. A combined and strong effort would place at the disposal of the Society a very substantial sum for the production of a first rate catalogue. *W. Roberts.*



Musa Ensete, Rose Hill, Falmouth.

Musa ensete at Rose Hill, Falmouth (See Supplementary Illustration).—This fine plant of Musa ensete, the Abyssinian Banana, is growing in Mr. Howard Fox's garden at Rosehill, Falmouth. The original seed of this plant was kindly sent to Mr. Fox by Mr. Nock of the Hakgalla Gardens, Ceylon; it was sown in the latter end of February, 1892, and had bottom-heat. The young plant was put out early in June of that year, and was from 4 to 5 feet high when frost cut it down in the winter. A fresh shoot came up in June, 1893, and the entire plant was taken up, put into a box the following November, and kept under glass for the winter, during which time it continued to develop fresh leaves. It was taken out of the glasshouse in May to harden, was planted where it is shown in the picture on June 4 last, and is now about 10 feet high, and 2 feet in diameter where it leaves the ground. Some of the leaves are nearly 6 feet long, and 3 feet broad. They are delicately fringed with red, and the midribs are very conspicuous from their beautifully graduated shades of carmine. They are channelled, so as to carry the condensed dew or rain into the deep channel on the upper side of the midrib, which is thus conveyed to the reservoir at the base of each leaf, where it clasps the stem. Another plant in the same garden has developed from a seed planted last February, was put out on June 4, and is now 5 feet high, with leaves 4 feet by 2 feet.

Royal Horticultural Society.—The last meeting this year of the above Society will take place next Tuesday, the 11th, in the Drill Hall, James Street, Victoria Street, Westminster, when the Fruit, Floral and Orchid Committees will meet as usual at 12 o'clock.

The Rev. W. Wilks.—We are requested to publish the following letter:—"I have received so many marks of sympathy and kindness from so many of the Fellows of the Royal Horticultural Society during my long and trying illness, that I am loth to ask them (if you will allow me to do so through your columns) to grant me still one more indulgence, necessitated by my past illness. I am not without hope that the ordinary work of the Society (thanks in great measure to the diligence of the Assistant-Secretary), has not suffered much from my compulsory absence at times, but unfortunately the one department which I keep more especially in my own hands, the *Journal* of the Society, has fallen somewhat in arrear, whilst, at the same time the amount of 'matter' for it is unusually heavy—so much so, that I find it quite impossible to publish the whole of it at Christmas. I have, therefore, obtained the consent of the Council to publish the Report of the Hardy Tree Conference, and the Crystal Palace Fruit Conference Reports at Christmas, and to defer the ordinary volume of the *Journal* till March, 1895. I venture, therefore, to ask this further kindness of my horticultural friends, viz., that they will endorse the consent of the Council and will grant me the further ten or twelve weeks for the editing of the remaining portion of Volume XVII. of the *Journal*. The Report of the two Conferences is in the printer's hands, and will be issued as Volume XVIII. at Christmas, or early in the New Year, without fail. W. Wilks, *Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., Nov. 22, 1894.*

National Rose Society.—The secretaries desire us to make known to our readers that the annual general meeting will be held at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Thursday, December 13 (instead of on Thursday, December 6 as previously announced), at 3 o'clock. The annual dinner is also unavoidably postponed to Thursday, December 13, at 6 o'clock.

Horticultural Club.—The usual monthly dinner and *conversazione* will take place on Tuesday, December 11, at 6 P.M. The subject for discussion will be "Roses and their Odour," to be opened by Mr. D. T. Fish.

"The Book of the Rose."—The Rev. A. Foster Melliar has issued, through Messrs. Macmillan & Co., a new treatise on the history, cultivation, and varieties of the Rose. As the work of a sound and experienced practitioner, this will be received with acclamation. We shall take an early opportunity of alluding in greater detail to this new tribute to the queen of flowers.

Copper Sulphate and Potatos.—We have received the following letter from Messrs. David Brown & Son, Limited, Donaghmore, Tyrone, dated October 24, on this subject:—As will be seen, the dressing with copper has been a wonderful success this season. The crop continued green and growing until cut down by frost ten days ago, while the untreated plot was destroyed by the blight early in August. As a result, this part is covered with weeds, while the dressed part is as clean as Turnip ground. We need scarcely say that the quality of the Potato is greatly improved by being so fully matured. The "Antrims," from the dressed part, are beautifully dry and floury. We also annex the results of this treatment in previous years, which shows that the dressing with copper-sulphate may now be said to be an established success. In seasons like 1891 and 1892 when September was wet and cold, the gain is, of course, below that of 1893 and 1894, when that month was warm and dry. Even in unfavourable seasons an expenditure of 10*s.* per acre for materials and labour produces 2 tons more of Potatos, and greatly improves the quality of the entire crop.

1891, gain per statue acre	...	...	38 cwt.
1892 ,, ,,	...	...	41 ,,
1893 ,, ,,	...	...	70 ,,
1894 ,, ,,	...	...	95 ,,

Produce per Statute Acre, 1894.

Varieties.	Large.				Small.				Total.			
	Tons.	Cwt.	Qrs.	Lb.	Tons.	Cwt.	Qrs.	Lb.	Tons.	Cwt.	Qrs.	Lb.
Antrims dressed ...	11	5	2	0	1	6	1	0	12	11	3	0
,, undressed ...	5	14	0	0	2	2	1	0	7	16	1	0
Skerries dressed ...	7	8	0	0	2	8	0	0	9	16	0	0
,, undressed ...	4	5	2	0	2	6	1	0	6	11	3	0

The Potatos got one good dressing during the last week of July (before the blight attacked them) with the "Eclair" Sprayer.

Ayrshire Gardeners' Mutual Improvement Association.—The fortnightly meeting of this association was held in the Carrick Street Hall, Ayr, on Thursday evening, November 29. Mr. McCallum, Vice-President, occupied the chair. Mr. Jas. Murray, F.R.H.S., Glasgow, read an excellent paper, entitled "The Chemistry and Diseases of the Tomato," for which he was accorded a vote of thanks.

Some Destructive Potato Diseases.—These form the subject of a short *Bulletin*, issued by the United States Department of Agriculture, and compiled by Mr. B. T. Galloway, the chief of the division of Vegetable Pathology. Mr. Galloway describes three diseases only:—1, the Potato Blight, due to the attacks of Phytopthora infestans; 2, Macrosporium, which affects the leaves, and is often confounded with the preceding, though it does not affect the tuber; 3, Potato scab. For the first two, spraying with Bordeaux Mixture when the plants are 6 to 8 inches high, is recommended, the process to be repeated every fourteen days, till five or six applications have been made, the object being to keep the plant at all times covered with the fungicide. For scab the tubers are immersed in a solution of corrosive sublimate 1 oz. to a gall. of hot water, and diluted eventually to 14 gall. of water, for an hour or two then spread out to dry, cut and planted in the usual manner. The extremely poisonous character of these solutions, especially of the corrosive sublimate, must always be borne in mind. "The three diseases cause a loss of several millions of dollars annually. The treatment is preventative, not curative. The importance of beginning early cannot be too strongly urged. It may be considered unadvisable to go to the trouble and expense of using the spray when perhaps the disease may not occur at all. To this it is answered that there is scarcely a section of the country where one or other of the diseases mentioned does not occur every year. Furthermore, it is a fact well established by experiments, that even if no diseases whatever appear, spraying with the Bordeaux Mixture will increase the yield to such an extent as to make the work profitable."

"Proceedings and Journal of the Agricultural and Horticultural Society of India."—From the latest issue of this publication—April to June, 1894—we abridge the following items:—Some seeds of Polygonum sachalinense were successfully germinated in the Society's gardens at Calcutta, "though European seedsmen and agriculturists deny that this variety of Polygonum produces seed that will germinate." The "double Cocoa-nut" (Lodoicea seychellarum) has at last completed the process of germination. On August 10, a slight upheaval of the soil was noticed; a month later a shoot appeared, and this is now 6 inches long, and expected to grow considerably before the first leaf is developed. On the whole, the report is of a successful year's work, and chronicles progress.

The Destruction of the Grubs of the Cockchafer by means of a Fungus.—According to a note by Professor von Paul Sorauer, in the German *Handelsblatt für Gartenbau* for the last month, experiments have been made by him in inoculating grubs of the cockchafer at different stages of development with the fungus mould—Botrytis tenella. This fungus material was raised in bread culture, and was provided by Dr. Eckstein (Eberswalde), in sufficient abundance for the experiment. The experiment was carried out in a close case nearly filled with earth, and divided into four divisions, in which the grubs which were taken from the soil of a nursery were laid at various depths. These grubs were of various sizes and ages, and in the case of those which were inoculated, they were rolled in a broth made with water and spores. When the task of laying-in was finished, the soil was planted with Lettuces. Two of the divisions were maintained in a moist condition, one with inoculated, the other with uninoculated grubs; and the two other divisions were kept in a dry state, the grubs being inoculated and uninoculated as before. The result of the experiment seemed to prove that in a dry soil the inoculation with Botrytis spores was without effect, whereas in the wet soil inoculation favours their destruction. Still, the circumstance that half of the total number of dead bodies which had been dipped in the spore-broth were found without a trace of Botrytis mycelium upon them, seemed to prove that the constantly wet condition in which the soil in two of the divisions was kept was fatal to the grubs by causing other diseases. The deeper-going roots of the stronger of the Lettuce plants were gnawed by the grubs, but apparently not before the smaller grubs had been devoured by their stronger companions.

Anemone japonica Whirlwind.—We are requested to publish the following: "On p. 661 of your issue of the 1st inst., we see you publish a notice of an Anemone japonica Whirlwind. Permit us to call your attention to the fact that this was introduced by us to the English trade last year, on behalf of the raisers, Messrs. James Vick's Sons, Rochester, New York, U.S.A., and we are very pleased to find that it has given such great satisfaction. *Cooper, Taber & Co., Ltd.*"

Government Agri-Horticultural Gardens, Lahore.—We have received a copy of the Annual Report, ending March 31, 1894. The maintenance of the botanical part of the garden (which is entirely under control of the Professor of Botany) amounted to Rs. 536-3-6; 2894 plants of various kinds were issued in exchange for plants with other gardens and private individuals, and as free issues to the gardens of charitable institutions. 1174 packets of seeds of various kinds were also issued free of charge, chiefly to the Royal Botanical

Gardens, Calcutta, and the Botanical Garden, Lahore. For some years past a good deal of quiet work in the direction of agricultural experiment and the selection of seed has been going on in the Agri-Horticultural Gardens. The results have already been of considerable value, and seed of superior varieties of cereals has been distributed to many districts. At present perhaps Palestine Wheat and Egyptian Cotton promise most. Chocolate Barley is a good variety, but its colour appears to raise prejudice. Canadian and Danish Barleys have done well. Canadian Wheat has been a failure. These agricultural experiments are conducted under great difficulties. The soil is bad, and the area very cramped. Mr. Hein, the superintendent, receives the thanks of the Government for his successful management.

The Surveyors' Institution.—The next ordinary general meeting will be held on Monday, December 10, when a paper will be read by Mr. William Sturge (Past-President), entitled "The Burdens on Real Property and Land," and a discussion will take place on th at paper, and on the paper read at the last meeting by Mr. A. Dudley Clarke (Fellow), entitled "The Incidence of Taxation on Land." The chair to be taken at 8 o'clock.

The Nervous System of Plants.—Professor Green has been discoursing on this subject before the Pharmaceutical Society, and had little difficulty in foreshadowing the more highly organised nerves of animals in the lowly structure of plants, that is, in the protoplasm. Even some power of vision may be accorded to plants, which are sensitive to the impressions produced by light, and bend towards the direction whence the light comes. Sensitiveness to touch is exemplified by the sensitive plant.

The Green Daffodil.—Mr. G. Renthe, writing in the *Gardeners' Magazine*, says that this species, N. viridiflorus, is now in flower at the Hale Farm Nurseries, Tottenham (Messrs. T. Ware & Son). The plant is said to be destitute of leaves, the scape fulfilling the function of leaves. It is figured in the *Bot. Mag.*, t. 1687, and was reintroduced by Mr. G. Maw from the neighbourhood of Gibraltar (see *Gardeners' Chronicle*, 1885). Mr. Burbidge, *The Narcissus* (1875), pp. 57 and 85, describes the plant as having one or two slender terete leaves produced at the same time as the flower, and these are figured in his plate, t. 441.

A Branch of the Gardeners' Royal Benevolent Institution.—It is the intention of the Wolverhampton Gardeners' Association and Chrysanthemum Society to establish a branch of the Royal Benevolent Institution, to be called the Wolverhampton and Staffordshire Auxiliary, and a meeting has been arranged by the committee for December 14, 1894, at 7.30 p.m., at which the Mayor of Wolverhampton, C. T. Mander, Esq., will preside, supported by other influential gentlemen; H. J. Veitch, Esq., and G. J. Ingram, Esq., addressing the meeting on the objects of its promoters. They are very desirous that the leading gardeners of the district should make an effort to attend the meeting, and afford their support to Mr. Veitch and Mr. Ingram. The committee expresses the wish that prominent gardeners should become members of the committee or stewards of the auxiliary, and that those who may not be able to attend the meeting would intimate their willingness to accept a stewardship. The circular convening the meeting is signed by G. A. Bishop, Chairman; and J. H. Wheeler, Secretary, Glen Bank, Tettenhall. Tickets for the repast, given at 6 p.m., price 1*s*. A similar branch has been established at Birmingham.

Birmingham Gardeners' Mutual Improvement Association.—At the usual meeting of this society, held on Nov. 19, presided over by Mr. W. B. Latham, a paper on the "Culture of the Dendrobium," was read by Mr. John Cypher, of the firm of Messrs. Cypher & Son, Cheltenham, before a fair attendance of the members, including several well-known experts. This lecture, in great part, will be found on p. 690. Mr. Cypher exhibited several finely-grown young plants of Dendrobiums in small pans, also an assortment of finely-developed racemes, rich in colour and substance, and conspicuous amongst which was D. Phalænopsis Schroderianum. The collection was supplemented by a few cut specimens, supplied by Mr. H. A. Burberry, from Mr. Joseph Chamberlain's collection at Highbury—some of which also possessed rare merit. In the interesting discussion which followed the delivery of the paper, several important questions were put and kindly answered by Mr. Cypher, notably as to the question of pruning the pseudobulbs—a proceeding he advised to be cautiously adopted—though very signal successes had been obtained by experts in the exercise of the process. Similar advice was also rendered regarding the application of liquid manure directly at the roots. A safer course being its application atmospherically. Eminently satisfactory results, however, had been obtained from the former method, notably the grand specimens of Phalænopsis, described and figured in the *Gardeners' Chronicle*, April 28, 1888, in the possession of Mr. Fred Scholes, of Brooklyn, New York, and whose late grower (Mr. F. A. Gardiner) freely applied liquid cow-manure to the roots when in an active state of growth, as they ramified in the sphagnum-filled baskets. Amongst other exhibits a few finely-developed cut blooms from late cut-back Chrysanthemums, were shown by Mr. Higby, of Edgbaston, and Mr. C. Bick, gr. to Mr. Walter Chamberlain, Harbour Hall, branches of several shrubs in flower, illustrative of the mildness of the season. At the close of the proceedings, a hearty vote of thanks, proposed by Mr. Walter Jones, and seconded by Mr. Burberry, to Mr. Cypher for his instructive lecture.

Oodeypore.—We have received the annual report of the gardens of His Highness the Maharana of Oodeypore, for the year 1893—94. These gardens are under the able superintendence of Mr. T. H. Storey. Great injury was done by a hail storm in May; indeed, the season is described as the most abnormal on record. The top-shoots of the Mangos were broken off and the fruit lost. When the flowering season came round, the new buds proved to be growth-buds, to replace the shoots that were destroyed. The rainfall subsequent to this storm amounted to 45·6 inches, 20 inches above the average. A table showing the measurement of a large number of trees in the garden is given, which should form a valuable basis for comparison in future years. A menagerie, a deer-park, recreation-grounds, a museum, rock-garden, library, are all included in this fine establishment.

Wood Notes.—There is no better-known man in the United States than Mr. Julius Stirling Morton, the originator of the grand national holiday known as "Arbor Day." This holiday originated in the far-sightedness of Mr. Morton, who noticed, as we are informed, the great waste going on in the forests of the Far West, for which no provision for the future was made by replanting. To this has also to be added the enormous loss attributable to forest fires—the last of which will never be forgotten. Mr. Morton passed a bill which became law, establishing a holiday throughout the Union on April 22, on which day all who can go forth, and under proper instruction, plant young trees to make good the losses caused by commercial and social requirements, and thus comply with the injunction attributed to the old Highland laird, to keep "stickin' in a tree here and a tree there," because, certes, "they'll grow whilst ye're sleepin'." Mr. Morton is Secretary of the Agricultural Department at Washington, and therefore a great power in the Western Republic. "Affiliated" to the major office are those of meteorology, experimental stations (which have been the means of enriching the botanical and pomological growths of the United States, by the introduction of new edible, and ornamental and useful plants), entomology, ornithology, vegetable pathology, microscopy, irrigation, and road-engineering. Mr. Morton has been employing his holiday here in making some inquiry into the condition of land tenure, farm leases, cost of production of cereals, &c. It was owing to Mr. Morton's courtesy that we were ahead of our own *Board of Agriculture Journal*, in publishing a brief synopsis of American fruit crops in these columns in the last week of August.

London Pansy and Violet Society.—The general meeting of this Society was held at the Guildhall Tavern, E.C., on the 3rd inst., under the presidency of Mr. Wm. Robinson, F.L.S. There was a good attendance of members, and much enthusiasm prevailed. It was determined to hold a show in London next May or June, and a schedule of prizes was considered and adopted, each modern type of the Viola being represented. In view of the decision of the Viola Conference, held at Birmingham in August last, classes for the miniature and rayless types are included. The President (Mr. Wm. Robinson) offered liberal prizes for the best baskets of plants of rayless Violas in bloom, arranged for effect. Mr. Wm. Robinson was re-appointed President for the coming year, Mr. Ranger Johnson as Hon. Treasurer, and Mr. A. J. Rowberry was appointed Co.-Hon. Secretary with Mr. Geo. McLeod of Chingford. Messrs. E. R. Smith and Mr. G. W. Cook were elected to fill vacancies on the committee. The Hon. Treasurer placed his balance-sheet on the table, showing that all prizes won at the last show had been paid, leaving a satisfactory balance in hand.

Illustrations of British Fungi.—We are informed that Dr. M. C. Cooke is endeavouring to dispose of the remaining copies of his great work *Illustrations of British Fungi*, chiefly in consequence of an affection of the eyes of a threatening character. It will be remembered that this book was produced privately by the author at his own expense, and is acknowledged at home and abroad to be one of the most complete and remarkable works ever attempted on this subject. It was issued to subscribers in seventy-six parts, at the subscription rate of 5*s*. 6*d*. each, and when complete in eight large volumes, containing 1200 coloured plates, at something like £30 Feeling that such a large and, consequently, costly book was beyond the limits of a large number of students, the author now seeks communication with *bonâ fide* "fungus hunters" with limited means, with a view to such modification of the terms as will make it possible for them to become its possessors To this end he is prepared to make a substantial sacrifice, and as only about fifty copies are involved, we should recommend all who are interested to put themselves in communication with the author at once, at 146, Junction Road, London, N. The work is a substantial addition to English Botany, and should be on the shelves of every public library, and in the possession of every local field club and natural history society, to whom the same liberal concessions would be made as are intimated above. As a final inducement, it is urged that when this "remainder" is sold the complete work will become scarce, and advance in price, hence its purchase at any reduced rate would be a safe and profitable investment. It is only recently that the produce of sales fully covered the cost of production; hence the only remuneration for ten years of continous labour and anxiety, has to be derived by the author from the sale of the few remaining copies.

Bermuda.—The small colony of Bermuda, 600 miles from the coast of the United States, in the North Atlantic, furnishes, says the *Kew Bulletin*, a large proportion of the early Potatos and spring Onions consumed in New York. It grows the variety of Lilium longiflorum known as Harrisi, and exports the bulbs to the amount of over £21,000.

Publications Received. — *Biology Notes* (Essex County Council).—*List of Seeds of Hardy Herbaceous Plants, Trees, and Shrubs, Royal Gardens, Kew.*—*Lists of Staffs in Botanical Departments at Home and in India and the Colonies* (*Kew Bulletin Appendix*, iii., 1894).—*Dictionnaire pratique d'Horticulture, fasc.* 32.—*The genus Masdevallia*, by Miss Florence Woolward, Part 6.—*Insects and Insecticides*, Weed.—*Spraying Crops*, Weed.

LÆLIO-CATTLEYA × DECIA
(LÆLIA PERRINII ♀, CATTLEYA DOWIANA AUREA ♂).

To increase the number of beautiful plants to be had in flower in the dull autumn and winter season, is one of the most important of the hybridist's good offices, and already have we to thank them for many such. The handsome Lælio-Cattleya × Decia, for which Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, obtained a well-merited First-class Certificate at the meeting of the Royal Horticultural Society's Orchid Committee on November 27, is one of the latest, as it is one of the best, of these desirable novelties.

The *début* of a new hybrid Orchid is its most trying time in these days. Years ago, when but few were at work in the field of Orchid hybridisation, the plant used to be grown to something like what might be called a fair specimen before exhibiting; but now its character at the start has to stand on its merits, as seen in its first and generally its poorest flowers.

The plant of Lælio-Cattleya shown was no exception to the new rule, for it was a small one, although it bore an almost disproportionately large and beautiful flower. It will be seen by reference to the illustration (fig. 89) that the ample labellum of the new hybrid shows plainly in its abruptly turned-down front of the lip the influence of Lælia Perrinii, and in many of its other characteristics it follows that species, while C. Dowiana aurea chiefly tends to give larger proportions to the flower. The sepals and petals are light rosy-lilac, with silvery-white base and midrib; the interior of the tube of the lip is pale purple, with white veining; the front portion rich mauve-purple.



Fig. 89.—LÆLIO-CATTLEYA × DECIA: ROSY-LILAC, LIP PURPLE.

HIGHBURY, BIRMINGHAM.

Than the collection of Orchids got together by the Right Hon. Joseph Chamberlain at his Birmingham residence, none in the Midlands is finer, whether we take its extent, the novelties and rarities contained in it, or the perfect cultivation shown by the health and vigour of the plants. A recent visit revealed in the house at the far end of the corridor a number of plants of Dendrobium Phalænopsis Schroderiana in bloom with great variety in the colouring and markings, some of the light-coloured blooms being uncommonly beautiful in this respect, one in particular, D. Phalænopsis Schroderiana highburyensis, which received an Award of Merit at a meeting of the Royal Horticultural Society. A plant of Dendrobium album possessed some fine racemes of flower; and some plants in bloom of D. formosum giganteum, a number of Calanthe vestita in variety, and Phalænopsis grandiflora and amabilis in robust health and profuse bloom, made this house very gay. Close by was a span-roofed house filled with Odontoglossum crispum in grand health, and some thousands of plants of Odontoglossums are in a long house with a northern aspect. Another house is nearly filled with Lælia anceps varieties, the plants showing a perfect forest of bloom-spikes In another house a quantity of specimens of Lælia autumnalis and L. albida are showing flowers very freely.

The Orchid show-house was very bright with flowers, including a very fine specimen of Barkeria spectabilis, Cattleya marginata, fine specimens of C. Bowringiana, Masdevallias Chelsoni and ignea, the rare Cattleya Mastersoniana, the result of a cross between C. Loddigesii and C. labiata, an exceedingly pretty flower that partakes of the characteristics of both parents. Cattleya Fausta delicata, a cross between C. Loddigesi and C. exoniensis; several selected varieties of C. labiata, C. speciosa, a massive

panful of Pleione lagenaria in full bloom; Oncidium tigrinum and O. venustum, Odontoglossum Cervantesii variety, O. grande, and O. Insleayii splendens, very fine; Trichosma suavis, Ornithidium Sophronitis, like a miniature pale-coloured Sophronitis grandiflora; the pretty Galeandra Devoniana, Vanda cœrulea, in flower; and a number of seedling Orchids raised by Mr. Burberry, which are in very promising condition.

It is not Orchids alone which make Highbury famous as a plant treasury, a general collection of plants being cultivated, and much cut bloom is required of the gardeners. Several of the glasshouses were gay with Chrysanthemums, which had they been exhibited at the Town Hall show, would have stood a good chance of securing honours for Mr. W. Earp. Some novelties were remarked in fine form. Seedling Anthuriums were nicely furnished with spathes, and even a batch of them in small pots were showing them; a span-roof house filled with Cyclamens deserve attention for the evident admirable cultivation, and richness and variety of the colours, and the same may be said for a house full of young zonal Pelargoniums, and another filled with Primulas in fine condition. A house filled with Roses in pots was remarked, the plants breaking freely. In the glass corridor which leads from the conservatory and fernery, and which in reality is a conservatory, and from which other houses branch off, a plant of Lasiandra macrantha, trained over the roof, is laden with its rich, large, bluish-violet flowers; and in one of the houses were a quantity of plants in full bloom of that somewhat useful old-fashioned decorative plant, Reinwardtia (Linum) trigynum. Plants that blossom in the winter season are much cultivated at Highbury, and numbers of Euphorbia, Poinsettia, winter-blooming Carnation, Salvia, and Bouvardia are met with. Browallia elata major, with its rich blue blossoms, can lay claim to being a very useful winter decorative plant.

Altogether Highbury is, in the matter of good cultivation, up to the mark, and this includes fruit. Mr. Earp, who shortly relinquishes his charge of these gardens to become a nurseryman at Hereford, has done his work well. The Orchid department will, as before, continue under the management of Mr. Burberry. *S. H. B.*

HOME CORRESPONDENCE.

DISHING FRUIT.—Everyone will acknowledge the fact that the appearance of fruit when dished greatly depends upon the way it is done, and those who are frequenters of horticultural shows cannot have failed to observe that it not unfrequently occurs that inferior fruit is placed before that which is better, for the simple reason that it is well-dished, and the other fruit is not. The way fruit is set up at shows does not, however, concern all gardeners, for there are many growers of fine fruit who do not compete at exhibitions. Still, the condition in which the fruit they grow is placed upon their employer's table should be a matter of interest to every gardener. It is over the dinner-table that the gardener is commented upon, and the quality of his productions discussed. The vegetables may be excellent, and the floral decorations rich, and executed in good taste, but these matters do not in a general way compensate for the presence of inferior fruit. Now, the appearance of the finest fruits may be spoiled by the carelessness or the inexperience of the person who dishes it. The bloom of a bunch of Grapes which has taken months of care to produce may be spoiled by being rubbed by the sleeve of a woman's dress or a man's coat. Peaches which have been gathered with a wadding-padded hand are easily blemished by pressure of the fingers, and a Melon disfigured by having the stalk rubbed off it. Nevertheless, the majority of gardeners have no control over the dishing of the fruit upon which much of their reputation as gardeners depends. They hand the fruit over to the housekeeper or confectioner, as the case may be, and having done this, their control is at an end. There may be gardeners who are perhaps satisfied with this arrangement, having enough to do without dishing fruit; be this as it may, the practice is wrong, and it behoves us gardeners to do what we are able to get it altered. This should not be a difficult matter, as any reasonable employer or housekeeper on hearing it explained would agree with the justice of such an alteration. Of course, this applies only to country seats; it cannot, for obvious reasons, be carried out in London houses or elsewhere at a distance from the garden. This, however, is not of so much importance, because fruit that has been packed is not expected to be so perfect in appearance as that which is taken direct from the garden to the house. I do not write this note because I have to submit to a grievance of the kind myself—on the contrary, I have the satisfaction of dishing the fruit that is grown in our garden—but because I should like all my fellow-craftsmen to do likewise. While upon this subject, I may remark that fruit when placed in a dining-room should be correctly named. A name neatly written upon a clean slip of paper is no disfigurement, and it tends to create an interest in the garden and the products taken out of it. Before I adopted this practice, I was frequently asked by my employer or his guests the names of the fruits which had been served at table. *Nemo.*

APPLE MANX CODLIN.—While there exists such a demand for new and higher coloured varieties of Apples, planters are apt to forget old favourites; and where full crops of useful culinary fruit are looked for, without anything remarkable in point of size, the good old Manx Codlin, and others like it, should be planted largely, say from six to twelve trees in the garden or orchard. In years poor in Apples, like the present one, there is no variety which is so useful, it being a regular and good cropper in most parts of the country. Its good cooking qualities are undoubted, and the tree is a compact grower, and it may truly be termed the Apple for the small grower, or for those whose space is limited. It may not generally be known that this variety succeeds upon its own roots, and that cuttings strike freely, the trees bearing well when thoroughly established, and the weather is favourable to a good set. *S.*

GRAFTED APPLE TREES.—In the garden belonging to Sir Samuel Montagu, M.P., at South Stoneham House, near Southampton, I recently observed the best example of grafted old Apple trees that I had till then met with. Thirty-two years ago a large number of standard Apples were planted, and some of them were not of the best quality. Four years ago, or twenty-eight years after Mr. Hall, the gardener at Stoneham House, commenced to improve them by grafting upon them improved, and, in some cases, modern varieties, and with splendid results. The branches from these grafts measure 8 feet in length in many instances, and capital crops of very fine fruit were borne on them this year. Warner's King, Red Astrachan, Ecklinville Seedling, Gloria Mundi, Emperor Alexander, and Wellington are varieties which have done remarkably well. Several trees were grafted with Ribston Pippin, and the clean and vigorous shoots made by the grafts of this favourite Apple have not failed to produce magnificent fruit; indeed, I have never seen finer fruits than these trees carried this year. The new Apple Bismarck, but two years from the graft, was bearing a grand lot of fruit. These trees have clean stems 7 feet high, and the branches that were grafted were cut pretty close in to the fork from whence they sprang, cleft-grafting being resorted to. *E. M.*

WASHINGTON APPLE.—This variety, alluded to in a note by Mr. Evans (see p. 627), I saw in bearing as a bush in Mr. Leigh's garden, Barham Court, Maidstone, and the fruits were quite equal in appearance to those which I have seen elsewhere grown under glass. This was under garden culture, and that of the very best kind; but whether the variety is deserving of extensive cultivation is another matter, and I would not recommend it in a cold district. Probably it would do well south of London as an orchard fruit. It is not a variety that will keep any considerable period of time. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

RUBUS PHŒNICOLASIUS (JAPANESE WINEBERRY).—This species appears likely to be a very useful addition to our hardy fruits, and is well worthy of a trial. It ripened a good crop of fruits here this season, commencing during the first week in September and continuing for about three weeks. The fruits, which are very similar to those of a small Raspberry, are borne in terminal panicles more after the style of the common Blackberry; they are bright red in colour, and of an agreeable brisk flavour, containing none of that mawkish taste, which in my opinion, spoils all Blackberries. The plant has grown more vigorously this season than last; but whether it will always fruit as freely remains to be proved. The peculiar bright red appearance of the stems in early spring, caused by the abundance of its slender spines, gives it a very ornamental appearance when leafless. For the shrubbery border it deserves cultivating for that reason alone, its foliage being distinct and pretty. The present is a good time to plant it. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

BOUVARDIA LEIANTHA.—Several plants of this old, but still one of the best of the Bouvardias, are at the present season in bloom in the cooler greenhouse at the Birmingham Botanical Gardens, and with its scarlet blossoms, long, slightly pendent and graceful branches, it is such an excellent variety for standing in vases, and is useful in other ways. The treatment required by the variety is identical with that afforded others. *S. H. D.*

SPORTING OF VIVIAND MOREL CHRYSANTHEMUM.—The other day I received a flower of V. Morel (green sport) from Mr. Underwood, and I note in the *Gardeners' Chronicle* to-day, p. 668, what Mr. Willis says about this variety sporting in two different places; but my stock sported last year, and this year it has sported in France as well as at Harpenden. It certainly is curious how the same variety sports about the same time in different places; and perhaps some disbelieving people will now believe that what I have shown them was in reality a green Chrysanthemum. I have been taxed with having dipped the blooms into green dye or something else, and trying to sell plants by deceit. Would Mr. Underwood kindly give the size of the flowers he grew, for I must confess that I propagated my stock rather hard, and had not an opportunity of seeing to what size it would attain, as the blooms were rather longer in opening than the ordinary Viviand Morel, I felt anxious to let them be seen at all the shows I possibly could, and I sometimes cut them before they were half expanded. I had some blooms in May last, which were about 4 inches across and 4 inches deep, but these were from very small plants; most of my plants have been left untouched, and have carried from twenty to fifty small flowers, and these are small plants rooted as late as midsummer. I have also a sport from the green one (Ethel Amsden) this year. This plant was disbudded to two flowers, one of which was pink in the lower half, but pure green in the upper half of the flower. The other flower was pure white, with a green patch on one side of the flower. These flowers were like the ordinary V. Morel as regards size and form, the latter being the one which I showed at Edinburgh and Glasgow by the side of Ethel Amsden (the green one), where it caused quite a sensation. I wonder what next we shall get from V. Morel, perhaps a blue one! *W. Wells.* [The occurrence of sports simultaneously in widely-separated localities may be due to the plants having all originated from the same stock to begin with. One green Chrysanthemum has been figured lately in a Japanese horticultural journal. ED.]

MILLA BIFLORA FLOWERING OUT OF SEASON.—I have grown Milla biflora in this garden for years, and it generally blossoms in the dog-days, and it makes me cool to look at it. But this year it has put off its performance till now, and I have had during the latter part of November, and at present in this opening December, a good many in blossom. Simultaneously with this, and some weeks I sholud say before their usual time, the Snowdrops have also begun to bloom; and in one bed Milla biflora and Galanthus cassaba (from Asia Minor) are together in evidence. This is curious, because I have so often said Milla biflora is the most beautiful white flower we have, unless it be a Snowdrop, or, *vice versâ*, nothing can touch a Snowdrop if Milla biflora be out of the way; but I never dreamt that they could ever seem to vie with each other, and that they would display their loveliness at precisely the same time. But what can have happened to retard the one flower and precipitate the other? There has been nothing at all unusual in my treatment of Milla biflora this year, and the reasons for this exceptional tardiness on its part are quite hidden from me. Apropos, however, of white flowers, which are always very much prized, I may perhaps mention another, which is the only white thing I know of as being fit

for such company—I refer to Watsonia iridifolia O'Brieni. It is most chaste and beautiful, and there cannot be two opinions about its unusual loveliness; but only twice have I seen it in blossom, once in the Royal Gardens at Kew, and once in my own garden. This latter must have been owing to a fluke of some sort—another instance, I suppose, of caprice on the part of a flower; for though I have bought it several times, I have done nothing with it at all since then, and it has been a most heart-breaking subject to deal with from every point of view. But the vision I had once or twice seen haunted me, and remained fixed in my memory, and I felt quite unable to give up the hope of seeing this Watsonia do well in my hands. Nevertheless, my own efforts were completely exhausted, and I felt driven to write letters to any quarter from which I thought enlightenment could come. At last there has been the much-desired reward, and you will see in the letter which I send to you from M. Van Tubergen, jun., that he has had just the same difficulty that I have had here; but he has found his way out of it in a kind of miraculous way. I have not thought of asking him if his letter may be published, but he has said nothing against it, and I cannot doubt at all that he would gladly allow it for the good of the cause. I therefore enclose this valuable communication to you just as it came; and really it seems to open a way for managing many Cape bulbs besides Watsonia iridifolia O'Brieni which had never been dreamt of. I only make bold to say that Milla biflora, a Snowdrop, and Watsonia iridifolia O'Brieni are such a trio of exceptional loveliness, that I think it would puzzle any one to make a quartette by naming a fourth white bulbous plant that is fit to accompany them. Spring, summer, and autumn are beautifully represented by Galanthus cassaba, Milla biflora (provided only that these be true to their proper season), and Watsonia iridifolia O'Brieni. *H. Ewbank.*

WATSONIA O'BRIENI.—I am glad I can point out to you a method of cultivation which will bring the Watsonia O'Brieni to reason. After an almost complete failure with this choice plant, the idea struck me that during the resting season, the Cape bulbs are subjected to an immense solar heat in their native country, whereas we usually keep the resting Cape bulbs in a shed kept at about 45° to 50° Fahr., during the winter, which is about 60° less than they are treated to at home! I consequently in December, 1893, divided my lot of bulbs of the Watsonia O'Brieni into two parts, the bulbs looking very sadly, and kept one part in the usual place, while the other part I put into a box which I placed under the side stage of a hothouse about 2 inches above the hot-water pipes. I simply laid two strips of wood of about 2 inches thick on the pipes and placed the box on them. The bulbs soon became perfectly dry, and on cold days when there was a good fire kept on, they even became hot, so hot that one of my men thought I was going to roast the bulbs! In spring these bulbs were reduced to the state of bricks, but on planting them in March, I was most agreeably surprised to find that they had formed roots in less than three weeks, whereas the cool-kept bulbs did not commence growing until July. The roasted bulbs bloomed splendidly early in September, and are now fat, fully matured tubers, whereas the other lot is still in full vegetation, no new bulbs being as yet formed, and no flowers having been produced. The same tale might be told of various Antholyzas, Watsonias, Ismenes, &c. *C. G. van Tubergen, Jr.*

WATER-TIGHT STOKEHOLES.—There is, perhaps, nothing of greater importance—nothing more essential to the welfare of crops generally in all horticultural establishments—than a stokehole which is perfectly and absolutely water-tight. Dwellers in low-lying districts know all too well in scores of instances something of the many anxious nights, with their attendant cares and worries, when things are the reverse. Cases of this kind are frequent in seasons that are ordinarily wet, and when the rainfall has spread itself over a considerable period of time. Such being the case, it is little wonder, with the recent exceptional floods, that few, if any, have escaped. Never before, perhaps, were stokeholes been subjected to so severe a test, and even those which are sound were flooded from the surface by the water pouring over into them. Serious and inconvenient enough even this may prove when the surface all around is at saturation point, and will not permit of the rainfall passing away as usual. Situate here, in the valley of the Thames, the adjacent property to Hampton and Hampton Court was flooded for several days past. Some of the gardens on the river-bank were several feet below water, notably that of Mr. O'Hagan's, at River House. With some 5 feet of water in the main road at this particular point on Sunday, Nov. 18, what shall we say for the plant-houses and gardens? The hosts of market-growers and florists, albeit a little removed from the river itself, had a very anxious time of it. In some instances where the stokeholes were faulty, the water put in an appearance nearly three weeks earlier, but with many more it was kept under for a much longer time. Scarcely an instance was there in the whole district exempt from flooded stokeholes or greenhouses. In some instances the paths in the latter were impassable. In my own case, one boiler fixed in a ship's tank was completely submerged with the overflow from the surface pouring into it. For this, happily there is an immediate remedy. Not so, however, where the water flows upwards from the bottom like a spring, or finds its way through faulty work in the sides. Throughout the whole of this district great care and not a little experience is necessary to render a stokehole perfectly and absolutely water-tight. The every-day bricklayer is not to be depended upon unless he has obtained his knowledge through his own or other's failures—and failures in these matters are most expensive. In not a few instances the market-growers superintend the making of these stokeholes personally, and in some of the larger holes several tons of the best cement are employed in the work. As it may be of service to some of your readers, I will briefly give a few details of the way stokeholes are rendered water-tight. In the first place, the hole to be excavated must be carefully worked out in every detail. In deep stokeholes allowance is made for 18 inches of cement concrete at the bottom. This is mixed in the proportions of either two and one, or three and one, the first being decidedly the safer. In putting in the bottom every precaution must be taken that the ballast is clean and free from marl. Where the ballast excavated is clean and good, and in plenty, concrete is used to form the side-walls of much the same strength as above-named. In the majority, however, bricks are used, and where this is so, the width of the hole must be sufficient to permit of 2-inch walls on each side, with an additional space between the wall and the soil to use the trowel for cementing the wall as it is built up. In building up the side-walls, cement and clean river sand only must be used at the strength of three and one, and with every 18 inches of work, give a coat of neat cement ¾ inch in thickness on the outside of the wall. This is a most important item, and should be well done. Formerly this coat of cement was put on the inside of the stokehole wall, but experience has shown this was wrong, and it is now put on the reverse side, and so stops the water percolating through the wall at all. Thus placed, the great weight of water in the land all around is harmless. When the walls are completed and dry, the space may be filled in with tempered clay, if procurable. This will greatly assist security, or the inside of the wall may be faced with cement also if clay is not obtainable. It is best to start the walls on a layer of neat cement, and on no account to use perfectly dry bricks, as these absorb the moisture too quickly from the cement. Carry the walls two courses of bricks above the surrounding level, and cement them to the top; this will keep out ordinary surface-water. The floor of the stokehole immediately in front of the boiler should be pitched with blue Staffordshire bricks to receive the falling clinkers, and keep the heat from direct contact with the cement. The floor of the ashpit should also be similarly treated. Such work, of course, can only be successfully accomplished when the land-water is low, which is usual in summer or very early autumn. It will be seen that the making of stokeholes in this district is a serious matter, but if thoroughly done as described above, the work will last a life-time. *E. H. Jenkins, Hampton Hill.*

FRUIT AND FACT.—It hardly seems possible nor desirable to add to the trenchant force of the facts marshalled by Mr. George Bunyard, on page 636 of the *Gardeners' Chronicle*. To ask for or admit further evidence seems to us, who have the privilege of his acquaintance, seems like painting the Rose or adding sweet perfume to the Lily. On the same page, however, Mr. B. Wells also presents some valuable facts, and there have been many others, and may be more, so that we may say that the time is near at hand when Mr. Blackmore will gracefully retire from an untenable position, and confess himself in the main mistaken. Those of us who have followed him in his severe account of the merits or rather demerits of so many good fruits in the last edition of Dr. Hogg's book, are not greatly surprised at the position he has now assumed. Possibly, were all our Apples, Pears, Peaches, Plums, &c., angels, he would pick flaws in their faces or feathers. But we would love the angels, and shall find health, wealth, and happiness in fruit growing all the same, only regretting that Mr. Blackmore cannot do likewise, as of yore. For hundreds beside myself I can affirm, that such solid facts as that of Mr. Bunyard of Maidstone, Mr. Francis T. Rivers of Sawbridgeworth, and others, who have hitherto chiefly tried, through raising and selling fruit trees to the public, taking to the growth and sale of fruit themselves, thus voluntarily and of free choice entering the same boat as their customers, will suffice to give fruit culture such a fillip as no other object-lesson could afford. Only last summer I had the opportunity of seeing the large breadths of Apples, Plums, &c., planted out for fruiting purposes at the nurseries at Sawbridgeworth. I have also recently travelled some hundreds of miles to see, hear, and know up-to-date facts as to fruit growing prospects among us. Generally they are all that the most enthusiastic horticulturists could expect or desire. The new industry is spreading far and wide, as fast and as far as is prudent, possibly. In all directions one meets with proofs that lectures, object-lessons, examples, exhibitions, brochures, handbooks, have not been in vain. Our orchards and fruit farms still continue to be planted, and considerable efforts are being put forth to clean and resuscitate old fruit trees and bushes. Efforts are also being put forth to obtain lower swifter rates of transit, and cheaper easier methods (if that be possible) for partial cooking, and the exclusion of air from cans and bottles, since all that is essential for the conversion of perishable fruits and vegetables into commercially imperishable commodities. As things are, fruit has not been cheap in the rural districts this year. Good Pears that have been allowed to rot under the trees elsewhere have sold well in Bury St. Edmunds throughout the season, and I have not been able to purchase any Apples this year under 6*d*. a quarter, or the high price of 8*s*. per bushel, though I confess I saw as good or better, still rather a rough-and-ready sample, of English Apples, sold in Covent Garden Market, 4*s*. a bushel. *D. T. F., F.R.H.S.*

LILIES AT OAKWOOD.—My annual note on our Lilies will be shorter than usual this year. The frost of May 21 was most destructive, except in especially favourable situations. In the bed in the wood at Oakwood, L. auratum, owing to the mildness of the weather, had made tall stems, and the growth was vigorous, when the frost came and nipped the tops, so that in the flowering season there was but one fine plant in bloom, with more than a dozen frosted ones round it. Lilium Humboldti had unusually strong stems, and these were all browned; L. candidum promised to be very fine, but in exposed situations the plants were cut down, although within not many yards a few plants which stood in sheltered places bloomed well; L. superbum, cut by frost in some situations, was fine in others; L. Browni, L. japonicum odorum, and L. Krameri were all cut; L. Martagon dalmaticum was cut in the wood, but it was fine on the hill. In a sheltered place on the hill, L. auratum virginale was especially fine. In the wood at our cottage garden, which is dry and warm, the Lilies bloomed well; and in this garden almost all the Lilies, especially L. auratum and L. speciosum, planted in sunken tubs and large boxes, sheltered by shrubs, were as fine as usual. In one tub with the bottom out, we had the finest plant of L. tigrinum jucundum I ever saw, 8 feet 9 inches high, with ten flowers. In the greenhouse here, L. Wallichianum superbum and L. Henryi bloomed well. I believe the last to be a valuable out-of-door Lily, but have not yet grown it, except under glass. A plant of L. Wallichianum superbum had twenty-three stem bulbils, like those of Tiger Lilies, so it may be readily propagated. *George H. Wilson.*

ECHINOCACTUS ZUCCARINIANA.—I have read with much interest Mr. Watson's interesting note on Echinopsis Decaisneana in this week's *Gardeners' Chronicle*. It is a treat to get an article on Cacti. I enclose herewith a photo of Echinopsis Zuccariniana which bloomed in my greenhouse this season; it had six blooms, but one was accidentally knocked

off. I may say, I have been very successful in blooming the Echinopsids this season, having had a nice lot of bloom on Eyriesii, Oxygona, Duvalli, Zuccariniana, Decaisneana, and multiplex. I have several other kinds which have not bloomed, viz., Pentlandi, tubiflora, cinnabarina, Schelhari, triumphans fl.-pl., Huotti, Mulleri, Fischeri, Lagermanni, and Wilkensii, but some of these are scarcely large enough, I think. I have not yet tried Mr. Otto Overbeck's method of growing them in the open air, but I hope to do so another season. I have been fortunate enough to flower Echinocereus procumbens this year. *Wm. C. G. Ludford.*

CEDAR OF LEBANON.—I saw a note in the *Gardeners' Chronicle* respecting the Cedar of Lebanon only producing cones on independent branches, and after reading it, I inspected my trees here, and I find exactly what Canon Ellacombe stated, that only here and there on the trees branches bore cones, and the branches that were bearing the new cones were the same that bore them last year. I have made a note of it, and will watch other years if they act in a similar way. A large Cedar growing in the pleasure-ground, is bearing cones east, west, north, and south, so exposure to winds does not seem in any way to affect them. Why one branch should bear cones and the others not, certainly requires some observation to ascertain. I particularly notice that our Pinus Ayacahuite is bearing in a similar manner. *Weston Birt.*

SHOULD ROSES BE PROTECTED IN WINTER?—I should like to add my testimony to the injurious effect of long manure for winter protection. In a mild winter we found the protection caused buds from the base of the plants to make shoots which were drawn up, weakly, and tender, and, as sharp frosts in spring usually follow a mild winter, these tender shoots are likely to be killed. Now these buds at the base are just the ones we want to lie dormant, so that we can prune back to them in the spring. On the other hand, in a severe winter the manure gets very wet, which freezes and forms a block of ice round the plants. We now earth the plants up like Potatos, and since doing so, we have not lost so many plants in winter, as the frost, however severe, does not injure the plants below the soil. *J. L.*

SOCIETIES.

PEEBLESSHIRE HORTICULTURAL ASSOCIATION.

December 4.—The usual fortnightly meeting of the above association was held in the Lesser Good Templers' Hall, on Tuesday evening. Mr. A. Dickson, gr., Glenormiston, gave a very practical and interesting paper on "Bush Fruit," confining his remarks principally to the Currant and Gooseberry. After describing the uses which were made of the Black Currants by different nationalities, he took up their propagation, and fully described how it should be done in regard to the formation of bushes of different habit. By dressing the cutting and leaving a few buds at the top to form branches, a clean stemmed bush could be had; or, by leaving all the buds on the cutting, a bush with shoots rising from the surface of the cane made, the writer considered, the best, as they could always be renewed, and were longer lived, and not so easily damaged as the clean-stemmed bushes. An open situation he considered the best to plant Currants on, but they succeed fairly well in moderate shade between the rows of standard fruit trees. They also succeed well upon high elevations, giving bountiful crops in sheltered positions upwards of 500 feet above sea-level. They delight in a deep rich mellow loam, upon a cool base, and seldom do well on light sandy soils. He fully described how light soils could be made to suit the requirements of the Currant by the addition of clay. He dwelt on the arrangement and planting, the distances they should be put apart, and strongly urged that every young plant should be planted firmly, as this had more to do with early fruitfulness than most people imagined. Mr. Dickson emphasised his remarks upon this point, and said firm planting was productive of fibrous roots. Fibrous roots were productive of fruit; they never travelled great distances, and were always under control, easily fed, and did not disturb neighbouring crops. Plenty of fruit and vigour in the trees was what everyone aimed for, and that could be had if the above points were carefully studied, and the trees kept in good health. The red and white Currants, as far as propagation was concerned, were treated in much the same way as the black varieties. But they would thrive in bleaker positions; they preferred high to low sites, but succeeded well on the latter when the soil was properly drained. They had been known to do well where the soil did not exceed 3 inches on a pure sandy bottom, and gave crops over the average. Mr. Dickson dwelt at length upon the arrangement of the red and white Currants so as to form screens for vegetable quarters, also as pyramids and standards upon borders by the sides of walks, which were both ornamental and useful. Useful crops of Currants, he said could be had in various parts of the garden, but if they wished fine fruit and plenty of it, by all means give them a good piece of ground on an open situation. He went on to describe the best methods of training and pruning red and white Currants, and enumerated some of the best varieties in cultivation which he could recommend to planters. Mr. Dickson next took up the Gooseberry. It was known to succeed better in Scotland and the north of England than it did in the south, and only ceased to be productive at an elevation of 950 feet. He fully described the mode of propagation, the soil which suited it, and the arrangement of the plants, so as to get as much as possible out of the ground. The best time to plant, he considered, was about October, a little before the leaves fell. They should be planted firmly, and not too deep, leaving about 3 inches of a clean stem. He went on to describe the mode of training and pruning, beginning with bushes one-year old, and he described the best way to use the knife to get a fine, shapely, and productive bush. He strongly advised mulching, if the bushes were in a convenient place for doing it. If a mulching was put on in the autumn, it got well washed in before summer, and he also found it beneficial in keeping off the ravages of caterpillars. He also strongly advised watering in dry weather, as want of moisture at the roots had a bad effect on the fruit as well as the young wood. A list of the best varieties was given, including those which do in Peeblesshire; the varieties were very numerous, but he could get a good long season out of five or six sorts.

NATIONAL CHRYSANTHEMUM.

November 29.—The annual dinner of the above society took place at Anderton's Hotel, Fleet Street, on the above date, Sir Edwin Saunders, the President, presiding over about 140 guests, including Coles Child, Esq., President of the Bromley Chrysanthemum Society. Mr. Child was accompanied by the Secretary and several members, to receive the Challenge Trophy, won by the Bromley Society in November last, a number of the leading members of the present society being also present. At the back of the chair was an attractive bank of plants, the Challenge Shield, the Holmes Memorial Cups, the President's piece of plate, and other special prizes being prominent. The tables were laden with blooms of Chrysanthemum, and a good supply of fruit was sent in by several members of the Society.

In proposing the toast of "Prosperity to the National Chrysanthemum Society," the President congratulated the society on its progress, one hundred and twenty-seven members having joined during the year, the total number of members now being 734. A general review of the exhibitions of the year was then given, from which it appears that all classes were well represented, but the incurved varieties were not so well shown as usual. A year-book is to be published, which will no doubt prove as useful as it will be interesting. Some details as to the amount of sunshine as automatically registered at the Royal Botanic Society's Gardens in the years 1893, 1894, were given, and which we reproduce from their great intrinsic importance to cultivators in the vicinity of the metropolis:—

1893.	Hours.	Mins.
January	12	30
February	40	23
March	116	16
April	198	34
May	199	46
June	196	23
July	163	2
August	203	30
September	131	58
October	111	58
	1374	18

1894.	Hours.	Mins.
January	34	20
February	59	46
March	118	48
April	103	51
May	150	50
June	145	25
July	152	22
August	121	26
September	85	7
October	41	1
	1012	56

The toast of the affiliated Societies was proposed by Mr. H. Briscoe Ironside, who stated that there were now 111 societies in union with the National Society, several of them in distant parts of the world. The Challenge Shield and a cheque for £10 were then presented to Mr. Coles Child, the President of the Bromley Society, who suitably responded, trusting that a determined effort would be made by other societies to win the trophy next year, though it was the determination of the Bromley Society not to let them do it.

The presentation of the Holmes Memorial Cups, the President's prize, and various medals, then followed, each recipient as he advanced to the President receiving a warm reception.

The health of the President was proposed by Mr. Robert Ballantine the chairman of the committee, and suitably responded to. Other toasts followed.

December 4, 5, 6.—The show of Chrysanthemums held by the above-named Society at the Aquarium, on Tuesday, Wednesday, and Thursday last, completes this year's series of shows in London. As was to be expected, the flowers although exhibited in considerable numbers as cut, and on the plants, were below the standard of the chief show of last month; but having regard to the date, the falling off was remarkable only in their size, general good finish being evident in many of the exhibits. In new varieties Mr. R. Owen, Maidenhead, decidedly had the lead of other exhibitors, showing in very fair condition in Japanese vars., Anna Crozy, white, with lilac tips to the florets; Graphic, lilac-coloured, twisted florets; H. L. Sunderbruck, W. H. Lees, Milky White, of an opaque-white, florets reflexing—a very neat flower; Madame Rozain, pale lilac, incurved florets (First-class Certificate); Miss Ellen Terry, with thread-like florets, and a very full bloom; Minerva, clear yellow, with much brightness; Black Prince, dark crimson—a most desirable colour; and Mons. Lemaille, globose and incurved, of a pleasing, soft, coppery-brown hue.

Mr. Charles Lawton, gr. to W. H. H. Broadley, Esq., Welton House, Brough, received a First-class Certificate for Mrs. R. C. Kingston, an incurved variety, of a pale tint of lilac.

Groups.—Several groups of Chrysanthemums were staged, but these were of the usual stamp, and neither as to the arrangement of the plants nor their quality need much be said. They were effective in showing to what use the Chrysanthemum may be put in a circumscribed space, and we saw little more than heads of bloom and the upper leaves, their legs being judiciously hidden, as was fitting at this part of the season. Mr. Norman Davis received a Silver Medal for his group. Mr. W. Davey, gr. to C. C. Paine, Esq., Stamford Hill, a Bronze Medal for a single trained plant of Pink Christine, which stood, as we suppose, for a group, the flowers elevated about 6 inches above the skeleton of the frame. A Silver Medal fell to Mr. J. H. Witty, Superintendent, Nunhead Cemetery, S.E., for a big group of miscellaneous varieties with small flowers, plenty of the latter, but ineffective, owing to the great number of different colours.

Cut Blooms.

Mr. Mease, gr. to A. Tate, Esq., Downside, Leatherhead, was 1st for twenty-four Japanese varieties, a good stand, the best flowers being Violet Rose, Golden Gate, Lily Love, Florence Davis, and Mrs. E. D. Adams; Mr. Perkins, gr. to Hon. W. F. D. Smith, M.P., Greenlands, Henley, being 2nd. This was a stand but very slightly inferior to the first-named, and contained extra-good examples of Robt. Owen, Lord Brooke, Miss E. Beckett, Walter Surman, and Viscountess Hambledon. In this class an extra prize fell to Mr. H. Wells, nurseryman, Redhill. Three others competed, but they were far behind the winners.

The next class as regards number was that for twelve Japanese distinct, and here Mr. Plumb, gr. to J. C. Beer, Esq., Biskra, Watford, was 1st, his best being Mr. G. J. Beer, Captain Torrens, C. Blick, and Etoile de Lyon; Mr. F. W. Slogrove, Gatton Cottage Gardens, Reigate, was 2nd, and but little inferior as regards size of bloom and general evenness. The competition in this class was, as usual, very strong.

For six Japanese, the competitors were rather numerous, but the blooms were below the mark, and no 1st prize was awarded; the 2nd falling to Mr. Plumb, gr., Biskra.

For the best six blooms of new varieties of 1893 and 1894, Mr. Perkins, gr., at Greenlands, received an award of a Silver Medal. We remarked in this stand nice examples of Edith Wynne, James Myers, C. Davis, and C. Blick. Messrs. Wells, of Redhill; W. Forbes, gr., Regent House, Surbiton; Newell, gr., Cornstiles, Twyford; and Morter, gr., High Elms, Farnborough, showed in this class.

The incurved varieties were shown in very moderate numbers, and in the class for twelve blooms, Mr. Mease was 1st, with a nice lot, exhibiting general evenness of size and good quality. C. B. Whitnal was a well-finished bloom, as were less so J. Kean, Princess of Teck, and Miss Haggas. Mr. Newell was 2nd, his stand consisting of blooms of fair quality.

Mr. Chas. Brown, gr., Langley House, Watford, had the best six incurved, distinct, varieties; and Mr. Tysler, gr. to Miss Dorrien Smith, Hartwell Villa, Aylesbury, was awarded 2nd prize for neat, small examples.

Japanese varieties in twenty-four bunches, 1st, Mr. W. Jane, gr. to Miss J. Durning Smith, King's Ride, Ascot, with some fresh-looking middle-sized blooms; 2nd, Mr. Knowles.

Twelve bunches of Japanese, three blooms together, made a good show, but we scarcely perceive the advantages to be gained by thus exhibiting the flower, as it admits of no play of fancy in the arrangements, and makes no call on the skill of the setter-up. The best were those from Mr. Knowles, gr. to Mrs. C. Egerton, Solna, Roehampton, the blooms being of fair quality; 2nd, was Mr. Alderman, gr. to G. Hatfield, Esq., Morden Hall, Morden. Stands of single-flowered varieties were numerous, and the best one for which a 2nd prize was the award made, was shown by Mr. Knowles. The display made by these single varieties was bright and pleasing.

Japanese varieties were shown in collections of six bunches, distinct, six to eight flowers together in a bottle, and here Mr. Newell, gr. at Fairlawn, Wimbledon, was 2nd.

The exhibits of Chrysanthemums by the trade consisted of a collection of cut blooms (named), big vases filled with blooms of Japanese varieties, set off with various foliage, and stood amongst a miscellaneous setting of Dracænas, Crotons, Palms, &c., in pots, shown by Mr. H. J. Jones, Lewisham—an extensive and showy table.

Mr. Wells, Redhill, had a table of cut bloom, backed up with pot-plants, receiving an award of a Silver Medal.

Messrs. H. Cannell & Sons, Swanley, showed numerous blooms, as well as those of zonal Pelargoniums—a brilliant lot, receiving for these and a collection of Potatos and Onions of Eynsford growth, a similar award.

Mr. W. Young, nurseryman, Stevenage, showed Chrysanthemums in all sections, and made a great display, even if the blooms were in many instances very small and ragged, receiving a Bronze Medal.

Tables of miscellaneous flowering and foliage plants were shown by Mr. A. Neville, Fairlawn; Mr. Perkins, Greenlands, Amaryllis; Mr. W. Howe, Parkhill, Streatham; and Messrs. Williams & Sons, Upper Holloway (Silver-gilt Medal). Table decorations and a multitude of devices in which the Chrysanthemum played the chief part, were exhibited by Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, he being awarded a Gold Medal for these.

Cyclamen grandiflora, with chiefly white flowers, were shown by the St. George's Nursery Company, Hanwell; the plants sturdy and well bloomed for this part of the season. A 1st prize was awarded the exhibitors.

A 1st prize fell to Mr. Knowles, gr., Solna, for twelve examples in pots of Primula sinensis fimbriata, the plants well furnished with pyramidal heads of flowers; 2nd, Mr. A. Newell.

For a like number of double-flowered varieties, Mr. Mease was 1st, these including Gilbert's and Carmichael's strains.

Floral Committee.

A fully-attended meeting of this body took place at the Royal Aquarium on the 4th inst., Mr. R. Ballantine being in the chair; and a goodly number of novelties were staged for consideration. First-Class Certificates of Merit were awarded to the incurved, large-flowering R. C. Kingston, a full-sized well-built delicate pink variety, from Mr. Charles Lawton, The Gardens, Welton House, Brough; to Japanese La Meije, one of M. E. Calvat's seedlings, a large white incurved Japanese of average size and very promising, from Mr. W. H. Lees, the Gardens, Trent Park, Barnet; to Japanese Pride of Swanley, a large white Japanese, very full, which gained a unanimous award, from Messrs. H. Cannell & Son, Swanley; also to Japanese Madame Rozain, a broad-petalled silvery-pink flower, large and bold, from Mr. Robert Owen, nurseryman, Maidenhead; and to Pompon Dolly, small, bright yellow in colour, very compact, from Dr. George Walker, Wimbledon, was commended.

Other promising Chrysanthemums were Potter Palmer (C. E. Shea and E. Beckett), a large white Japanese, somewhat ragged as shown; Le Ministre Léon de Bruyn (C. E. Shea), a broad-petalled bright yellow Japanese variety; Mrs. G. J. Beer, pink, with a large creamy centre—a variety likely to win the highest award another season; Japanese Golden Beauty, deep golden-yellow, with amber centre, which the Committee wished to see again (W. Slogrove); Japanese, Nellie (Weeks), delicate blush-pink, broad-petalled, the committee also wishing to see this again; Charles Lawton (Owen), a large deep rose Japanese, which the committee wished to see again; H. Bromhead (Masterson), a fine golden-buff incurved Japanese, and Mons. Gruyère (Wells), bright pale rose, with shaded buff centre; and Bronze Beauty (Wells), a deep golden incurved Japanese. Votes of thanks were passed to Mr. R. Owen and to Mr. W. Wells for their collections. First-class Certificates of Merit were awarded to the following very fine varieties of Amaryllis, from Mr. H. Perkins, gr. to the Hon. F. W. D. Smith, M.P., Greenlands, Henley-on-Thames, viz., Lady Esther Smith, pale orange-red, with a greenish-white star in the centre; Lord Sudeley, bright orange-scarlet, large broad segments, very fine; Lady E. Ashley, pale orange-scarlet, with a broad white beam—a flower of very fine quality, and of beautiful shape; and Earl of Arran, orange-scarlet shaded with crimson in the centre—very fine.

SCOTLAND.

GARDENING ON THE COAST OF ROSS-SHIRE.

I should say that 1894 has beaten 1893 as a flower year, but I fancy the latter has to thank the former a great deal for having by its abnormally hot spring and summer so ripened and prepared certain plants as to enable them to make a supreme effort this year, and, consequently, to do what some of them never did here before—namely, to bring forth their flowers and fruit to perfection. As an example of this, I will first take the Phormiums. Five or six years ago, the well-known Dutch firm of Messrs. Ant. Roozen & Son, of Overveen, Haarlem, sent me a valuable present of plants, asking me to experiment with them, and try whether or not they would prove hardy here under the influence of the Gulf Stream. Amongst others were the Phormiums, or New Zealand Flaxes, which are so ornamental for the conservatory, and for the garden or shrubbery, where the climate will allow of their standing outside. Messrs. Ant. Roozen sent me six varieties, some gold and some silver striped, and others with purple or green foliage. Both they and all the other things they sent me, such as Eulalias, Libertias, Yuccas, Bamboos, Lilium giganteum, &c., throve amazingly; but the Phormiums, though they grew in bulk year by year, showed no signs of blooming till this last May, when two of them suddenly began to throw up flower-spikes.

Perhaps I may be wrong in flattering myself that no other Phormiums have ever bloomed quite as far north as mine, and I am well aware that they are as nothing in comparison to the giants which are to be found somewhat further south, at Loch Hourn Head, where I hear my friend, Mr. Birkbeck, had one clump with fourteen spikes on it this year. All this blooming of Phormiums I put down to the intense heat of 1893. And so it was with the common Hydrangeas; they hardly flowered with me in 1893, but their wood having been so well ripened, they bloomed far and away better this year than I ever saw Hydrangeas bloom in Scotland, with the exception of a few I once came across on the west side of Mull; some of the heads were as large and very nearly as blue as if they had grown on the shores of Como or Maggiore.

Another effect of the heat of 1893 was the wonderful way it ripened seeds of every kind; and if we had only taken the trouble to collect them, we might have been quite independent of the foreign seed farms of Germany, &c. I daresay my readers will hardly credit me when I say, that we had blue Lobelias and Heliotropes coming up broadcast in our borders this season; and as to Dahlia, Tigridia, Alonsoa, and Schizanthus seedlings, they came up like weeds! In the case of Dahlias, my gardener, noticing last year how well their seed had ripened, wisely saved some of it from the best varieties of my collection, which is a very full one; and it was, perhaps, one of the most successful attempts we ever made in flower-raising. The Dahlia seed was sown in slight heat in March and planted out in May, and by July we had what I might call hedges of Dahlias of from 4 to 5 feet high, smothered with the most lovely blooms of every conceivable tint, mostly single flowered, with some double and semi-double among them; one of them, a crimson-and-white Cactus, my gardener, Mr. Campbell, has named after my daughter. To show what a perfect success the seedling Dahlias were, I may mention that though one row of them faced a border containing a treble row of the very best named varieties, it would be hard to say which were the best, those grown from the home-saved seed, or those grown from bought tubers.

Once more, I must tell of the effect of the heat of 1893. For the last three or four years I have been trying to grow the American Bramble, "Wilson Junior," in my garden, but it was such a failure that early last spring I ordered my gardener to grub them all up and consign them to the rubbish-heap; but he very prudently took time to consider, and soon thereafter we noticed that they were going to blossom profusely, and the blooms seemed extraordinarily large and healthy-looking. The next thing they did was to set, and in good time to ripen their fruits, and they made us open our eyes quite as wide as did the Phormiums. Their fruit was perfectly beautiful; honestly speaking, they were fully an inch long, and not only jet-black, but covered with such a strong coat of varnish or gloss that they sparkled and glittered in the sun; and how good they were to eat, being as nearly as possible like the best of South of England Mulberries, when they fall of their own accord from sheer ripeness on the green sward below their branches. The "Wilson Junior" ripened about the end of July, and in October we had an excellent crop of Blackberries on the cut-leaved or Hungarian Brambles, which were nearly twice the size of the native Scottish, and hung in such beautiful black clusters, like the Brambles one sees in the hedgerows of Normandy and Brittany; but the Hungarians could not for a moment be compared to the Americans, which, had I been able to show them at a fruit exhibition, would have drawn a crowd round them from morning till night.

And now, before ceasing to give instances of the good effects of the hot summer of 1893, I will tell of a Lilium giganteum, which had been in the garden for several years, and which did wonders in the way of blooming this last June. What a truly tropical plant it looked as it stood there, just as its forefathers had done in their native valleys of Nepaul. It was quite 8 feet high, with fifteen big flowers on its top, and with every one of its great glossy leaves as perfect as if grown under glass. And, lastly, I must not forget to mention the blooming of the Watsonias, which, though quite hardy to stand our coldest winters here, are shy about blooming, unless emboldened to do so by an extra long spell of sunshine the previous year. One of the Watsonia flowering stems was nearly 5° feet high, and the individual blooms, which hung loosely at intervals of about 4 inches all up the stalk, were reddish-orange in colour, somewhat tubular, and unlike any of the Gladiolus tribe, which its leaves so resemble.

For some years I have rather despised annuals. I trust I am gaining wisdom as I grow older, and now despise nothing that helps to make my garden bright and beautiful. I find that many plants that we used to grow as perennials, and that had to be wintered under glass, can now be grown as annuals at half the cost and trouble, as, for instance, the Dahlias already mentioned; also Salvias, Lobelias, Alonsoas, and Carnations. Others, again, take the place of bedding-plants, and far exceed them for beauty. We used to grow Gazania splendens with

some trouble as to wintering, and with only very moderate success in the way of blooms. Seeing it grow and blow as I saw it do abroad, I lost all heart in attempting any longer to grow it here; but lo and behold, a kind friend recommended to me an annual Venidium calendulaceum, from South Africa; and I now get, at the cost of 3*d*, nearly as good a blaze of orange as delighted my eyes when looking at the edging of Gazania round the English chapel at Ajaccio in Corsica, and which for dazzling brilliancy beats anything I ever saw before.

But I have not yet done with my annuals. When in Switzerland some years ago, I was so struck with the beauty of the beds of single Dianthus sinensis, which I came across in the gardens of some of the big hotels, that this year I got the seed of more than one variety of this plant from Erfurt. It came up, grew admirably, and the plants have given us the greatest pleasure; their dwarf habit and hardiness were so suitable to this country, and the immense size, that the wonderful colours and shapes of their blooms quite fascinated us.

Besides these, there are all the Scabiouses and Gaillardias, and the hardy Verbena venosa, and the two handsome creepers, the Eccremocarpus and the Loasa, all of which we have bloomed from seed sown in the spring. I have forgotten to mention the Salpiglossis, and those who do not already know these plants should certainly try them. The tints and mixtures of colour in these annuals are quite unique, and hardly to be matched in the flower-world; but they seem a little delicate, and want a good soil and situation. Zinnias and Portulacas went against me this year; but I hope to master the art of growing them one of these days. My gardener, being encouraged by the success of his border of choice plants last year, arranged a large oval-shaped bed this spring. It was composed of partly hardy things, such as Yuccas, Eulalias, Fan Palms, Crinums, Eucalyptus, Callas, Bamboos, and Cannas, &c., which will all stand our winter pretty well without, or with at most very slight, protection. To these he added in the spring or early summer, Castor-oil plants, variegated Maize, Melianthus major, and Cosmos bipinnata, which were all raised from seed in a frame in the spring; and, certainly, to look at them in October it was difficult to believe that they were only six or seven months old. This bed would, I think, have been hard to beat anywhere, and looked none the worse for being backed by a high wall, covered with vertical cordons of Plum and Pear, which were bearing as heavy a crop of fruit from their highest tops to their lowest twigs as they could well carry. The Cosmos were quite new to us. They grow from 3 to 4 feet high, with pretty feathery foliage, their flowers resembling a small single Dahlia, colours dark purple, light mauve, and pure white, and with a bright yellow disk in the centre. I consider them very well worth growing. I think I have already spoken of Carnations as annuals, but I ought perhaps to have distinguished them as the Marguerite Carnations, for they are quite a new strain. So good were they with us this year, that we might almost have dispensed with the more costly and troublesome named varieties of Carnations and Picotees. Of course, being from seed, they do not all come double, though the larger proportion of them do so, and their beauty and delicacy of colour cannot fail to make them popular. Early sowing in a little heat is all they seem to want. And now to come back to perennials. I was much struck lately by our Brugmansias, and I do not fancy that many in the North use them as a bedding plant. The fault of them is that their long orange-scarlet blooms are so heavy as to weigh the plants down to the ground, but I hope to obviate this by planting them another year against my terrace wall. This year the Diplacus, or tree Mimuluses, had a beautiful effect trained against the wall among flowering Myrtles and Ceanothus, and they caught the eye of every visitor to the garden, and were immensely admired. I would especially commend the dark mahogany-coloured one, both for indoors and out of doors, and its shade of colour is so peculiar as to be almost unknown among flowers. I may mention that they are very nearly hardy. The Abutilons suit also very well for wall-covering, and do quite well out of doors here for six months of the year. Achilles ptarmica, the Pearl, and Galega alba are both sure to find favour with the ladies. I have been much interested in what has been to us quite a new plant. Its name is Stokesia cyanea; it is very dwarf, with blue flowers like a large China Aster. It has an individuality about it which is sure to commend itself to all lovers of flowers. Hearing it was not hardy, we wintered the young plants that we got last year in a cold frame, and when planted out they bloomed profusely.

Agapanthus umbellatus is perfectly hardy here without any protection, and blooms regularly. Do any of my readers know the Purple-leaved Birch? It does not do well with me, but as it does well elsewhere, I would advise all lovers of beautiful foliage to get it. The Japanese Maples are among the foliage plants which I intend getting, and they are, of course, the very pink of perfection in this line. A clump of American Dogwood has been very brilliant here this autumn, and its bright crimson twigs are most beautiful all through the winter, after its rosy leaves are gone. And how is it that most people are satisfied to have all their berries red? Red seems certainly the favourite colour among the berries themselves, but I think a variety is desirable, and for yellow or rather orange, nothing that I have ever seen in berries can match a really good mass of Sea Buckthorns, with its silvery foliage almost hidden by its fruit. I have a round bush of it just now, which stands out boldly at the top of my lawn, like a globe of amber against its background of dark evergreens.

O. H. Mackenzie, Inverewe, Poolewe.

SOME NEW DEVELOPMENTS OF VEGETABLE PRODUCTS.

Fresh applications for old-established products are frequently cropping up in the commercial world, the origin of which is in some cases but little suspected, except by experts or by the introducers themselves. Thus, for instance, the large consump- of Arrowroot in this country at the present time by Cocoa and Chocolate makers, who use it to produce a thickened beverage so well-known in the cheaper preparations of Cocoa and Chocolate, is a case in point; another instance, and a very interesting one, is the adaptation of late years of vegetable fibres and barks in the manufacture of ladies' hats.

For many years past the spring and summer headgear of ladies, both in England and on the Continent, have been of the lightest possible description. Cotton-thread being, perhaps, one of the materials most generally used, and this has been worked into all sorts of fancy devices, and dyed in every colour and shade. Straw, of course, has always been used more or less, but of late years even this well-known material has been so varied in the designs of plaiting, and split and twisted into such fine threads as to be scarcely recognisable as straw; moreover, this material, which was formerly an English and Italian industry, is now imported in the form of straw braid in large quantities from China.

Always alert for novelties, not only in design but also in material, those who are engaged in this trade have of late years laid under contribution numerous other vegetable products, such as the roffia or raffia, so much used at the present time by gardeners for tying-up plants. This substance, which is the cuticle of the leaf of the Madagascar Palm, Raphia ruffia, is much used by the people in Madagascar for weaving into cloths for articles of dress, being split very finely, and dyed of various colours, and often worked into excellent patterns—an industry that is shared by the natives of west tropical Africa in utilising the leaf of their own Vine or Bamboo Palm (Raphia vinifera). Considering the strength, tenacity, and softness of the threads made from the twisted leaf-strips of these Palms, it is somewhat surprising that this material has not been adopted before for European manufactures, but for some years past the common Raffia has been dexterously plaited and formed into ladies' hats, though the bulk of the wearers have no doubt been quite innocent of the material which formed their head-gear; and the gardener's tying substance, which has now become a thing of antiquity, namely Cuba bast, the inner bark of Hisbicus elatus, which in years past was familiar not only to gardeners, but also to cigar merchants, being much used to tie up bundles of Cuba cigars, has also found a new use, having been pressed into the service of the milliners after being bleached, or dyed black, or any of the favourite fashionable colours, and when so treated, and twisted or plaited, it forms an exceedingly light and lace-like material. Baobab bark from Adansonia digitata is another substance that has been introduced. The natural colour of this bark is a dull brown, and it is heavy, and, moreover, it is somewhat rough in appearance, and consequently has not found much favour, notwithstanding that it has been bleached a pure white, so that Baobab bark is not likely to be much used. So completely altered are some of the materials, that in their manufactured forms it is difficult, if not impossible, even for an expert to determine their botanical origin; notably amongst this class are Sisal and Manilla Hemps. The first, as is well-known, is the fibre of Agave rigida var. Sisalana, a fibre that has attracted a good deal of attention of late for rope and cordage-making; the single fibres of this plant, as well as those of the Manilla Hemp (Musa textilis), are placed side by side, and united by means of gelatine into a flat ribbon or tape-like form of varying widths, according to the pattern to be worked with it. When so united, edge to edge, they are submitted to very heavy pressure, which not only produces a very thin material like flattened straw, but a remarkable gloss is imparted to it by means of the pressure. The varieties of design in which these Sisal and Manilla plaits are prepared are infinite, and these substances appear to have taken a firm hold on the market, as there is a very great demand for them, not only in this country, but also in France, Germany, and Switzerland. Split Willow-wood, under the name of "chip," which was much used some thirty or forty years ago for hats and bonnets, and which for many years had almost died out, is being again largely used, bleached to a pure white or dyed in various colours, and plaited either alone or mixed with Cuba or bast or other substances; in short, there seems to be no limit to the application of vegetable products for milinery purposes, and a careful inspection of the contents of a shop window may at any time lead to the detection of some new development.

VARIORUM.

Weather on the Riviera.—The bright and genial spring, the hot and rainless summer—remarks our correspondent at Cannes—have been succeeded by an autumn which, from a horticultural point of of view, has been most unfavourable. The spring was far above the average in temperature, and from May 23 to the end of September no rain fell, the average rainfall being below 12 inches. The autumn, at least the month of November, has been below the average temperature. Snow has fallen in the eastern Riviera, thermometer below freezing point, and biting east winds sweeping down from the snow-capped mountains remind one more of a northern March than the bright and sunny weather which is usually experienced at this time of the year.

Cocoa-nuts and Brazil-nuts.—While many people are eating Cocoa-nuts and Brazil-nuts this season, they may like to know some interesting facts which Dr. Morris has brought to light in connection with those articles. He has been telling a London audience that though the Cocoa-nut has to all appearances only one cell, in the flower the ovary contains three cells, two of which are suppressed in the process of growth. But anyone can see that the outer shell is in three divisions, and that there are always three eyes, two of which are "blind." In the walls of the two divisions of the shell in

which the blind eyes are placed, are to be found the suppressed embryos. A three-celled nut has recently been presented to the Kew Museum; apparently no one knows of another in existence. It does not often fall to the lot of the lover of Cocoa-nuts, to find a beautiful pearl inside one instead of milk; but such cases have occurred. These pearls are white, and resemble oyster pearls, in being composed almost wholly of carbonate of lime. They are worth looking for. As for Brazil-nuts, Dr. Morris said they were really only seeds, about sixteen of which at a time are found enclosed in a large shell. And of this shell a curious fact was related. It has one very small hole in it, and when the seeds germinate, the first to sprout through this hole into the open air, prevents the others making further progress; in fact, it kills and lives on them. It is only in this way that the plant can survive in the struggle for existence. This is quite a tragedy in plant life; and when we next crack a Brazil-nut we may remember that it represents the successful competitor in a family dispute as to the survival of the fittest. *Birmingham Gazette.*

LAW NOTE.

AT the Middlesex County Sessions, on Nov. 24, William Kemp, gardener, of South Norwood, age 34, was indicted for obtaining by false pretences divers sums of money from his employer, Mr. Alexander, of Teddington, and goods from Messrs. Protheroe & Morris, of Cheapside, and Messrs. John Laing & Sons, of Forest Hill. The jury found the prisoner guilty, and Mr. Loveland-Loveland sentenced him to twelve months' hard-labour.

Obituary.

MR. HENRY BIRCH.—We regret to announce the death of this widely-known and highly esteemed gardener, who died suddenly of apoplexy, on his return from Northampton to Castle Ashby, on Tuesday, November 27. The deceased, who was forty years of age, began his gardening career with his father at Hatherop Castle, subsequently being placed in the gardens at Sandringham. He filled the situation of foreman in the gardens at Croxteth Park, was head-gardener at Waddesdon, Aylesbury, and for the past eleven years has held the head place in the gardens of the Marquis of Northampton at Castle Ashby, Northamptonshire. A widow and two children survive him.

MARKETS.

COVENT GARDEN, December 6.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz.	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Cooking, p. sieve	4 0	6 0
— Dessert, half-sieve	2 6	3 6
Grapes, 1st quality, black, English, per lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	3 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb.	25 0	27 6
Pears, Dessert, half-sieve	3 0	6 0
Pine-apples, St. Michael, each	2 0	6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, per doz. bl.	6 0	8 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays	0 6	0 9
Hyacinths (Roman), doz. sprays	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen	1 6	2 6
— (French), yellow, per dozen	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	3 6	4 6
— Czar (French), per bunch	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches	1 6	2 0

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cauliflowers, p. doz.	1 0	2 6
Cucumbers, per doz.	5 0	6 0
Mushrooms, per lb.	0 10	1 0
Onions, per bush.	1 6	2 0
Seakale, p. punnet	1 3	1 6
Tomatos, per lb.	0 3	0 6

POTATOS.

Larger lots have been moving prices. About same as last week. *J. B. Thomas.*

SEEDS.

LONDON: *December* 5.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market was thinly attended, but with little business passing. American cables quote Red again higher. White Clover-seed in London continues extremely sick, and now shows a substantial drop from recent top-values. Trefoil keeps steady, with rather more doing in it. Canadian Alsyke is 1*s.* higher. Rye-grasses dull. Scarlet Runners are strong, at the late advance. Giant Haricots keep firm. Canary-seed in Liverpool is reported rather easier. No change in Hempseed. Mustard and Rapeseed are steady. Blue Peas meet a slow sale.

FRUITS AND VEGETABLES.

BOROUGH AND SPITALFIELDS: *December* 4.—Quotations:—Cabbages, 1*s.* 6*d.* to 2*s.* 6*d* ; Savoys, 1*s.* 6*d.* to 2*s.* 6*d.* per tally; Cauliflowers, 1*s.* to 1*s.* 6*d.* per dozen; Sprouts, 9*d.* to 1*s.* per half sieve; Horseradish, 1*s.* 2*d.* per bundle; Turnips, 1*s.* 3*d.* to 2*s.*; Carrots, 1*s.* 9*d.* to 2*s.*; Parsley, 1*s.* 6*d.*; and Greens, 2*s.* to 2*s.* 6*d.* per dozen bunches; Celery, 4*s.* to 7*s.* per dozen bundles; Onions, English, 2*s.* to 2*s.* 9*d.* per cwt.; foreign do., 1*s.* 9*d.* to 2*s.* per bag; Apples, English, 3*s.* to 9*s.* per bushel; do., Canadian, 8*s.* to 18*s.* per barrel; Pears, 2*s.* to 4*s.* 6*d.* per bushel, and 2*s.* to 14*s.* per case.

STRATFORD: *December* 5.—The supply to this market during the past week has been excellent, and with a large attendance a good trade was done at the prices shown below: Cabbages, 2*s.* to 2*s.* 6*d.* per tally; Savoys, 2*s.* to 3*s.* do.; Greens, 1*s.* to 1*s.* 3*d.* per dozen bunches; Cauliflowers, 1*s.* to 1*s.* 3*d.* per dozen; do., 5*s.* to 6*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* per dozen bunches; do., 30*s.* to 40*s.* per ton; Carrots, household, 24*s.* to 32*s.* do.; do., cattle-feeding, 14*s.* to 26*s.* do.; Parsnips, 50*s.* to 60*s.* do.; Mangels, 15*s.* to 17*s.* do.; Swedes, 14*s.* to 18*s.* do.; Onions, English, 50*s.* to 60*s.* do.; do., Dutch, 40*s.* to 60*s.* do.; Apples, English, 3*s.* to 5*s.* per bushel; do., American, 12*s.* to 14*s.* per barrel.

FARRINGDON: *December* 6.—Quotations:—Artichokes, 2*s.* per bushel; Greens, bunch, 1*s.* to 1*s.* 3*d.*; Savoys, 2*s.* 6*d.* to 3*s.*; Collards, 1*s.* 3*d.* to 1*s.* 6*d.* per tally; Celery, 6*s.* to 7*s.* per dozen; Onions, Valencia, 4*s.* 6*d.* to 5*s.* per case; Belgian, do, 2*s.* 6*d.* per cwt.; English, do., best, 3*s.* to 3*s.* 6*d.* do.; Apples, English cooking, 3*s.* 6*d.* to 4*s.* per bushel; Canadian, 17*s.* to 18*s.* per barrel; Pears, 4*s.* per case; Pine-apples, 2*s.* 6*d.* to 4*s.* 6*d.* each; Chestnuts, 14*s.* per bag of 50 kilos.; Tomatos, Canary, 5*s.* per box; Oranges, 12*s.* to 13*s.* do.; Celery, 8*s.* to 0*s.* per dozen; Horseradish, 1*s.* to 1*s.* 1*d.* per bundle.

POTATOS.

BOROUGH AND SPITALFIELDS: *December* 4.—Quotations ranged from 60*s.* to 110*s.* per ton.

STRATFORD: *December* 3.—Quotations:—Magnums, Darklands, 55*s.* to 60*s.*; do. Light-lands, 60*s.* to 80*s.*; Scotch do., 70*s.* to 80*s.* per ton.

FARRINGDON: *December* 6.—Quotations:—Reading Giants, 70*s.* to 80*s.*; Magnums, 65*s.* to 80*s.*; Bruces, 65*s.* to 75*s.*; Sutton's Abundance, 70*s.* to 80*s.*; Stourbridge Glory, 65*s.* to 70*s.*; Hebrons, 65*s.* to 75*s.* per ton.

LONDON AVERAGES: *December* 5.—Main Crops, 80*s.* to 100*s.*; Snowdrops, 80*s.* to 90*s.*; Magnums, 70*s.* to 90*s.*; Kidneys, 60*s.* to 70*s.*; Blacklands, 55*s.* to 65*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 126*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 6[illegible]*s.* to 105*s.*; do., inferior, 36*s.* to 80*s.*; mixture, 90*s.* to 105*s.*; and straw, 22*s.* to 36*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending December 1, and for the corresponding period in the previous year:—1894: Wheat, 20*s.* 7*d.*; Barley, 22*s.*; Oats, 14*s.* 3*d.*, 1893: Wheat, 27*s.*; Barley, 28*s.* 8*d.*; Oats, 18*s.* 3*d.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature: Above (+) or below (−) the Mean for the week ending December 1.	Temperature: Accumulated: Above 42°, for the Week.	Temperature: Accumulated: Below 42°, for the Week.	Temperature: Accumulated: Above 42°, difference from Mean since January 1, 1894.	Temperature: Accumulated: Below 42°, difference from Mean since January 1, 1894.	Rainfall: More (+) or less (−) than Mean for the Week.	Rainfall: No. of Rainy Days since Jan. 1, 1894.	Rainfall: Total Fall since Jan. 1, 1894.	Bright Sun.: Percentage of possible Duration for the Week.	Bright Sun.: Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	4 +	23	7	+ 347	− 76	10 —	210	46·7	8	21
1	2 +	13	29	− 69	+ 18	7 —	185	31 8	29	34
2	2 +	20	11	+ 54	− 93	6 —	191	24·2	37	31
3	1 +	10	24	+ 80	− 143	6 —	187	25 0	15	24
4	0 aver	8	27	+ 69	− 136	6 —	179	25·2	18	31
5	1 —	9	19	+ 149	− 159	7 —	180	30·0	24	35
6	3 +	28	10	+ 83	− 89	12 —	196	45·0	12	32
7	1 +	19	8	+ 222	− 160	8 —	192	32·5	16	32
8	2 —	12	20	+ 126	− 87	10 —	193	41·2	28	36
9	1 +	23	14	+ 64	− 41	8 —	213	34·2	21	30
10	2 —	16	29	+ 64	− 71	9 —	194	40·0	35	32
*	1 —	29	0	+ 317	− 28	9 —	201	36·1	21	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 1, is furnished from the Meteorological Office:—

"The *weather* during this period was very dry over the entire Kingdom; a good deal of mist and fog prevailed in most places, but a fair amount of sunshine was recorded in the north-eastern, and also at many of the southern and south-western stations.

"The *temperature* was a little below the mean in 'England, S. and S.W.,' in 'Ireland, S.,' and the 'Channel Islands,' and just equalled it in the 'Midland Counties,' but in all other districts it was above the normal, the excess in 'Scotland, N.' being 4°. The highest of the maxima were recorded, as a rule, on December 29, and varied from 59° in 'Scotland, W.' and 54° in 'Scotland, E.,' and 'Ireland, S.,' to 49° in 'England, S.' The lowest of the minima occurred on Nov. 25 in 'Scotland,' and on Dec. 1 in 'England' and 'Ireland.' They ranged from 22° in 'England, S.W.' and 23° in 'Scotland, E.,' to 31° in 'Scotland, N.,' and to 35° in the 'Channel Islands.'

"The *rainfall* was, with the exception of some of our extreme northern and north-western stations, almost entirely absent.

"The *bright sunshine* varied a great deal in different parts of the Kingdom, but was, as a whole, above the mean for the time of the year. The percentage of possible duration ranged from 37 in 'England, N.E.,' and 35 in 'Ireland, S.,' to 15 in 'England, E.,' 12 in 'Scotland, W.,' and 8 in 'Scotland, N.' In London (owing chiefly to fog and mist), the amount was very small, the percentage of the possible duration being only 6, while in Manchester and its vicinity none whatever was registered."

Trade Notice.

We are informed by Messrs. Fromow & Sons, Sutton Court Nurseries, Chiswick, W., that Mason's Nurseries, Windlesham, Bagshot, have been purchased by them, and that they intend working the nurseries in connection with their nurseries at Chiswick and Hounslow.

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** Plants, Fruits, etc., to be Named.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

A Correction: Gardening appointment. In our last issue, Shottisfont should have been printed Mottisfont.

A Species of Rose of a Pink Colour: Name of sender mislaid. Rosa microphylla rubra.

Chrysanthemums, Eupatorium, Salvias, &c.: *R. P.* The injury to the leaves is due to the fumes thrown off by hot-water pipes painted with paint having turpentine in it, from the use of some kind of insecticide, or from excessive fumigation with Tobacco-paper, &c. Can the fumes from the boiler-fire find ingress to the greenhouse? There is no fungus.

Cyclamen Flowering: *Cyclamen, Folkestone.* Plants can be got of good size, with plenty of flower, in about one year, under warm treatment.

Grape packing for Transit by Railway: *A. B. C.* Line a basket, having sloping sides, with cotton-wool or soft moss, about 1 inch thick; cover this with tissue-paper, and lay the bunches shoulders upwards, separated by a small space, fixing the stalks with a stout tack, or with twine, and securing them also in one or two more places with soft-spun yarn or bast. Sloping boards, placed securely in oblong hampers, answer as well if similarly lined. Packing the bunches firmly in large punnets or small square boxes, holding about 4 lb. of fruit, merely lining the sides as before, is a good way if the passenger takes them into the carriage, and looks after them.

Imported Orchids: *H. D B.* The methods of treatment of these plants when they arrive from abroad are various. The chief point to observe is not to put them into any kind of compost before new roots or new growth in old roots are apparent. Some cultivators hang the plants up by the heels in a moderately warm, moist house, under the stages, but not too near the hot-water pipes, syringing them several times a day; others place them in new (because absorbent of water) pots, loosely filling clean crocks about them—no moss or soil—syringing as before. When it can be seen which is sound tissue and which is not, the decayed parts may be cut away. Always retain sound and not hopelessly withered pseudobulbs, even though they be leafless.

Names of Fruits: *C. H. T., Isle of Wight.* Pear Ne Plus Meuris.—*F. World.* Winter Crassane.

Names of Plants: *W. T., Hea Moor.* Æschynanthus grandiflorus.—*T. R., Subscriber.* 1, Trichomanes Luschnathianum; 2, probably a young state of No. 1; 3, Gleichenia dichotoma.—*F. G. W.* 1, Mammillaria pusilla; 2, Euphorbia globosa; 3, Rhipsalis saglionis; 4, Dyckia rariflora; 5, Mammillaria gracilis; 6, Cereus sp.; 7, Aloe humilis; 8, Gasteria verrucosa; 9, Senecio (Kleinia) chordifolia; 10, Opuntia microdasys. Another time do not send more than six specimens.—*W. S. L.* Leycesteria formosa.—*G. F.* 4, Adiantum decorum; 5, Selaginella Wildenovii; 6, Adiantum concinnum latum; 7, A. tenerum; 8, A. capillus veneris variety; 9, A. hispidulum.—*W. W., Aberfeldy.* The Orchid sent is Cœlogyne Rossiana.—*P. A. S. F.* 1, Echeveria secunda glauca; 2, some sub-tropical plant used for bedding. Send when in flower.—*Q. R.* 1, Carpinus Betulus (Hornbeam); 2, Forsythia suspensa, probably; send again when in flower.—*C. Steel.* 1, Fomes annosus, Fr.; 2, Trametes mollis, Fr.; 3, too fragmentary; 4, Stereum rugosum, Fr. *M. C. C.*—*J. A.* 1, Hypericum Moserianum; 2, Euonymus japonicus; 3, Tamarix gallica: 4, Salvia involucrata; 5, Lonicera sp.; 6, Cotoneaster frigida.—*W. H. M.* Cotoneaster bacillaris.

Peach Shoot: *F. L.* We have not seen the shoots alluded to, but we think your practice is correct. We shall be glad to know the results of your experiments in due time.

Pears: *J. H. A.* Fruit quite rotten on arrival, and cannot be named.

Rating Glass-houses of a Market Grower: *Vicaria.* The rating should be at one-fourth value, not the full rateable value. See Purser *v.* Worthing Local Board, a report of which case appeared in the *Gardeners' Chronicle*, March 26, 1887; a suit which was decided in favour of the grower, the judgment being upheld on appeal, see *Gardeners' Chronicle*, May 21, same year.

Roses: *Roslin,* The border in which the plants are being narrow, you might leave the strongest of the shoots of considerable length, and fasten them down to within 9 inches of the ground by means of hooked pegs or simple straight pegs, making them fast to these with tarred string or Willow twigs, the weak flowerless shoots bring cut clean away, and shoots of medium strength shortened to 6 to 8 inches. Each year some of the older shoots must be cut away, their place being supplied by young strong shoots as before. Simply to prune your Roses hard will not keep them within the desired limits, and may result in still stronger growth. A partial pruning, that is just topping the shoots, may be performed at this season; the chief pruning taking place as soon as signs of growth are noticed in March, or if the spring be cold and backward, even in April.

Violets: *A. B. C.* We cannot say; a fungus (rust), probably. Kindly send specimens for examination; meantime, dusting flowers-of-sulphur on the lower sides of the foliage.

Vines: *Foreman.* The removal of the rough bark from Vines causes no injury whatever, if care be exercised, and the live bark beneath this be not scraped or wounded with the implement used. This outer bark is dead, and the protection it might afford a Vine out-of-doors is not required by a Vine indoors; moreover, it supplies a hiding place for insects.

Communications Received.—J. C. & Co.—H. H. D'Ombrain.—J. Gaskell.—J. B.—A. P.—A. G. Rowberry.—J. A. A. (next week, if possible).—Macmillan & Co.—R. D.—Cooper, Taber & Co.—H. Correvon, Geneva.—W. W., Kew.—M. C. C.—Dr. Bonavia.—U. D., Berlin.—H. E., Ryde.—W. R. A.—W. M.—Canon Borrer.—H. J. C.—R. P. Goodwood.—W. T., Hea Moor.—F. W. S., Cannes.—F. C, H.—E. T.—J. B.—A. G. R.—E. J.—J. B. C.—R. H. P.—A. P.—M. C. C.—A. F. B.—W. T.—J. A.—J. D —Contich.—W. G.—E. C.—H. May.—B. W.—U. D.—D. R. D.—H.—J. R. J.—M. P. Andersen, Sweden.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

Advertisers are reminded that the "Chronicle" circulates among country gentlemen, and all classes of gardeners and garden-lovers *at home, that it has a specially large* foreign and colonial circulation, *and that it is preserved for reference in all the principal Libraries.*

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Stock	Sizes
14×12	20×15
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18×12	22×16
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20×14	24×18

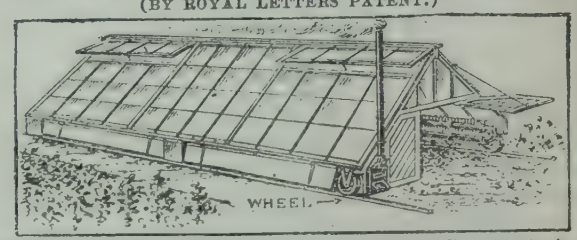
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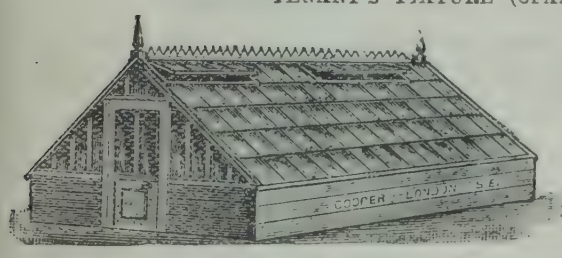
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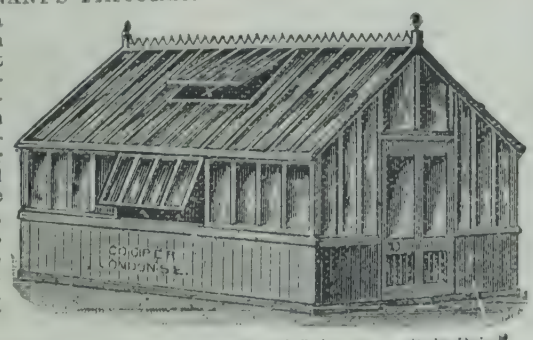
Specification.—Framework substantially constructed of red deal; the whole of sides, and 2 ft. 6 in. of ends, boarded with well-seasoned tongued and grooved matchboards. Half-glass door, complete with rim-lock and brass-fittings, in one end; glass 16-oz. throughout, English-cut. Ventilators supplied, according to size of House, and stays necessary for opening same; stages for plants each side of House, all wood work painted one coat of good oil-paint, and the whole structure securely packed and placed on rail.

Lot	Length.	Width.	Height.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
1 to 3	7ft.	5ft.	7ft.	£3 10 0	£3 0 0
4 to 6	8ft.	5ft.	7ft.	3 0 0	2 5 0
7 to 10	9ft.	6ft.	7ft. 3in.	3 10 0	2 10 0
11 to 15	10ft.	7ft.	7ft. 6in.	4 10 0	3 10 0
16 to 22	12ft.	8ft.	8ft.	5 10 0	3 15 0
23 to 29	15ft.	10ft.	8ft. 6in.	7 15 0	5 10 0
30 to 41	20ft.	10ft.	9ft.	10 15 0	7 10 0
43 to 48	25ft.	10ft.	9ft.	15 5 0	10 0 0
49 to 51	50ft.	10ft.	9ft.	27 0 0	20 0 0
52 to 54	100ft.	10ft.	9ft.	45 0 0	25 0 0

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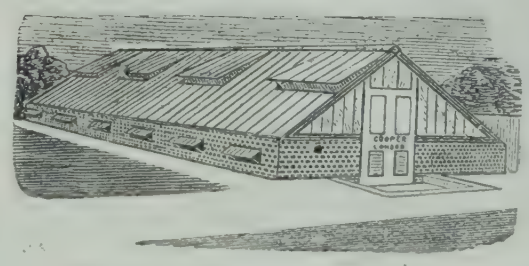
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Lot	Long.	Wide.	High.	To Eaves.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
55 to 56	Span-roof 7ft.	5ft.	7ft.	4ft.	£2 16 0	£2 5 0
57 to 71	... 8ft.	5ft.	7ft.	4ft.	3 10 0	2 15 0
72 to 76	... 9ft.	6ft.	7ft. 3in.	4ft.	4 0 0	3 0 0
77 to 108	... 10ft.	7ft.	7ft. 6in.	4ft. 6in.	5 0 0	4 0 0
109 to 121	... 12ft.	8ft.	8ft.	5ft.	6 0 0	4 10 0
122 to 149	... 15ft.	10ft.	8ft. 6in.	5ft.	8 10 0	6 10 0
150 to 170	... 20ft.	10ft.	9ft.	5ft. 6in.	12 0 0	9 0 0
171 to 176	... 25ft.	10ft.	9ft.	5ft. 6in.	17 0 0	12 0 0
177 to 184	... 50ft.	10ft.	9ft.	5ft. 6in.	30 0 0	23 0 0
185 to 189	... 100ft.	10ft.	9ft.	5ft. 6in.	50 0 0	39 0 0
190 to 197	... 30ft.	10ft.	8ft. 6in.	5ft.	20 0 0	14 0 0
198 to 201	Lean-to 7ft.	5ft.	7ft.	4ft.	2 8 0	2 0 0
202 to 211	... 9ft.	6ft.	7ft. 3in.	4ft.	3 10 0	2 15 0
212 to 221	... 12ft.	8ft.	8ft.	5ft.	5 10 0	4 0 0
222 to 225	... 15ft.	10ft.	8ft. 6in.	5ft.	8 0 0	5 15 0
226 to 228	... 20ft.	10ft.	8ft. 6in.	5ft.	11 10 0	8 10 0
229	... 25ft.	10ft.	8ft. 6in.	5ft.	16 10 0	12 0 0
230	... 50ft.	10ft.	8ft. 6in.	5ft.	28 0 0	20 0 0

SPAN-ROOF FORCING-HOUSE.

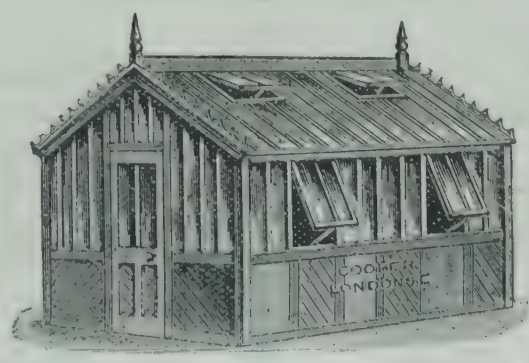


The illustration shown will convince all practical minds of the importance and utility of this class of house for Gentlemen, Nurserymen, Market Gardeners, and all those who require a cheap strong house for forcing or growing Cucumbers, Tomatos, Melons, &c.

Specification.—Built for brickwork 3ft. high, of thoroughly well-seasoned red deal; roof ventilation according to size; door at one end; all 21-oz. glass; painted one coat. Carefully packed on rail.

Lot			Usual Price.	Sale Price.
231 to 235	... Span-roof	20 by 9 ...	£3 0 0 ...	£3 0 0
236 to 242	... ...	20 by 12 ...	11 0 0 ...	8 0 0
243 to 246	... ...	20 by 14 ...	14 10 0 ...	11 0 0
247 to 250	... ...	40 by 9 ...	17 0 0 ...	12 0 0
251 to 255	... ...	40 by 12 ...	21 0 0 ...	16 0 0
256 to 257	... ...	40 by 14 ...	25 0 0 ...	20 0 0
258 to 260	... ...	100 by 9 ...	40 0 0 ...	25 0 0
261 to 300	... ...	100 by 12 ...	48 0 0 ...	33 0 0
301 to 356	... ...	100 by 14 ...	55 0 0 ...	40 0 0
343 to 347	... ...	20 by 9 ...	7 10 0 ...	5 0 0
348 to 349	... ...	20 by 12 ...	9 10 0 ...	6 10 0
350	... ...	20 by 14 ...	12 10 0 ...	9 10 0
351	... ...	40 by 9 ...	14 0 0 ...	11 0 0
352 to 353	... ...	40 by 12 ...	18 0 0 ...	13 0 0
354	... ...	40 by 14 ...	21 10 0 ...	16 0 0
355	... ...	100 by 9 ...	33 0 0 ...	23 0 0
356	... ...	100 by 12 ...	40 0 0 ...	26 0 0
357 to 360	... ...	100 by 14 ...	47 0 0 ...	32 0 0
361 to 449	Ventilating Boxes for Side Walls		4 9 ...	2 3

SPAN-ROOF VILLA CONSERVATORIES.



Adaptable for the lawn of a villa-residence, being well and substantially built, constructed of the best materials, and artistically finished with diagonal panels and bargeboards. The framework is composed of 2in. by 3½in. red deal, the lower part doubly-lined with tongued and grooved matchboards, and the roof properly fitted with sashes, which facilitates fixing or removing of same without disturbing glass.

The houses are fitted with a half-glass door, complete with rim-lock, brass-fittings, and key, and is supplied with lattice staging for each side, footpath the entire length; gutters, down-pipes, suitable ventilators, and necessary ironwork for opening same. All woodwork painted two coats of good oil-paint, glass cut to sizes, and all parts securely packed on rail. Prices:—

Lot	Long.	Wide.	High.	To Eaves.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
500 to 505	9ft.	6ft.	7ft.	4ft. 6in.	£7 10 0	£5 10 0
506 to 514	12ft.	8ft.	8ft.	5ft. 6in.	10 0 0	7 0 0
515 to 521	15ft.	8ft.	8ft. 6in.	5ft. 6in.	12 0 0	8 10 0
522 to 528	20ft.	9ft.	9ft.	6ft.	16 16 0	12 0 0
529 to 531	25ft.	9ft.	9ft.	6ft.	21 0 0	15 0 0

21-oz. for roof 5 per cent. extra.

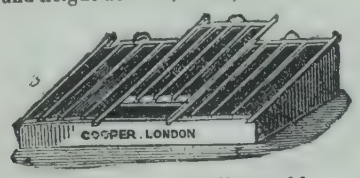
SALE LIST, POST-FREE ON APPLICATION.

W. COOPER, Ltd., Horticultural Providers, 755, OLD KENT ROAD, S.E.

W. COOPER, Ltd., EIGHTH ANNUAL CLEARANCE SALE—*continued.*

MELON AND CUCUMBER FRAMES.

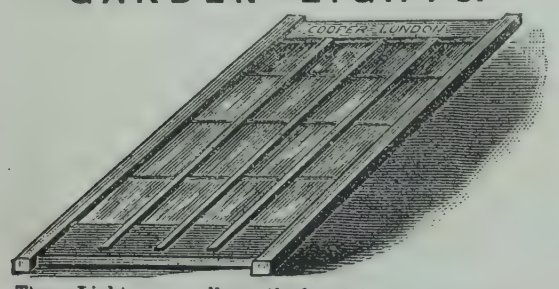
These are a very useful Frame, being suitable for the storage of plants in winter, and well adapted for the cultivation of Melons, Cucumbers, &c., &c., in summer. (The illustration shows a Three-light Frame, 12 ft. long by 6 ft. wide, height at front 11 in., and height at back, 22 in.)



They are composed of 1¼ in. thoroughly well-seasoned tongued and grooved boards, have necessary Parting Pieces, and runners for the Lights, which are 2 in. thick, and which are glazed with good 16 oz. glass, nailed and bedded in oiled putty, and fitted with an iron handle. All parts painted three coats of good oil paint, and securely packed and put on rail at the following prices:—

LOT.		Usual Price.	Sale Price.
536 to 586—1	Light Frame, 4 ft. by 3 ft.	£0 18 0	£0 14 0
587 to 597—2	,, ,, 6 ft. by 4 ft.	1 12 0	1 2 0
598 to 605—1	,, ,, 6 ft. by 4 ft.	1 10 0	1 0 0
606 to 608—2	,, ,, 8 ft. by 6 ft.	2 14 0	1 18 0
609—3	,, ,, 12 ft. by 6 ft.	3 15 0	2 5 0

GARDEN LIGHTS.



These Lights are well mortised and jointed together, and made in a good workmanlike manner, and are well worthy of inspection. Framework made of 2 in. by 2 in. stiles, and properly rabbeted for the glass, with good 2 in. sash-bars. The Glazed Lights are nailed and bedded in good oiled putty.

LOTS.	Usual Price.	Sale Price.
	s. d.	s. d.
610 to 642—3 ft. by 2 ft., Painted and Glazed ...	5 0	3 9
643 to 651—4 ft. by 3 ft. ,, ,, with 21 oz.	7 6	5 0
652 to 861—6 ft. by 3 ft. 8½ in., Painted and Glazed with 21 oz.	10 6	8 0
Lot 862—50 Good Sound Lights, 6 ft. by 3 ft. 9 in., Glazed, 21 oz., nearly new, original price, 10*s.* 6*d.* each...	6*s.* each.	
Stiles 2½ by 1¾.		
Lot 863 to 911—Unglazed Lights, 2 by 2 Stiles, 6 ft. by 3 ft. 8½ in., usual price, 4*s.* sale price	2*s.* 10*d* each.	

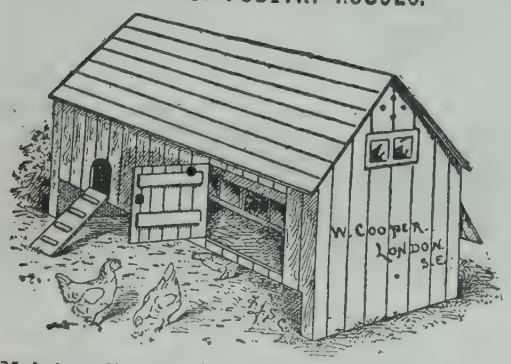
GARDEN HAND-FRAMES.

These frames will be found very useful for protecting plants, seeds, slips, and cuttings during the spring, which, if left uncovered, would probably fall victims to the extreme cold so prevalent in this country during that season.

Zinc open tops, with glass cut to sizes, and zinc clips for glazing same.

LOT.	Usual Price.	Sale Price.
912 to 927—12 in. by 12 in. ...	7/6 each ...	5/6 each
928 to 939—14 in. by 14 in. ...	8/6 ,, ...	6/6 ,,
940 to 953—16 in. by 16 in. ...	9/- ,, ...	7/- ,,
954 to 968—18 in. by 18 in. ...	10/- ,, ...	8/- ,,
969 to 971—20 in. by 20 in. ...	11/- ,, ...	9/- ,,
972 to 987—22 in. by 22 in. ...	12/- ,, ...	10/- ,,
988 to 996—24 in. by 24 in. ...	13/6 ,, ...	11/- ,,

SPAN ROOF POULTRY HOUSES.



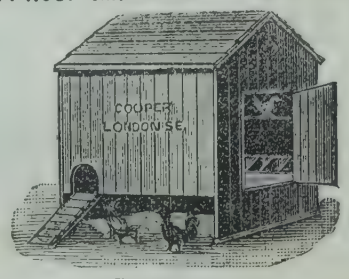
Made in sections complete, with door in side and window at end. A flap at back for access to Nest Boxes. A raised floor about 2 feet from ground, so as to form a dry run underneath Nest Perch. Ladder, &c.; painted one coat outside.

LOT.	Usual price.	Sale price.
997 to 1052—4 ft. long, 4 ft. wide, 6 ft. high ridge	30/-	23/-
1053 to 1064—5 ft. long, 4 ft. wide, 6 ft. high ridge	33/-	25/-
1065 to 1086—6 ft. long, 4 ft. wide, 6 ft. high ridge	38/-	32/-
1087 to 1096—7 ft. long, 5 ft. wide, 6 ft. 6 in. high ridge	45/-	40/-
1097 to 1115—8 ft. long, 6 ft. wide, 7 ft. high ridge	60/-	45/-

MOVABLE POULTRY HOUSES (SPAN ROOF).

LOT.	COMPLETE.	Usual Price.	Sale Price.
1116 to 1125,	5 feet long, 4 feet wide, 6 feet high, 3 ft. 6 in. to eave	25/-	20/-
1126 to 1133,	6 feet long, 4 feet wide, 6 feet high, 3 feet 9 inches to eave	30/-	24/-
1134 to 1144,	7 feet long, 5 feet wide, 6 feet 6 in. high, 4 feet to eave	38/-	27/-
1145 to 1160,	9 feet long, 6 feet wide, 7 feet high, 4 feet 3 inches to eave	42/-	31/-

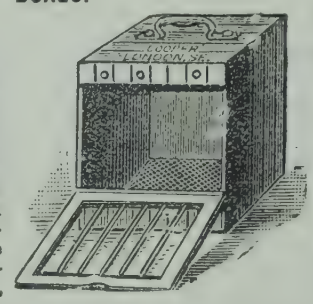
SPAN-ROOF IMPROVED POULTRY HOUSE.



LOT.	COMPLETE.	Usual Price.	Sale Price.
1161 to 1170,	5 feet long, 4 feet wide, 8 feet high, 5 feet 6 in. to eave...	45/-	35/-
1171 to 1175,	6 feet long, 4 feet wide, 8 feet high, 5 feet 9 inches to eave	50/-	40/-
1176 to 1184,	7 feet long, 5 feet wide, 8 feet 6 in. high, 6 feet to eave	55/-	45/-
1185 to 1195,	9 feet long, 6 feet wide, 9 feet high, 6 feet 3 inches to eave	63/-	50/-

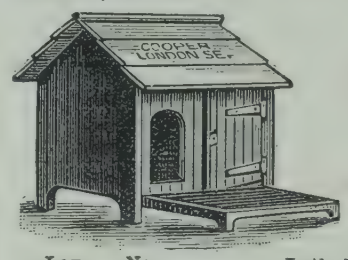
NEST BOXES.

LOTS 1197 to 1411.



This is a popular method of sitting hens, and should be universally adopted. The bottom is of wire-netting, made concave, so that no eggs are left uncovered by the hen; it is also a protection against rats burrowing into the nest. These boxes are constructed of thoroughly well-seasoned tongued and grooved match-boards, painted outside one coat of good oil-paint, complete with handle. Size, 1 ft 8 in. high, 1 ft. 4 in. wide 1 ft. 3 in. deep. Securely packed and put on rail at the following respective prices:—

Usual price, 4*s.* each. Sale price, 3*s.* each; 6 for 16*s.* 6*d.*; 12 for 30*s.*; 36 for £3 15*s.*



PORTABLE DOG KENNEL WITH PLATFORM,

Securely packed and put on rail at the following respective prices:—

LOT. No.	Lgth. ft. in.	Wdth. ft. in.	Hght. ft. in.	Usual Price.	Sale Price.
1774 to 1781—1. Suitable for Terrier ...	2 5	1 6	2 5	16/-	10/-
1782 to 1793—2. Colleys, Retrievers, & Spaniels	3 6	2 3	3 4	26/-	16/-
1794 to 1806—3. St Bernards Mastiffs, & Newfoundlands ...	4 6	2 6	4 2	36/-	25/-

HEATING APPARATUS DEPARTMENT.

COOPER'S HYGIENIC HEATER.



Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this stove,—and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems.

• See LIST for full description.

LOT	Sale price.	Usual price.
1807 to 1987—No. 0 ...	£0 15 0 ...	£1 0 0
1988 to 1999—No. 1 ...	1 0 0 ...	1 10 0
2000 to 2021—No. 2 ...	1 10 0 ...	2 5 0
2022 to 2043—No. 3 ...	2 0 0 ...	3 5 0
2044 to 2057—No. 4 ...	2 5 0 ...	3 10 0
2058 to 2069—No. 5 ...	2 10 0 ...	4 0 0

GLASS! GLASS!! GLASS!!!

10,000 Boxes in Stock.

LOT			15-oz., 200 ft.	21-oz., 200 ft.
2137 ...	4ths		15*s.* 6*d.* ...	21*s.*
	3rds		16*s.* 0*d.* ...	22*s.*

The following is a list of sizes always in stock: 8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½*d.* per foot; 21-oz., 2¼*d.* per foot. Large sizes for cutting up: 15-oz., per case, 300 feet, 22*s.* 6*d.*; 21-oz., per case, 200 feet, 22*s.* 6*d.* All glass is cut and packed in our own warehouses. Quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere.

PUTTY, prepared especially for greenhouse work: best, 6*s.* 6*d.* per cwt.; 2nds, 6*s.* per cwt.; packages, 6*d.* cwt.

PAINT, quality guaranteed: 7 lb., 3*s*; 14 lb., 5*s.* 6*d.*; 28 lb., 10*s.*; 56 lb., 18*s.*; per cwt., 34*s.*

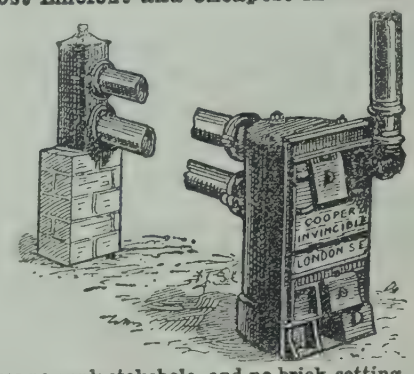
Special Offer. 4ths, 21-oz., 200 ft. Boxes

8 by 6, 13*s.* 6*d.*; 10 by 8, 14*s.* 6*d.*; 12 by 8, 15*s.*; 12 by 9, 15*s.* 6*d.*; 13 by 9, 16*s*; 14 by 10, 18*s.*; 15 by 10, 17*s.*; 12 by 10, 17*s.* per Box to clear.

850 Boxes only to offer at these ridiculously low prices.

"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

No. 1 Boilers only, capable of heating 75 feet 4-inch piping.

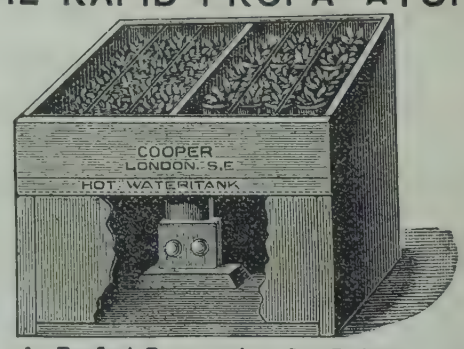
LOT.	Sale Price.	Usual Price.
2070 to 2250 ...	£1 15 0 ...	£3 15 0

SALE PRICES FOR COMPLETE APPARATUS.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 12*s.* 6*d.*; 9 ft. by 6 ft., £2 17*s.* 6*d.*; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3; 15 ft. by 10 ft., £4; 20 ft. by 10 ft., £5; 25 ft. by 10 ft., £6.

LOT.	Usual Price.	Sale Price.
	s. d.	s. d.
2251—About 3,000 4-inch Socket Hot-water Pipes, in 9 feet lengths, at per ten	6 0 ...	4 9
2252 to 2296—Sets of Stoking Tools	3 0 ...	2 0
2297—About 1½ cwt. of Round India-rubber Rings, for 4-inch Socket Hot-water Pipes, at per lb.	6 0 ...	3 6
2298—About 2 cwt. Square India-rubber Rings, for 4-inch Expansion Joints, at per lb.	4 6 ...	2 8

THE RAPID PROPAGATOR.



The only Perfect Propagator for Raising Plants from Seeds, Slips, or Cuttings.

This Propagator is the best and cheapest now before the public, and will be found especially serviceable to Amateurs and Gardeners who require to strike cuttings and raise seeds in a short space of time.

One of the Propagators will raise large quantities of plants in the spring, thus, to a great extent, dispensing with the necessity of striking cuttings in the autumn; it being well-known that many cuttings fall victims to the frost and damp atmosphere so prevalent in this country. This method of propagating saves the trouble and annoyance resulting from the loss of so many plants in the winter time, and also makes it unnecessary to occupy so much space in storing a large quantity of cuttings.

These propagators are composed of an outside casing, with movable sheets of glass on top. The bed or bottom is formed of a tank, in which a constant circulation of Hot-water is kept up by the Heater (See Illustration), the pots being plunged in a bed of Cocoa-nut fibre refuse, which should be kept moist. It is heated by oil, one pint of which will burn at least 30 hours. Securely packed (no charge for packing), and put on rails complete, at the following sizes and prices:—

LOT.	Usual Price.	Sale Price.
2299 to 2318—1 ft. 8 in. by 1 ft. 6 in. ...	£1 5*s.* ...	16*s.*
2319 to 2337—2 ft. 6 in. by 1 ft. 10 in. ...	£1 10*s.* ...	20*s.*
2238 to 2351—4 ft. by 2 ft.	£3 0*s.* ...	40*s.*

(CONTINUED ON NEXT PAGE.)

W. COOPER, Ltd, EIGHTH ANNUAL CLEARANCE SALE—*continued.*

TIMBER DEPARTMENT.

WELL SEASONED RED DEAL.

FOR SECTIONS OF THE ABOVE SEE SEPARATE SHEET.

SPECIFICATION.

LOTS 2352 to 2363.

Materials required for Span Roof 100 ft. by 12 ft. Cucumber House.

Best Red Deal, all planed, rabbeted, &c., ready for use, Door and Ventilators made.

105 feet 1½ by 6 Ridge,
105 feet 1¼ by 4 Capping,
230 feet 3 by 3½ Plate,
210 feet ¾ by 3 Drip.
4—8 feet 2½ by 3 End Rafters,
120—8 feet 1½ by 3 Bars,
15 Ventilators about 4 feet by 2 feet,
15 Ventilators, Seats about 60 feet,
1 Door and Frame 6 ft. by 2 ft. 6 in.
Packed free on rail. Usual Price, £9 10*s.*
Sale Price, £6 10*s.*

LOTS.	Usual Price.	Sale Price.
2464—98,000 ft. run No. 1 Sashbar per 100 ft. run	3*s.* 0*d*	2*s.* 0*d.*
2465—137,000 ft. run No. 2 Sashbar per 100 ft. run	3*s.* 9*d.*	2*s.* 9*d.*
2466—56,000 ft. run No. 3 Sashbar per 100 ft. run	5*s.* 0*d.*	3*s.* 6*d.*
2467—177,000 ft. run No. 4 Sashbar per 100 ft. £10,000 worth of other prepared Timber as per Separate List, 25 per cent. off, to clear.	6*s.* 6*d.*	4*s.* 6*d.*
2468—575 Top and Side Ventilators, 2 ft. by 2 ft. 4 in.	2*s.* 0*d.*	1*s.* 6*d.*
2469—270 Marginal Light Doors, 6 ft. 6 in. by 2 ft. 6 in.	12*s.* 0*d.*	7*s.* 6*d.*
2470—1550 squares ¼ in. Tongued, Grooved, and Beaded Match Board	7*s.* 6*d.*	5*s.* 6*d.*
2471—750 squares 6 in. Feather Edge Boards	7*s.* 6*d.*	5*s.* 0*d.*
2472—700 squares 1 in. Floor Boards	14*s.* 0*d.*	10*s.* 0*d.*
2473—450 Machine Turned Finals per doz.	6*s.* 0*d.*	3*s.* 0*d.*
2474—125 doz. Casement Stays for opening Ventilators ... ... per doz.	6*s.* 0*d.*	3*s.* 0*d.*
2475—149,000 feet run Slating Battens, ¾ by 2 ... ... per 100 ft.	1*s.* 3*d.*	1*s.* 1*d.*

Deals, 3 by 11, Yellow, 4*d.*; 3 by 9, 3½*d.*; 3 by 7, 2*d.*; 2½ by 7, 1½*d.*; 2 by 7, 1½*d*; 2 by 6, 1*d.*
Cutting Flatting, 9*d.* per 100 feet.

PLANED EXTENDED TRELLIS.

MADE OF BEST YELLOW DEAL.

LOTS Open.	Usual Price.	Sale Price.
2476 to 2551—12 ft. by 1½ ft.	2*s.* 8*d.*	2*s.* 0*d.*
2552 to 2601—12 ft. by 2 ft.	4*s.* 0*d.*	3*s.* 0*d.*
2602 to 2650—12 ft. by 2½ ft.	4*s.* 6*d.*	3*s.* 6*d.*
2651 to 2689—12 ft. by 3 ft.	5*s.* 6*d.*	4*s.* 0*d*
2690 to 2731—12 ft. by 3½ ft.	6*s.* 0*d.*	4*s.* 6*d.*
2732 to 2753—12 ft by 4 ft.	7*s.* 6*d.*	5*s.* 6*d.*
2754 to 2798—12 ft. by 5 ft.	8*s.* 9*d.*	6*s.* 3*d.*
2799 to 2850—12 ft. by 6 ft.	10*s.* 6*d.*	7*s.* 6*d.*

LOT 2851—60 pieces unplaned Trellis 144 by 44 open. Usual price, 5*s.*; sale price, 1*s.* 6*d.*
All Timber consigned at the Cheap Timber Rate to all parts of the Country.

LOAM—SURREY.

LOTS.
2852—Splendid Quality, full of Yellow Fibre.
Usual price: 2*s.* 6*d.* per sack; 5 for 12*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 5 for 7*s.*; 10 for 13*s.* 6*d.*
In Truck Loads, F.O.R., Usual Price, 16*s.* per ton; Sale Price: 8*s.* per ton.

COOPER'S GENERAL POTTING COMPOST.

2853—Specially Prepared.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

COOPER'S CELEBRATED CHRYSANTHEMUM COMPOST

2854—Usual Price, 3*s.* per bush. Sale Price: 1*s.* 6*d.* per bush.

COOPER'S PREPARED COMPOST FOR POTTING FERNS

2855—Specially Prepared.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

COOPER'S PREPARED COMPOST FOR POTTING BULBS

2856—Specially Prepared.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

2857—LEAF SOIL, BEECH AND OAK, WELL DECAYED.

Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*

2858—THE ORIGINAL CELEBRATED ORCHID PEAT.

All Rich Brown Pure Broken Fibre.
SELECTED IN TURVES,
With Dust and Roots taken out.
Usual Price: 6*s.* per sack; 5 for 25*s.*; 10 for 45*s.*
Sale Price: 3*s.* per sack; 5 for 13*s.*; 10 for 25*s.*

2859—BEST BROWN FIBROUS PEAT.

FOR HARDWOODED AND STOVE PLANTS.
Usual Price: 2*s.* 6*d.* per sack; 6 for 13*s.*; 10 for 20*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2860—GOOD GENERAL PEAT.

FOR FERNS, &C.
Usual Price: 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2861—RHODODENDRON PEAT.

Usual Price: 2*s* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s.* 6*d.*; 10 for 12*s* 6*d.*

2862—SPECIAL OFFER OF RICH BROWN LOOSE PEAT.

Of the very best quality All waste extracted.
Ready for use.
Usual Price: 2*s.* per sack; 6 for 10*s.*; 10 for 15*s.*
Sale Price: 1*s.* 6*d.* per sack; 6 for 8*s* 6*d.*; 10 for 13*s.* 6*d.*
Special Quotations for Truck Loads, F.O.R.

2863—COOPER'S SUNSHADE.

SUPERSEDES ALL OTHER PREPARATIONS OF THE KIND.
The cheapest, most efficient, and convenient preparation for Shading Greenhouses, Conservatories, Glass Roofs, and Windows of all descriptions. Is applied cold—an enormous advantage over preparations requiring to be used whilst hot. May be used either inside or outside, and produces a pleasing effect. Is not washed off by rain, but can be instantly removed when desired by rubbing over with a brush whilst it is wet. Made in various colours—White, Pale Blue, and Pale Green.
Usual Prices, in tins: 1 lb, 1*s.*; 2 lbs, 2*s.*; 7 lbs, 5*s.*
Sale Prices: 1 lb., 4*d.*; 2 lbs., 8*d*; 7 lbs., 2*s*

2864—COOPER'S



WONDERFUL NEW MUSHROOM SPAWN.

From many years' experience I believe this brand of Spawn to be the very best procurable—fresh; very best quality, producing abundant Crops of Superior fleshy Mushrooms.
Usual Price: 4*s.* per bushel.
Sale Price: 2*s.* per bushel.

COOPER'S GENERAL FERTILIZER

FOR FLORISTS, GARDENERS, AND AMATEURS.
Suitable for all Crops.
Usual Price: Tins, 4*d.*; 7-lb. bags, 1*s.*; 14-lb. bags, 2*s.*; 28-lb. 4*s.*; ¼ cwt., 7*s.*; 1 cwt., 13*s.*
Sale Price: Tins, 3*d.*; 7-lb. bags, 9*d.*; 14-lb. bags, 1*s.* 6*d.*; 28-lbs., 3*s.*; ½-cwt., 6*s.*; 1 cwt., 10*s.*

2866—SILVER SAND

(COARSE OR FINE).
2 cwt. Sacks. Usual Price, 3*s.* 3*d*; Sale Price, 2*s.* 3*d.*
Special Offer: 4 Ton Truck on Rail at Pit loose, 20*s.*

2867 BEST COCOA-NUT FIBRE REFUSE

(FRESH AND CLEAN).
9*d.* per sack; 10 sacks, 7*s.*; 15 sacks, 10*s*; 20 sacks, 12*s* 6*d.*; 30 sacks, 18*s*; sacks included. Truck, loose, free on rail over 2 tons, 30*s.*

Moistens in Heat. Holds Heat in Winter, Invaluable for Potting, Planting, Forcing, Decorating, and used on **Strawberry Beds** is preferable to straw keeping the Fruit clear from grit, and at the same time nourishing the Plants. For lightening heavy soils it is particularly useful, and when the soil is light and dry it is of great advantage as a mulch. All slugs and insects are destroyed by its use.

LOT 2868—SPECIAL OFFER TO THE TRADE.

100 Tins Sunshade and 100 Tins Fertilizers, to retail, at 4*d.* and 6*d.* each. 35*s.* on rail.

ODD GREENHOUSES.

LOT. ALL HOUSES ARE COMPLETE AS PER LIST.
2869—Lean-to Conservatory, 19 feet by 8 feet, door and two ventilators in front. Usual price, £15 10*s.* Sale price, £8.
2870—¾ Span-roof Conservatory, left-hand door, 18 feet by 10 feet. Usual price, £16. Sale price, £9.
2871—Lean-to Conservatory, 18 feet by 9 feet, door and two ventilators in front. Usual price, £15 10*s.* Sale price, £8 8*s.*
2872—Span-roof Greenhouse for brickwork, 10 feet 6 inches by 7 feet 9 inches. Usual price, £5. Sale price, £3.
2873—Span-roof Conservatory for brickwork, 25 feet by 10 feet. Usual price, £20. Sale price, £13.
2873A—Span-roof Forcing-house for 2 feet 6 inches brickwork, with 1 foot of woodwork above brick, with half glass partition and door, 30 feet by 9 feet. Usual price, £16. Sale price, £9.
2874—Span-roof Greenhouse, 45 feet by 10 feet. Usual price, £28. Sale price, £18.
2875—Span-roof Greenhouse, 50 feet by 12 feet, for brickwork, with 2 feet side-lights. Usual price, £33. Sale price, £22.
2875A—¾-Span-roof Greenhouse, for brickwork, 25 feet by 10 ft. Usual price, £17. Sale price, £10.
2876—Handsome Rustic Summer-house, made for exhibition purposes, about 10 feet square, and 26 feet high, complete with seats, table-curtains, &c., erected in our show-ground. Usual price, £100. Sale price, £60.
Photos of above 6*d.* each.
2877—Two pieces Rustic Fence, each 5 feet 6 inches by 3 feet. Usual price, 35*s.* Sale price, 15*s.*
2878—Rustic Summer-house, as No. 116 in List, 6 feet by 5 feet 6 inches. Usual price, £7. Sale price, £5.
2879—Rustic Summer-house, as No. 117 in List, 6 feet by 5 feet 6 inches. Usual price, £9. Sale price, £6 10*s.*
2880—Rustic Summer-house, as No. 120 in List, 12 feet by 5 ft. Usual price, £22. Sale price, £14.
2881—Rustic Summer-house, as No. 121 in List, 5 feet by 3 feet 6 inches. Usual price, £4 5*s.* Sale price, £3.
2882—Rustic Bridge, No. 134 in List. Usual price, £10 10*s.* Sale price, £7.
2883—9 pairs Steps, 4 treads per pair. Usual price, 4*s.* Sale price, 2*s.* 3*d.*
2884—7 pairs Steps, 5 treads per pair. Usual price, 5*s.* Sale price, 2*s.* 9*d.*
2885—10 pairs Steps, 6 treads per pair. Usual price, 6*s.* Sale price, 3*s.* 3*d.*
2886—5 pairs Steps, 7 treads per pair. Usual price, 7*s.* Sale price, 3*s* 9*d.*
2887—6 pairs Steps, 8 treads per pair. Usual price, 8*s.* 9*d.* Sale price, 4*s* 3*d.*
2888—7 pairs Steps, 9 treads per pair. Usual price, 10*s.* 6*d.* Sale price, 6*s.* 9*d.*
2889—3 pairs Steps, 10 treads per pair. Usual price, 12*s.* 6*d.* Sale price, 7*s.* 6*d.*
2890—5 pairs Steps, 12 treads per pair. Usual price, 14*s.* Sale price, 10*s.* 6*d.*
2891—2 pairs Steps, 14 treads per pair. Usual price, 15*s.* Sale price, 13*s.*
2892—7 30-round Ladders, each 15*s.* Sale price, 12*s.* 6*d.*
2893—5 45-round Ladders, each 27*s.* Sale price, 22*s.*
2894—3 55-round Ladders, each 32*s.* Sale price, 27*s.*
2895—2 60-round Ladders, each 43*s.* Sale price, 40*s.*

WROUGHT WELDED SADDLE-BOILERS.

(Sockets, 6*s.* 6*d.* each, extra.)

2896—2, 18 by 12 by 19, each £3 9*s.* Sale price, £1 1*s.*
2897—3, 27 by 14 by 14, each £3 12*s.* 3*d.* Sale price, £3 15*s.*
2898—2, 36 by 14 by 14, each £4 11*s.* 6*d.* Sale price, £3 8*s.*
2899—1, 42 by 18 by 18, each £7 13*s.* Sale price, £5 15*s.*
2900—1, 48 by 21 by 18, each £9 3*s.* Sale price, £6 15*s.*
2901—1, 54 by 24 by 21, each £11 11*s.* Sale price, £8.
2902—1, 60 by 24 by 21, each £13 10*s.* Sale price, £9 10*s.*
The above sizes are inside arch.

2903—25 Casks best Paraffin Oil, each containing 42 gallons, each, usual price, £1 1*s.* Sale price, 17*s.* 6*d.*, casks included; 2*s.* 6*d.* each allowed if returned, carriage paid.
2904—10 Casks best Tar, suitable for Iron Fences, Wood Palings, Farm Buildings, &c. Per cask of 42 gallons, usual price, £1 14*s.* Sale price, £1.

	Usual Price.	Sale Price.
	s. *d.*	*s.* *d.*
2905—21 Glaziers' Diamonds (sheet), each ...	15 0	10 6
2906—7 4-quart Galvanised Water Cans, each	2 2	2 0
2907—9 6-quart ,, ,, ,, ,,	2 4	2 1
2908—15 8-quart ,, ,, ,, ,,	2 8	2 2
2909—3 10-quart ,, ,, ,, ,,	2 10	2 4
2910—7 12-quart ,, ,, ,, ,,	3 2	2 9
2911—5 18-quart ,, ,, ,, ,,	4 8	3 4

2912—150 6-feet lens, 3½-inch Iron O.G. Gutter. Per length, usual price, 1*s.* 4*d.* Sale price, 1*s.*

2913—WOOD LABELS.

Size	3in.	4in.	5in.	6in.	7in.	8in.	9in.		
Usual price	1/5	1/8	2/-	2/9	3/6	4/5	5/5	...	per 1000
Sale price	1/4	1/7	1/11	2/5	3/2	4/-	4/9	...	,,
Size	...	...	...	...	10in.	12in.			
Usual price	...	...	...	...	6/-	10/-		...	,,
Sale price	...	...	...	...	5/3	8/-		...	,,

2914—FLOWER STICKS.

Size	1ft.	1½ft.	2ft.	2½ft.	3ft.	3½ft.			
Usual price	2/2	3/9	6/-	8/-	10/-	14/-	...	...	per 1000
Sale price	2/-	3/3	5/6	7/3	9/3	13/-	...	...	,,
Size	...	...	4ft.	4½ft.	5ft.				
Usual price	...	...	17/-	23/-	29/-		...	...	,,
Sale price	...	...	15/9	21/-	26/-		...	...	,,

2915—VIRGIN CORK.

About 7 tons. Usual price, 17*s.* per cwt. Sale price, 10*s.* 6*d.*

2916—BAMBOO CANES.

150,000 4ft. Per 100, usual price, 25*s.* Sale price, 16*s.*

2917—TOBACCO PAPER.

About 2 tons best quality. Usual price, 35*s.* Sale price, 25*s.* per cwt.

2917A—PURE WOOD CHARCOAL.

287 sacks. Usual price, 4*s.* Sale price, 2*s.* per sack; or 10 sacks for 15*s.*

2918—POULTRY KEEPERS.

120 sacks, 110 lb., good sound Poultry Mixture. Usual price, 7*s.* per sack. Sale price, 5*s.* 6*d.*; 5 for 26*s.*; 10 for 50*s.* Best feed ever offered.

2919—PEAT MOSS LITTER.

107 sacks. Usual price, 2*s.* 3*d.* per sack. Sale price, 1*s.* 6*d.* per sack; 10 for 12*s.* 6*d.*; 20 for 22*s.*

OLD GARDEN LIGHTS.

2920—10 Glazed Lights, 2 feet 6 inches by 5 feet 2 inches, 3 by 2 stiles each. Usual price, 8*s.* 6*d.* Sale price, 5*s.*
4 Glazed Lights, 6 feet by 4 feet, 3 by 2 stiles each. Usual price, 14*s.* Sale price, 9*s.*
2921—17 Glazed Lights, odd sizes, from 4 feet 3 inches by 1 foot 8 inches to 8 feet by 3 inches. Second-hand, good condition, the lot £3.
2922—3 New Unglazed Lights, 4 feet 8 in. by 4 feet 10 inches. Usual price 3*s.* 6*d.* Sale price, 2*s.* 3*d.* each.
2923—3 New Unglazed Lights, 4 feet by 3 feet 10 inches. Usual price, 3*s.* Sale price, 2*s.*
2924—4 New Unglazed Lights, 4 feet by 3 feet. Usual price, 3*s.* Sale price, 2*s.*
2925—17 Unglazed Lights, 2 feet by 5 feet 6 inches. Usual price, 3*s.* 6*d.* Sale price, 2*s.*

IRON BUILDINGS.

Buildings, Wooden Framework, covered with corrugated-iron, suitable for store-room or workshop. Made in sections.

LOT		Usual Price.	Sale Price.
2926 ...	10 by 8 complete ...	£7	£5
2927 ...	14 by 10 ,, ...	£11	£8
2928 ...	18 by 12 ,, ...	£16	£11
2929 ...	22 by 14 ,, ...	£22	£15

IRON BICYCLE OR TRICYCLE HOUSES.

(SPAN-ROOF.)

2930 to 2936—6 feet long, 4 feet wide, 5 feet high. Usual price, £3. Sale price, £2 5*s.*

(*CONTINUED ON NEXT PAGE.*)

W. COOPER, Ltd., EIGHTH ANNUAL CLEARANCE SALE—*continued.*

NURSERY, SEED, AND BULB DEPARTMENTS.

The following goods will be carefully packed and put on Rail Free at our Nurseries.

FERNS (for Stove and Greenhouse) FERNS.

Lot. 2138—Fine healthy well-grown stuff, in small pots. 86,000 small Ferns (about 30 varieties) usual price, 12*s.* per 100, sale price, 6*s.* 6*d.* £3 per 1,000, £12 10*s.* per 5,000. Out of pots, 5*s.* per 100, £2 5*s.* per 1,000, £8 10*s.* per 5,000.

Lot.		Usual Price. Per 100.	Sale Price. Per 100.
		s. *d.*	*s.* *d.*
2139—5,100	Pteris Serrulata (new variety), in small pots	15 0	10 6
2140—2,700	,, Undulata	14 0	10 6
2141—3,500	,, Argyrea	12 0	7 6
2142—1,000	,, Victoria	20 0	14 0
2143— 400	Gymnogramma Chrysophylla	22 0	17 6
2144—1,120	,, Gloriosa	30 0	26 0
2145— 750	,, Martensii	26 0	18 0
2146— 560	,, Argyrea	35 0	30 0
2147—9,610	,, Laucheana	28 0	23 0
2148— 760	Davallia Elegans	22 0	18 0
2149— 800	Cyrtomium Fensonii	13 0	11 6
2150—1,900	Nephrolepis Exaltata	14 0	12 0
2151—1,150	Woodwardia Radicans	20 0	18 0
2152— 700	Onychium Japonicum	30 0	27 0
	(Out of pots 2*s.* per 100 less.)		
2153—	Our Selection. Out of pots		13 0
2154—	,, In pots		15 0
	Not less than 25 of each variety.		

STRONG ROOTED CUTTINGS.

Lot.		Usual Price.	Sale Price.
2155—	Heliotrope, light and dark		1*s.* doz.
	Fuchsia, all best varieties		
	Geranium, Ivy Leaf, Madame Crousse	2*s.* doz.	7*s.* 100
	Marguerites, white and yellow		£3 1,000
	Cineraria hybrida, Exhibition strain		
	Chrysanthemums, all the best Exhibition sorts ...		

ORNAMENTAL FLOWER AND FOLIAGE PLANTS.

FOR WINDOW, HOUSE, AND CONSERVATORY DECORATION.

Lot.		Usual Price.	Sale Price.
		s. *d.*	*s.* *d.*
2156.—	Primulas (single) in 5 in. pots, splendid strain in flower and bush ... ... per doz.	6 0	3 6
2157—	Cineraria hybrida, in flower and bush... ... ... per doz.	6 0	3 6
2158—	Marguerites, grand plants in flower and bush ... per doz.	8 0	5 6
2159—	Palms (Kentias) in flower and bush ... ... each	2 0	1 3
2160—	,, ,, in flower and bush (extra large) ... ... each	2 6	1 9
2161—	Pandanus Veitchi, in flower and bush (very large)... ... each	2/-, 3/6, 5/-, 1/6, 3/-, 7/6	
2162—	Asparagus plumosus nanus, in 5 in. pots, splendid strain, in flower and bush (special value) ... ... each	2 0	1 6
2163—	Cytisus, in 5 in. pots, splendid strain, in flower and bush, per doz.	8 0	6 0
2164—	Hydrangeas, in 5-inch pots, splendid strain, in flower and bush, per doz.	9 0	6 0
2165—	Ivy-leaf Geranium (Pink), in 5-in. pots, splendid strain in flower and bush ... ... per doz.	6 0	4 0
2166—	Arum Lilies	9 0	5 0
2167—	Pteris Ribbon and Crested Ferns, in 5-in. pots	8 0	4 0
2168—	,, Tremula (large-leaved) ,, ,, ...	8 0	4 0
2169—	Polypodiums ,, ,, ...	8 0	4 0
2170—	Aspleniums ,, ,, ...	8 0	4 0
2171—	Gold and Silver Ferns ,, ,, ...	9 0	5 0
2172—	Nephrolepis ,, ,, ...	9 0	5 0
2173—	Grevillia Robusta ,, ,, ...	8 0	4 0
2174—	Cyperus Alternifolius ,, ,, ...	6 0	3 0
		per 100.	per 100.
2175—	Wallflowers. Harbinger. Very bushy transplanted	6 0	4 3
2176—	,, Belvoir Castle ,, ,, ...	6 0	4 3
2177—	,, Double German ,, ,, ...	7 6	6 0
2178—	Double Daisy, good colour (special line)	5 0	2 3
2179—	Foxgloves	5 0	2 6
2180—	Sweet Williams	10 0	6 0
2181—	,, ,, Seedlings	4 0	3 0
2182—	Canterbury Bells	4 0	3 0
2183—	Geum	4 0	3 0
2184—	Pansies, a splendid strain, transplanted	9 0	6 6
2185—	Aquilegias— ... ... per doz.	1 9	1 0
		per 100	7 6
2186—	Chrysanthemum Lacustre ... ... per doz.	3 6	2 6
		per 100	15 0
2187—	Lilium Chalcedonicum, strong, transplanted	per doz.	2 6
		per 100	15 0
2188—	Pentstemons, extra large, transplanted ... ... per doz.	3 0	1 6
		per 100	10 6
2189—	Picotees, bushy plants, splendid colours ... ... per doz.	5 0	3 0
	do., per 100		20 0
2190—	Pink fimbriata alba, fl.-pl.	7 6	6 0
2191—	Maréchal Niels (magnificent plants), about 3 ft. ... ... each	1 6	1 0
	,, ,, ,, 4 ft. to 5 ft. ... each	2 3	1 9
	,, ,, ,, 8 ft. to 9 ft. ... each	3 6	3 0
	,, ,, ,, 10 ft. to 12 ft. ... each	5 0	3 9
2192—	Grape Vines, 3 ft. to 4 ft. ... ... each	1 6	0 10
	,, 4 ft. to 5 ft. ... ... each	2 0	1 6
2193—	Apples, Pears, Plums, robust trees, best varieties ... ... each	1 6	1 0
2194—	Cherries, Damsons, &c. ,, ,, ... per doz.		10 6
2195	,, ,, (2nd size) ... ... each	1 3	/9 8/6 per doz.
2196	,, ,, Fan dwarf and Horizontal Trained, each	1/6 2/6 3/6	1/- 1/9 2/6
2197	,, ,, (Pyramids) special line ... ... each	1 9	1 3
2198—	Apricots, Peaches, Nectarines, really good healthy stuff, best varieties { Fan and Dwarf-trained each }	3/6 to 7/6	2/6 to 5/-
2199—	Raspberries, Baumforth's Seedling, Carter's Prolific, and Fastolf Fruiting Canes ... ... per doz.	1 6	0 9
2200—	Rhubarb, all the best forcing varieties, extra strong crowns, each	1/-, 9/- doz.	/6, 5/- doz.
2201—	Strawberries, finest varieties extant (extraordinary offer), p. 100	2 6	1 6
2202—	Gooseberries and Currants. Strong Bushes. Finest kind only. Fruit first year ... ... per doz.	6 0	3 6
2203—	Asparagus for planting or forcing ... ... per 100	10/6 to 12/6	5/6 to 7/6
2204—	Seakale ,, ,, ... per 100	8/6 to 12/6	5/6 to 7/6
2205—	Elders, Gold or Silver Lilacs Ribes Weigela Syringa Deutzia Gueldres Rose } Strong Bushes ... ... each	0 8	0 6
2206—	Quick extra strong, suitable for gapping ... ... per 100	4 0	3 0
2207—	Myrobella Cherry-Plum, grand hedging plants ... per 100	5 0	4 0
2208—	Laburnum, straight stems, good heads ... ... each	1 0	0 9
2209—	Limes, clear strong stems ... ... each	1 0	0 9

ORNAMENTAL FLOWER AND FOLIAGE PLANTS (*Continued*).

		Usual Price.	Sale Price.
		s. *d.*	*s.* *d.*
2210—	Sycamore, 6 to 8 ft. stems ,, ... each	1 0	0 9
2211—	Chestnuts ,, ,, ... each	1 0	0 9
2212—	Beech ,, ,, ... each	1 0	0 9
2213—	Birch ,, ,, ... each	1 6	1 3
2214—	Clematis in variety in pots ,, ... each		
2215—	Passion Flowers in variety (special line) out of 3-in. pots, 2 to 3 ft. ... ... per doz.	3 0	1 0
	Ditto ... ... per 100		7 6
	Passion Flowers in variety (special line) out of 5-in. pots, 4 to 5 feet ... ... per doz.	9 0	4 6
2216—	Ampelopsis Veitchi		
	Small Virginian Creeper (out of 3-in. pots) ... ... per doz.	3 0	1 3
	,, ,, ,, (out of 5-in. pots) ... ... per doz.	6 0	4 0

SEEDS FOR PRESENT SOWING.

			Usual Price.	Sale Price.
			s. *d.*	*s.* *d.*
2217—	Early Peas.	Earliest of All ... ... per qt.	1 0	0 9
	,,	Little Gem ... ... per qt.	1 0	0 9
	,,	Early Paragon (Sharpe's)... ... ... per qt.	1 4	1 0
	,,	William First ... ... per qt.	1 4	1 0
	Bean, Early Longpod.	Early Longpod ... ... per qt.	0 6	0 4
	,, ,,	Mazagan... ... ... per qt.	0 6	0 4
	,, ,,	Fulmer's French Forcing ... per qt.	1 0	0 9
	,, ,,	Longpodder Negro ... ... per qt.	1 0	0 9
	,, ,,	Canadian Wonder ... ... per qt.	1 0	0 9
	Carrot.	Early French Horn ... ... per oz.	0 4	0 3
	Potato.	Early Old Ashleaf ... ...per peck of 14 lb.	3 6	2 6
	,, ,,	Myatt's Prolific Ashleaf ,, ,,	2 6	2 0
	,, ,,	River Royal Ashleaf ,, ,,	2 6	2 0
	,, ,,	Windsor Castle ,, ,,	3 0	2 6
	,, ,,	Snowdrop ,, ,,	2 6	2 0
	,, ,,	Snowflake ,, ,,	2 0	1 6

Own saving. Selected Stocks.

ROSES! ROSES!!

Lot. 2218.—45,000 Dwarf Roses. All strong, healthy, dwarf Bushes, with good roots. Will give fine display of bloom. Splendid varieties.

Usual price...	3 for	6 for	12 for	50 for	100 for	1,000 for
	2*s.* 0*d.* ...	3*s.* 9*d.* ...	7*s.* 0*d.* ...	20*s.* ...	40*s.* ...	£15 0*s.*
Sale price ...	1*s.* 6*d.* ...	2*s.* 6*d.* ...	4*s.* 6*d.* ...	16*s.* ...	30*s.* ...	£12 10*s.*

BULBS! (The Best Only. Only a few Tons left.) BULBS!

COLLECTIONS.

2219—**50 Bulbs for 1s. 2d. Usual Price, 2s.**—3 Hyacinths, 10 Crocus, Blue; 10 do., White; 10 do., Striped. 3 Tulips, Single; 2 do., Double. 6 Anemones. 6 Snowdrops.

2220—**120 Bulbs for 2s. Usual Price, 3s.**—6 Hyacinths. 25 Crocus, Blue; 25 do., White; 25 do., Striped or Yellow; 6 Tulips, Single; 4 do., Double. 12 Scilla Sibirica. 5 Anemones. 12 Snowdrops.

2221—**175 Bulbs for 3s. Usual Price, 5s.**—4 Hyacinths, Red; 4 do., White; 4 do., Blue; 25 Crocus, White; 25 do., Blue; 25 do., Striped or Yellow. 18 Tulips, Single; 18 do., Double; 6 Ranunculus. 6 Anemones. 20 Scilla Sibirica. 20 Snowdrops.

2222—**250 Bulbs for 4s. 6d. Usual Price, 7s. 6d.**—3 Hyacinths, Red, for pots; 3 do., White, for pots; 3 do., Blue, for pots; 3 do., Red, for glasses; 3 do., White, for glasses; 3 do., Blue, for glasses. 35 Crocus, choice, for pots; 30 do., White; 30 do., Blue; 30 do., Yellow; 30 do., Striped. 6 Tulips, Single, for pots; 6 do., Double, for pots. 12 Ranunculus. 6 Anemones, Double; 6 do., Single. 12 Scilla Sibirica. 12 Snowdrops, Single; 12 do., Double. 5 Polyanthus Narcissus.

2223—**370 Bulbs for 6s. 6d. Usual Price, 10s. 6d.**—6 Hyacinths, named, for pots; 4 do., Red, for pots or glasses; 4 do., White, for pots or glasses; 4 do., Blue, for pots or glasses; 6 Tulips, Single, for pots; 6 do., Single, for borders; 6 do., Double, for pots; 6 do., Double, for borders. 24 Crocus, for pots; 50 do., Yellow; 50 do., White; 50 do., Blue; 50 do., Striped. 12 Ranunculus. 12 Anemones. 25 Scilla Sibirica. 25 Snowdrops, Single; 25 do., Double. 6 Polyanthus Narciss.

2224—**Sale Price, 8s. Usual Price, 15s.**—6 Hyacinths, choice, named, for pots; 6 do., do., for glasses; 12 do., for borders. 100 Crocus, White; 100 do., Blue; 100 do., Yellow; 20 Tulips, Single; 20 do., Double. 25 Daffodils, Single; 25 do., Double. 25 Winter Aconites. 25 Ranunculus. 12 Anemones, Single, 15 do., Double. 25 Snowdrops, Single; 25 do., Double. 10 Polyanthus Narcissus.

2225—**Sale Price, 12s. Usual Price, 21s.**—9 Hyacinths, choice, named, for pots; 9 do., do., for glasses; 8 do., Red, for borders; 8 do., White, for borders; 8 do., Blue, for borders. 150 Crocus, White; 150 do., Striped; 150 do., Blue. 25 Tulips, Single; 25 do., Double. 50 Daffodils, Single. 20 Anemones, Single; 20 do., Double. 25 Scilla Sibirica. 30 Snowdrops, Single; 30 do., Double. 30 Ranunculus. 25 Narcissus Poeticus.

2226—**Sale Price, 16s. Usual Price, 30s.**—20 Hyacinths, selected, named, for pots; 12 do., for glasses; 30 do., for borders. 200 Crocus, White; 200 do., Striped; 200 do., Blue. 50 Tulips, selected, Single; 50 do., selected, Double. 50 Daffodils, Single; 50 do., Double. 25 Anemones, Single; 25 do., Double. 50 Aconites. 30 Ranunculus. 50 Snowdrops, Single; 50 do., Double.

2227—**Sale Price, 25s. Usual Price, £2 2s.**—30 Hyacinths, extra selected, named, for pots; 15 do., do., for glasses; 15 do., do., Blue, for borders; 15 do., do., White, for borders; 15 do., do., Red, for borders. 200 Crocuses, selected, White; 200 do., do., Striped; 200 do., do., Blue. 75 Tulips, extra selected, Double; 75 do., do., Single. 75 Daffodils, Single & Double. 50 Anemones, Single & Double. 75 Aconites, Winter. 50 Ranunculus. 75 Snowdrops, Single; 75 do., Double. 35 Polyanthus Narciss. 75 Narcissus Poeticus.

2228—**Sale Price, 35s. Usual Price, £3 3s.**—40 Hyacinths, choicest selected, named, for pots; 20 do., do., for glasses; 50 do., selected Colours, for borders. 250 Crocus, selected, White; 250 do., do., Striped; 250 do., do., Blue. 100 Tulips, extra selected, Double; 100 do., do., Single. 100 Daffodils, Single and Double. 75 Anemones, Single and Double. 100 Aconites, Winter. 50 Ranunculus. 75 Snowdrops, Single; 75 do., Double. 45 Polyanthus Narcissus, named. 100 Narcissus Poeticus. 50 Spanish Iris.

		Usual Price.	Sale Price.
2229—	Named Hyacinths, for pots and glasses	2*s.* 6*d.* per doz.	1*s.* 9*d.* per doz 12*s.* 6*d.* per 100
2230—	Hyacinths (mixed, all colours) for pots or beds ...	2*s.* 3*d.* per doz.	1*s.* 8*d.* per doz 10*s.* 6*d.* per 100
2231—	Freesia major, very sweet-scented	6*s.* per 100.	3*s.* per 100.
2232—	Narcissus, Pheasant's Eye, scented	4*s.* per 100.	2*s.* 3*d.* per 100
	Narcissus, Double White, splendid	7*s.* per 100.	4*s.* 6*d.* per 100
2233—	Iris hispanica, Large Roots	2*s.* 6*d.* per 100.	1*s.* 6*d.* per 100
2234—	Tulips (named sorts, mixed), Single or Double ...	3*s.* 6*d.* per 100.	2*s.* 6*d.* per 100 20*s.* per 1000.
2235—	Tulips, Scarlet Duc Van Thol	4*s.* 6*d.* per 100	3*s.* per 100
2236—	,, Yellow White Van Thol	10*s.* ,,	7*s.* ,,
2237—	,, Double White, Large	5*s.* per 100	3*s.* 3*d.* per 100 30*s.* per 1,000
2238—	,, ,, Red and Yellow	5*s.* ,,	3*s.* per 100 22*s.* per 1,000
2239—	,, Parrots, Mixed	3*s.* 9*d.* per 100	2*s.* 6*d.* per 100
2240—	Spiræa japonica	3*s.* 6*d.* per doz.	2*s.* 6*d.* per doz
2241—	Lily of the Valley, Strong Clumps	15*s.* ,,	10*s.* ,,
2242—	... German Crowns	8*s.* ,,	5*s.* ,,

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Mr. JAMES C. ADAMS, formerly of Wye House, Buxton, as Gardener to J. CHARLESWORTH, Esq., Glenapp Castle, Ballantrae, Ayrshire, N.B.

Mr. C. W. LYNES, formerly General Foreman in the Gardens at Mauldslie Castle, Carluke, N.B., as Gardener to Sir H. HERVEY BRUCE, Bart., Downhill Castle, co. Londonderry.

Mr. DOUGLAS BROWN, formerly Head Gardener to Lady SHELLEY, Boscombe Manor, Bournemouth, as Head Gardener to T. SUMMERS COCKS, Esq., Thames Bank, Great Marlow, Bucks.

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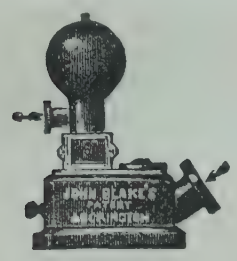


Fig. A.

This Ram raises a portion of the same water that works it.



This View represents Fig. A. Ram forcing up a part of the same water that works it, which is supplied from a spring. Special Rams of A. make can be supplied to force to a height of 800 feet.



Fig. B.

This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

Blake's Hydraulic Rams have been supplied to the following among others:—

His Royal Highness the Duke of Connaught.
His Highness the Maharajah of Kashmir.
His Grace the Duke of Devonshire.
His Grace the Duke of Westminster.
His Grace the Duke of Cleveland.
His Grace the Duke of Portland.
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His Grace the Duke of Leeds.
His Grace the Duke of Marlborough.
His Grace the Duke of Grafton.
The Most Hon. The Marquess of Ripon.
The Most Hon. the Marquess of Downshire.
The Most Hon. the Marquess of Abergavenny.
The Most Hon. the Marquess of Londonderry.
The Most Hon. the Marquess of Cholmondeley.
The Right Hon. the Earl of Derby.
The Right Hon. the Earl of Devon.
The Right Hon. the Earl of Gainsborough.
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The Right Hon. the Earl of Lichfield.
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The Right Hon. the Earl of Carnarvon.
The Right Hon. the Earl of Londesborough.
The Right Hon. the Earl of Leicester.
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The Countess de Morella.
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Lady Frankland, Thirkleby Park.
The Right Hon. Lord Hothfield.
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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3,160	,,	SPECIOSUM ALBUM
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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, December 19, at 12 o'Clock.
On view morning of Sale, and Catalogues had.

Friday Next, December 21, 1894.
IMPORTANT SALE OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, December 21, at half-past 12 o'Clock, the following IMPORTED and ESTABLISHED ORCHIDS :—
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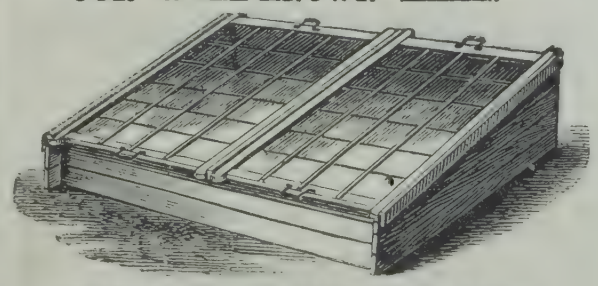
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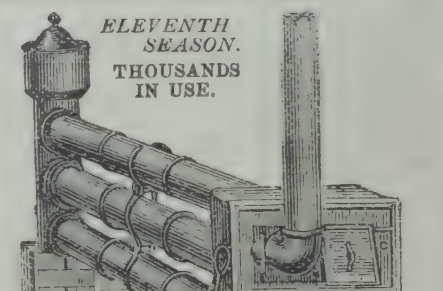
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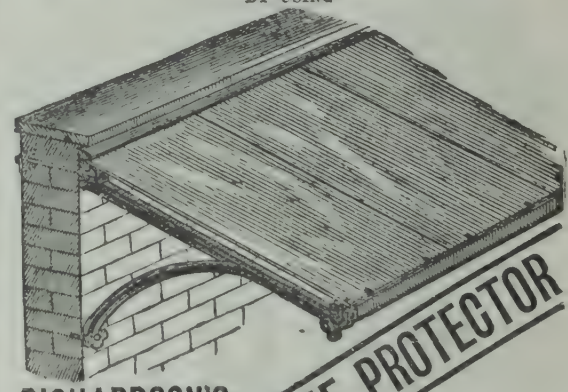


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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 15, 1894.

A CHRYSANTHEMUM EXHIBITION IN JAPAN.

WE are standing where several gravel paths meet (in the gardens of the Imperial Palace at Yeddo), and round about us are erected numerous light-looking bamboo structures, covered and draped with silk crape of a soft violet tint (the imperial colour, as purple formerly was in the West); all over these lilac hangings are dotted white heraldic Chrysanthemums, spreading out their large, strange-looking petals.

It is the flower-show. Beneath these awnings and imperial silks are collections of Chrysanthemums — real Chrysanthemums, although they hardly look so; Chrysanthemums of marvellous growths, to see which we have been invited by their Imperial Majesties; Chrysanthemums of a very astonishing kind, of which nothing we have at home can give you any idea. They are planted V-shape, thus—V V V, in symmetrical regularity on sloping beds of mould, covered with a smooth and extremely fine moss. Each plant has only one stalk, and each stalk only one flower—but what a flower!—larger even than our largest Sunflowers, and yet of such exquisite colour, of such singular form! Here is one with large, solid-looking petals, so compactly arranged, that you would say it was a large pink Artichoke; the next one to it is of a russet-bronze colour, and looks like a large curled Cabbage. There is another one of the most dazzling yellow, with hundreds of long, thin, shaggy petals, shooting forth and falling over like a sheaf of golden thread. There, too, are some of ivory-white, palish mauve, and rich-looking amaranth, with many others variegated, shaded, and double-coloured. We bear in mind, too, the infinite pains which the cultivation of these flowers must have cost when we approach more closely and examine their almost invisible supports running up the entire length of the stalk, and spreading out under the leaves, propping up those which are too heavy, or squeezing and keeping back the sap of those showing a tendency to develop too quickly.

The little fairy-like creatures in their long, humming-bird gowns, are examining the exhibits with us; but they wear a look of pre-occupied condescension. As the heat becomes more intense, they agitate, and constantly open and shut their court fans—certainly the largest in the world—on the silk folds of which are painted the vaguest, scarcely-suggestible of dreams—little sea-scapes, reflections of clouds on water, winter moons, shadowy flights of birds, or, perhaps, showers of Peach-blossoms wafted by the breese through April mist. A very large, tinselled tassel is fastened to the base of the fan with

long threads of shaded silk hanging down to the ground, and sweeping the fine gravel as the wearer fans herself.

We are advised, however, not to linger here, but to go further on and see still more lovely flowers, and walk up yonder slope, where the Empress will presently come and sit with us for a few moments. So we walk along a shady path, between a row of giant Cedars stretching over our heads and a rather dismal, isolated pond full of Lotus. The Cedars are very old and covered with moss, and their long branches spread out very low, even touching the grass. You would think that this spot was entirely wild, for here is a Rice-plantation, the same which, according to an old tradition, the Mikado is every year obliged to cut with his own hands, at harvest time.

Along the top of the upland is a flower-garden, one mass of pink Chrysanthemums. From here we catch glimpses of the woody park all round; the spot is delightfully quiet, and here we completely ignore the existence of the noisy town, with its *fêtes* and din of gongs clanging in every direction.

On either side of the flower-garden, underneath the same high, light-looking structures, and the same lilac-hued hangings, dotted with white flowers, we find more floral exhibits, more phantasies in Chrysanthemums, cultivated by different means, and under still more extraordinary secrecy. These here are like made-up bouquets, similar to those you see in vases on our church altars, only of such enormous dimensions, almost like trees. The plants possess at least a hundred stalks each, arranged in perfectly symmetrical order, a central stem, and at the end of each stalk is a flower in full bloom, neither over-blown nor half-opened, but just at the height of its ephemeral glory. Before the day is over, probably all of them, the fruit of so much labour, will fade away and die.

Attached to each flower is a paper label, with its name written in those learned characters which are intelligible in two distinct languages —Chinese as well as Japanese. They are called by such names as—The Ten-thousand-times-dipped-in-gold, Mountain Vapours, Autumn Mist, Kissed-by-the-Sunset, &c. *From the French of Pierre Loti.*

New or Noteworthy Plants.

Betula alba japonica.

A Japanese variety of the common Birch, with greenish-bronze stems, studded over with whitish specks or knubbles, which make it quite rough to the touch, especially in the young state; the petioles are rosy-red, and also lenticillate, and the leaves twice as large as those of B. alba, are heart-shaped at the base, and ending in a point, deeply indented and waved at the edges, and in colour dark dull green. This tree grows in the island of Yezo, and is very rare.

Betula Maximowiczii.

In Yezo, Japan, this tree grows to a height of over 80 feet (25 mètres), and measures over 3 feet (1 mètre) across the base of the stem. The bark, smooth to the touch, bronzy-orange in colour, thickening at the base of old trees, peeling off in long narrow scales, and turning to an ashen-grey colour, the leaves widely oval, cordate at the base, toothed, thin, and almost membranous, are bright dark green above, and yellowish-green below, larger than those of any other Birch, sometimes measuring as much as 5¾ inches (15 cents. long).

Diervilla (Weigela) præcox.

A Japanese species, soon growing to over 5 feet (1·60 m.) high, resembling W. amabilis in foliage, the branches straight,; stems rounded; internodes long, glabrous and brown; leaves acuminate-oval, finely toothed, very hairy on both surfaces, especially the lower one, very soft to touch, and bright clear green. The axillary flower-buds bear two pairs of opposite leaves, and from ten to fifteen large flowers in horizontal or slightly pendent trusses. The flower-tube rather more than 1 inch (3 cents.) long, and widening gradually, is rose-carmine, with a carmine base; the lobes rounded, half-open, are of a beautiful tender rosy-mauve, and the throat marked with a yellow band edged with carmine. This tree comes into bloom some weeks before other species of Weigela. *Extracted from M. V. Lemoine's Plant Catalogue.*

Cattleya guttata Prinzii, "Viscount de Figueiredo," new var.

Of the thousands of what is known in gardens as Cattleya amethystoglossa, which have flowered under cultivation in Europe, this may safely be called the most beautiful and extraordinary, so far as comparison with publicly-exhibited varieties or those met with in collections are concerned. C. guttata Prinzii is one of the most variable of the genus in the size of its flowers, some forms being scarcely worth cultivating on account of their small and imperfectly-expanded blooms. In the matter of colour the variation is slight, the ground colour of the sepals and petals invariably having some shade of pink or blush-white. In this new form there is no trace of such colour, the ground-colour being distinctly yellow. The flowers, which are wax-like and well expanded, are about 4 inches across, the petals being over an inch wide. The sepals and petals are creamy-yellow, the reverse sides lemon colour, and both sepals and petals are spotted with rich amethyst-purple. The side lobes of the lip are cream coloured outside, and chrome yellow inside, about half an inch of the tips being of a deep crimson purple. The broad corrugated front lobe of the lip is also deep crimson-purple. The column is pale yellow with a purple blotch at the tip, and a similar purple mark on the lower edge on each side. Everything in this beautiful variety seems to harmonise, each feature heightening the attraction of the others. It was sent from Rio de Janeiro by the Viscount de Figueiredo to the Right Hon. Lord Rothschild, in whose collection at Tring Park it has just flowered, and at whose request it is named in honour of the sender. *James O'Brien.*

Winter Treatment of Tender Alpines.

I often receive from England enquiries respecting the proper winter treatment of tender species of alpine plants, such as Eritrichium nanum, Androsaces, certain Primulas, and Gentians, and more particularly those of the genus Artemisia. As a matter of fact, species from very high mountainous regions, and more particularly those which grow in the fissures of rocks and in gravelly moraines, are not only difficult to acclimatise, but in winter their treatment is an extremely delicate matter. We have for some time past made, in the Jardin d'Acclimatation, some useful observations on this subject, and the result of them I will now communicate to the readers of this journal.

It is needful, first of all, that the plants be thoroughly acclimatised—that is to say, not transported direct to the plains from the mountains, their natural habitat. The new roots thrown out in their different position must become sufficiently numerous and vigorous to act regularly, and permit the plant (this must not be forgotten) to remain nearly dormant during the winter, and protect it against the humidity of soil and air.

It is known that at high elevations plants grow rapidly. The intense light, the duration of which is longer than in the plains, the rarity and lightness of the air, increase the vigour both of respiration and transpiration in plants as in animals. The cells of alpine plants are so constructed that they readily lend themselves to this more rapid life.

Sachs, in his 13th and 14th *Vorlesungen*,* shows us what are the functions, utility, and conditions of transpiration in plants. Transpiration is necessary to the growth and well-being of the plant. The water which enters the plant by means of the roots, leaves by the stomata, but is not then of the same composition as on entering, as it yields to the tissues of the plant through which it passes all the mineral substances it held in solution, and these substances conduce to the development and growth of the plant.

Now transpiration, so necessary to species growing at high elevations which have but a little time in which to complete their annual existence, can only be affected under certain conditions. Thus it is necessary that the roots be in a perfect state and so well constituted as to act easily. This is a primary condition. To obtain such a result it is necessary to have plants well established before August; that is, if they are to be transplanted from the mountains to gardens, it must be done in early summer. Moreover, we have proved in the Jardin d'Acclimatation, that for tufted species and those in close rosettes such as Eritrichium, Androsace glacialis, Helvetica, Charpentieri, pubescens, pyrenaica, cylindrica, argentea, &c., it is better to completely change the soil round the clump, and to treat the specimens exactly as young plants just pricked out; that is, to keep them under glass until the soil is full of roots. This much facilitates the transplantation, as it is not necessary to bring away earth with the plant; but it is needful to preserve as many of the roots as possible when pulling them up. The best mode of growth is clearly that from seed, as thus more compact, sturdy, and acclimatised clumps are obtained, and these better resist damp dark winters which so often kill plants brought directly from the mountains.

Many English clients assure me that plants sent by us when raised from seed, succeed better and stand the winter better even when small and apparantly feeble than do those transplanted directly from the mountains. Evidently all depends on the root-system, which, being better constituted, acts more freely and rapidly.

Growers should cover their plants with a bell-glass, as that will help them. If their roots are not vigorous, you cannot save them. This, then, is the principal thing to do. The proverbial dampness of the English climate is prejudicial to Alpines in winter only; in summer it is very favourable to them. In the Alps in winter these plants are covered with a thick layer of snow. They suffer from no excess either of heat or cold, and continue to respire feebly, to live slowly, but not to develop their foliaceous organs. In an English fog, with no snow, in a temperature almost always above freezing point, the plants from high summits have difficulty in surviving the winter. The air is saturated with dampness, and evaporation and transpiration of which I spoke above, are conducted under difficulty, as transpiration takes place most fully when the air is more or less dry. Hardy plants do not suffer; besides, most of them do not continue growing as alpines do, which start into activity at the least degree of heat: half a degree (C.) is sufficient to promote the growth of the foliaceous organs of alpine plants.

But, while plants from low altitudes easily withstand an excess of damp in their tissues, it is not so with certain alpines. They grow in a weakly way, and water distends all their tissues without evaporating. They then become more tender, weak, and susceptible to damp, and rot easily.

A due state of equilibrium is needed between the dampness of the soil and that of the air before transpiration can ensue. That is to say, the air must be drier than the soil; it must be capable of producing evaporation so that the functions of transpiration—that is, that the transport through the vessels of the plants of water from the soil into the air—may be easily effected. This is difficult to ensure in winter if the atmosphere is charged with damp. It is better to let the plant suffer from the contrary excess of drought; it then suffers, but does not rot as it does from damp, but remains intact, and in the first days of

* *Vorlesungen über Pflanzen-Physiologie Von Julius Sachs*, Leipsig, 1887.

spring recoups itself by growing all the more rapidly. When, then, these plants are grown in pots, they can be kept under cover and dry. But it is otherwise with those in the open air, and exposed to all the extremes of climate.

We have proved that such plants as I have named above resist the damp even of the air best when planted in sand or sandy soil. We have also found that those placed on the upper part of the rock or wall survive longer than those close to the soil, to the damp earth, whence is constantly exhaled a prejudicial vapour. It is a good plan to cover them with a glass. It is also very important to keep the sides of the clump on pieces of rock or brick, to raise them from the soil, that the air may circulate between the clump and the earth, to prevent the plant rotting. It should be added, that the more the plant can enjoy the sun's rays, the more it can be exposed to full light, and in a dry place, the better it will be.

I have placed in a bed very near the glass, and in a very dry place, all such species as Eritrichium nanum, all species of Androsace, Artemisia glacialis, spicata, Villarsi, mutellinum, Senecio leucophyllus, Amphoricarpus Neumayeri, Campanula cenisia, Elatines, Blatinoides, Allionii, alpina, Zoyzii, Viola cenisia, &c.

I have kept them dry, and hardly watered them at all during the winter; they looked miserable and suffered from drought, but I kept them alive. Absorption through the roots did not occur, or only very slightly, the foliaceous organs were not loaded with water, and if the damp air did not allow evaporation, it did not, on the other hand, take any hold on the plant, the tissues of which were not saturated with water. So, if rot occurs, it is because there is too much moisture in the inner as well as in the outer tissues, and if evaporation does not occur the plant dies very rapidly. Now, our plants are kept quite dry in winter, only receiving water two or three times from the beginning of November to the end of February; once exposed to the beneficent rain of early spring, they start into life and succeed admirably.

In fact, to enable delicate alpine plants to survive the winter, it is necessary to ensure—1, a good, healthy clump of roots, produced under acclimatisation. 2. Equilibrium, as far as possible, between the damp of the soil and that of the air, so as to promote absorption and transpiration. 3. It is preferable that the plant should suffer from drought rather than from the contrary excess, and in this case watering should be suspended during winter, and the plants should be kept dry. If they can be put under glass, then you must—and this is in every case an advantage—provide them with a sandy or barren soil, and plant them as high up as possible on the rock or wall. *H. Correvon, Jardin Alpin d'Acclimatation, Geneva.*

HYBRID ORCHIDS.

Those of us who have been working amongst Orchids for the past thirty years, cannot but note with feelings of pleasure the great changes that have taken place in what we may call the *personnel* of this family of plants. Week after week new garden varieties of quaint forms and marvellous beauty are being figured in the gardening press, and if we may express wonder along with our admiration, it is that we have been so long in heartily taking up the cross-breeding of these plants. For many years the late Mr. Dominy, in Messrs. Veitch's nursery, had the field almost to himself until Mr. Seden took to it in earnest. Not so long ago, the annual flowering of Cattleya exoniensis × used to be chronicled as an event of the week. Now beautiful new Cattleyas, Lælias, and some bi-generic hybrids, appear in regular sequence, and owing to their numbers, they do not lay hold upon the horticultural mind so much as might be expected.

Those who would become acquainted with the work done in the crossing-breeding since Mr. Dominy's efforts in the Exeter nurseries of Messrs. Veitch in 1853, would do well to consult the *Manual of Orchidaceous Plants*, published by Messrs. J. Veitch & Sons of Chelsea, in which an excellent paper bearing fully upon this subject, headed "Some Results of the Hybridisation of Orchids," will be found. The first step is very easy, i.e., the production of seed-pods. After the pollen-masses have become glued to the stigmatic part of the flower, which is placed at the front and near the top of the column, underneath the anther, fertilisation proceeds rapidly, and in twenty-four hours the flower begins to collapse, and the column to swell. The seed-pods speedily grow to their full size, but months elapse before the seed is ripe. At that period the capsule changes to the colour of maturity, and opens longitudinally, scattering the seed, which is like dust in smallness. Amateurs and gardeners complain of the long time which elapses before seedling plants flower. It does take a long time; in some instances nineteen years have been mentioned as the maximum period of waiting and watching. But those who talk or write in this strain assume that there is no pleasure in watching the development of the seed-pods, the germination of the seedlings, or the yearly progress of the plants to the flowering stage. I quite admit that the flowering of the plants is a red-letter day in the calendar, but the pleasures of anticipation must assuredly be counted, and those who will not begin interesting work of this kind because the end is a long way off, cannot be classed amongst the enthusiasts of Orchid culture. There is one point in which the results of the cross-fertilisation of Orchids differs from that of florists' flowers and some other productions of the garden, inasmuch as one may predict almost to a certainty what the flowers of Orchid seedlings will be like. They are generally the exact intermediate form and colour of the parents; sometimes the characteristics of the pollen-bearer predominating, as in the splendid Cypripedium × James H. Veitch, raised by Messrs. James Veitch & Sons, by crossing C. Curtisi with the pollen of C. Stonei platytænium, the form of the petals not resembling in any respect those of C. Curtisi, but in the form of the flower and the numerous spots it resembles C. Stonei platytænium, and it is like this fine variety in the length of its petals. The colour of C. Curtisi has also, to a considerable extent, become transfused in the spots. Both the dorsal and lower sepals have a resemblance to those of C. Curtisi. Seedling Orchids cost but little to raise, and there is not much expenditure of time. When the capsules ripen, cut them off and lay them on clean white paper to dry. Some of the seed will fall out upon the paper, the rest will become loose in the capsule; all of it can be shaken out, and put upon the surface of the pots or baskets in which other Orchids are growing. There it will in time germinate, and during this process it is very interesting to watch the development of the plants from the smallest of imaginable seeds. The small plants have a tendency to disappear, I fancy, because the roots do not form rapidly at first; considerable progress taking place in the development of the leaves before roots are formed. It takes about twelve months before the seedlings can be said to have an independent existence by the root or roots catching hold of the fibrous peat and sphagnum-moss. Many small seedlings are smothered by the growth of the sphagnum-moss, and by their being overshadowed by the leaves or pseudobulbs of the plants under which the seeds are growing. Very small flower-pots (thimbles) may be used to pot off the small Orchids, and so that not much of a check is given to growth at the first, they are placed closely together in a large flower-pot, pan, or Teak-basket, and partially filled with drainage material, upon which the small pots are placed, some chopped-up live sphagnum-moss being placed in the spaces between them. In twelve months, less or more, the seedlings will require to be re-potted, some of them having increased in size, whilst others have remained stationary. With care in watering and ventilation, and in keeping the young plants free from thrips, which do much injury to them, they soon put forth strong growths; and it depends a great deal on the subsequent treatment as to what time may elapse before the plants flower. The great thing is not to afford too much pot-room, or allow the compost to become sour. *J. Douglas.*

THE SEED TRADE.

(Continued from p. 594.)

The Pea: Its History and Uses.—Although authorities affirm that the true origin of the Pea has been lost in obscurity, certain it is that several kinds were largely grown by the Egyptians, the Greeks, and the Romans. Its introduction into this country is somewhat mysterious, some of our old time writers stating that it came from France, others from Holland, and there is no doubt it found its way to Britain through these countries, becoming acclimatised according to local surroundings.

It was not until the reign of Henry the Eighth that we learn of its cultivation in gardens, and one of the first to give instructions on the point was Tusser, the curious poetical writer, who advises in his calendar of operations for January:—

"Dig garden, stroy Mallow, now may be at ease,
And sette (as a daintie) thy runcival pease."

and for the month of February he adds:—

"Sticke plentie of bowes, among runcival Pease,
To clamber thereon, and branche at their ease."

Gerard, in Queen Elizabeth's time, writes:—"That Pease do growe in pastures and earable fields belonging unto Bishop Hatfielde in Hartfordshire." He describes "the garden and field Peas, the tufted or Scottish Pea, and the Peas without skin in the pods." Coles, in his history of plants, about the same date, says: "The Fulham Pease, which came first out of France, is so called because the grounds about Fulham neere London doe bring them forward soonest." There is no doubt the common white and grey round Peas were cultivated in all directions during the next century, careful growers selecting and improving their stocks as opportunities offered. Nothing, however, appears to have been known of artificial hybridization or cross-breeding; indeed, such a point in association with plants had not been discovered, and we have to reach the latter part of the eighteenth century before we hear of attempts made in crossing the Pea.

These experiments, probably the most important to record in connection with this vegetable, were conducted by Thomas Andrew Knight, the enlightened President of the Horticultural Society in its early days. Following some successful investigations he had made into the fecundation of other plants, it seems that in the season of 1787 he came across a degenerate kind of Pea growing in his garden at Chelsea [?], and he operated upon its blossoms with a grey Pea, with the result that the progeny grew in great luxuriance, and gave pods of such an improved character, that he was quite convinced the influence of the artificial impregnation was effective. Persisting in his endeavours for several years, he was enabled to produce the kinds known as Knight's Tall Green Marrow, and Knight's Dwarf Green Marrow, two varieties that have been the progenitors of all our popular wrinkled marrow-fat Peas, and they are still to be found in many seedsmen's lists. No sooner were these novelties launched upon the world, than numerous so-called new sorts followed in all directions, that great confusion took place in regard to distinctive properties, and about 1845 the Horticultural Society were obliged to undertake a series of trials with the intention, as the report goes, "to reduce the discordant nomenclature of the seedshops to something like order; to enable the gardener to know the quality of the sorts he desires to cultivate, and above all to prevent his buying the same kind under different names." The result of their tests was the means of reducing over one hundred different names to about twenty. From this date, through the introduction and rapid development of improved means of communication a perfect revolution took place in the general conduct of business. Sellers sprang up in all directions, each cataloguing his own special kinds, with the result that once again Peas, in common

with other vegetables, obtained their names in never ending variety, some from imaginary qualities, some from the peculiar mode of culture, others from more fanciful distinctions, hence in 1860 the Fruit and Vegetable Committee of the Royal Horticultural Society felt it necessary to make another extensive trial which brought out a deal of instructive information, as also did their subsequent investigations in 1872.

It must not be inferred from these remarks that there were no introductions of merit put upon the market during the interval, for we have only to name the "British Queen," a fine variety raised by Cormack, the great Lewisham grower, and "Champion of England" which came out through the instrumentality of Fairbeard, an important market-gardener in Camberwell, whilst that superb late marrow, the "Ne Plus Ultra," supposed to be the result of a cross between the two aforesaid varieties, and originally distributed by Brownless of Berkhamsted, is well known to everybody as one of the most reliable standard Peas of the present day.

The work so cleverly initiated by Mr. Knight was taken up by other skilful operators, with the result that we now possess many important varieties greatly in advance of many of the earlier days. Notable in this category we may name Dr. McLean of Colchester, whose introductions have acquired world-wide fame, and several of his Peas still stand in the front rank, these fine improvements were mostly distributed by Mr. C. Turner of Slough. Mr. Thomas Laxton, whose decease at Bedford was chronicled only last year, followed next, taking as a base for his experiments many of Dr. McLean's introductions; his endeavours seem to have been directed chiefly towards gaining in earliness, increase of size, and filling of the pod, and to keeping the height within moderate bounds, and we are sure no one will grudge this skilful hybridiser the honours he deserves in this respect, for it will be many years before some of his productions will go out of cultivation. Mr. Henry Eckford of Wem, an indefatigable novelty raiser of Sweet Pea fame, is also responsible for many choice culinary kinds; but few seem to have taken the public fancy as yet—it is whispered that he has some grand sorts in training which may cause a commotion when ready for the market. In connection with the large-podded Peas, to no one more than Mr. W. Culverwell, the popular gardener at Thorpe Perrow, Bedale, does the exhibiting and market-growing community, owe greater gratitude for the introduction of that fine Pea, Telegraph, which may be fairly called the forerunner of nearly all the giant-podded section now so popular.

The Seed Pea Trade.

How very few seedsmen have any idea of the extent to which the Pea is cultivated. Beyond the fact that they distribute so many bushels each season, their knowledge is nil. In our own country the area put under this crop is enormous. The estimates made by the Government of the total British acreage during the present season are put down at 243,551 acres, or 33,400 more than in 1893; taking the produce of this area to be 4,871,020 bushels, allowing for a return of 20 bushels to the acre, which is under the average, compared with the results of the past five years, we find the quantity of seed required to sow this breadth of land at the rate of 3 bushels per acre, gives a total of 730,653 bushels of seed, which has to be supplied from one source and another; and if we put down the price charged at an all-round average of 12*s.* per bushel, and this is exceedingly low for the season (we are obliged to include the common blue Peas, and also the feeding varieties), we get a grand total of £433,392 vested in this commodity alone as a home-grown crop, and which it must be noted has no affinity to the enormous quantities imported each season.

The following table shows the estimated total produce, the acreage, and the average yield per acre in the United Kingdom for the past five years, and we have also added the acreage out this season, from which it will be gathered that there is a larger proportion than usual, although the preliminary returns just issued may possibly include those crops picked green, which really have no place in our investigations:—

Years.	Bushels.	Acres.	Yield per Acre, in bushels.
1889	5,921,107	225,431	26¼
1890	6,312,910	219,903	28¾
1891	5,777,445	204,631	28¼
1892	5,028,494	194,517	25¾
1893	4,756,447	210,395	22½
1894	.....	243,551	...

The following tables dissect the acreage figures representing this season into counties, from which the seedsman can readily ascertain the quantity of land under this crop in his own district:—

England and Wales.

	Acres.		Acres.		Acres.
Bedford	5372	Leicester	2211	Westmorland	10
Berks	5401	Lincoln	25,300	Wilts	2787
Buckingham	5808	London	53	Worcester	9726
Cambridge	8726	Middlesex	1464	East York	6721
Chester	206	Monmouth	526	North York	2887
Cornwall	60	Norfolk	11,597	West York	4324
Cumberland	18	Northampton	7549		
Derby	323	Northumberland	595	Anglesea	3
Devon	541	Notts	5644	Brecon	66
Dorset	1503	Oxford	7073	Cardigan	338
Durham	403	Rutland	918	Carmarthen	62
Essex	27,279	Salop	3491	Carnarvon	34
Gloucester	5206	Somerset	1856	Denbigh	107
Hants	6866	Stafford	1431	Flint	125
Hereford	3161	Suffolk	26,781	Glamorgan	24
Hertford	4161	Surrey	3678	Merioneth	6
Huntingdon	4589	Sussex	9373	Montgomery	368
Kent	17,420	Warwick	6515	Pembroke	59
Lancaster	601			Radnor	24

Scotland.

	Acres.		Acres.		Acres
Aberdeen	383	Fife	10	Perth	30
Argyll	1	Forfar	46	Renfrew	6
Ayr	4	Haddington	56	Ross	21
Banff	58	Inverness	31	Roxburgh	54
Berwick	102	Kincardine	38	Selkirk	7
Bute	6	Kinross	4	Shetland	—
Caithness	16	Kirkcudbright	2	Stirling	12
Clackmannan	—	Lanark	23	Sutherland	8
Dumbarton	5	Linlithgow	7	Wigtown	3
Dumfries	2	Nairn	23	Isle of Man	80
Edinburgh	92	Orkney	40	Chan. Islands	27
Elgin	21	Peebles	13	(Ireland not given)	

Seedsman.

(To be continued.)

Orchid Notes and Gleanings.

A SINGULAR CATTLEYA.

A flower of a very curious Cattleya has been sent by Messrs. Linden, l'Horticulture Internationale, with the information that the plant which bore it was sent from Venezuela with a quantity of Cattleya Mossiæ. In appearance it is near to C. Warscewiczii (gigas), but the flower which is smaller than in that species has white sepals and petals, and rather narrow plain-edged labellum, with a deep cleft at the apex. The front of the lip is purple, the sides, which fold over the column, blush white, with rose-purple lines. Messrs. Linden say, "Long ago we heard of a white Cattleya with a purple lip in this district. May it not be that we are on the way to import it?" *J. O'B.*

Cattleya × Hardyana Leopold II.

This fine new variety is making a great sensation among Belgian orchidists, and those who have seen it in this country speak highly of it. A faded flower sent by Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, indicates in some degree its beauty when fresh. The sepals and petals are white, and the lip of that intense velvety purplish-crimson and rich yellow so well known in all forms of C. × Hardyana. It is the nearest to "the peerless white gigas," as it is now generally called, Cattleya Warscewiczii Countess of Derby, which is in the possession of T. Statter, Esq., Stand Hall, Whitefield, Manchester, who has exhibited the plant at the Royal Horticultural Society's meetings on two or three occasions this year. *J. O'B.*

Dendrobium Phalænopsis Schroderianum.

A splendid form of this noble Orchid is now in flower with Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr., Mr. Howe); it is of the "delicatum" section, and bears white flowers suffused with light rose-purple, but its fine form and great size are its more remarkable features. The flowers are 3½ inches across, and each petal is 2 inches wide. Mr. Cobb grows the species well, affording them abundance of light and moisture when growing, and a warm atmosphere and even regular temperature, the latter being considered of more importance than great heat. *J. O'B.*

Cattleya Bowringeana.

This species is undoubtedly one of the best autumn-flowering Orchids which we possess. The plant thrives in a mixture of peat and sphagnum-moss, in which broken potsherds are mixed with a liberal hand. It should be planted in shallow baskets, and afforded an abundance of water during the growth. The best place for it is the Cattleya-house. In this house, hung up near to the roof, at the present time I have some plants with twelve flowers on a single growth, a number which I think is above the average. *Herbert May, Markree Castle Gardens, Collooney, Ireland.*

Chondrorhyncha Chestertoni.

This singular species, which seems to flower at intervals during the greater part of the year, is now in bloom in Lord Rothschild's gardens, Tring Park. Its large pale straw-coloured flowers with crimson spots at the base of the curiously-fringed labellum are very attractive, and make a pleasing contrast with the soft-green leaves. Beside it is the true Stenia pallida of similar growth, and with pretty pale yellow flowers with very singular Stanhopea-like fleshy labellum. The plant known as Stenia fimbriata is evidently a Chondrorhyncha, for its creamy-yellow flowers very closely resemble those of Chondrorhyncha Chestertoni. They form a very singular and pretty section of Orchids, but which are unfortunately always rare. *J. O'B.*

REINWARDTIA TETRAGYNA.

For many years Reinwardtia (Linum) trigyna has been an inmate of our stoves and warm-houses, and being a plant of easy culture, flowering late in the year, it was at one time pretty generally cultivated, its floriferous habit and bright yellow flowers making it useful for decorative purposes. The subject of our illustration (fig. 90) flowers at the same season; its flowers, which are larger, are of the same colour, but the number of them in a corymb is greater, and the leaves, as will be observed, differ in size, form, and disposition from those of R. trigyna. A plant, excellently flowered, was shown by Sir Trevor Lawrence at the Royal Horticultural Society's meeting on November 27. (See *Gardeners' Chronicle*, December 1, p. 669.)

GREENHOUSE HARD-WOODED PLANTS.

(Continued from p. 533.)

Pleroma.—The genus Pleroma contains undoubtedly the finest of all the Melastomaceous plants in general cultivation. Most of the species require stove or intermediate-house treatment, but in Pleroma elegans we have an easily-managed greenhouse plant, much neglected at the present day it is true, but none the less extremely handsome when in flower, its season of blooming extending from July to September. It does not flower freely as a small plant, but as a half-specimen or a specimen it is very floriferous, producing a distinct feature amongst greenhouse plants at a season when really good things among hard-wooded plants are none too plentiful. Its large, rich, blue flowers are fully three inches across upon vigorous specimens, the terminal bloom always being a trifle the largest, several lateral ones being also produced in succession. Starting with a young plant of P. elegans, it will be better to pinch the shoots, principally the leaders, for a season or two, so as to secure a dwarfer and better-proportioned plant. If this item of culture be overlooked, a few of the stronger shoots will take the lead, and a leggy plant will be the ultimate

result. By frequent stopping and regulating the shoots, drawing them outwards to prevent overcrowding, it is quite easy to overcome this disposition to increase too rapidly in height. Mr. Ward, a well-known exhibitor, has shown this Pleroma in first-rate condition during July, notably at the Royal Botanic Gardens, Regent's Park. I have myself staged it 4 feet through, and about the same in height, in August and September. When a plant grows too tall, it may be pruned hard back to the base after being allowed to become dusty-dry at the root so as to guard against excessive bleeding. The best time to do this is after flowering. I took a plant in hand once that was already so pruned. In order to encourage it to break afresh and as kindly as possible, I put it in a pit with Pine suckers until the spring following. I had thus a good base upon which to build up the specimen again. During the ensuing summer that plant was kept out-of-doors in the full sunshine; thus the growth was well matured, and the plant prepared to stand through the following winter in the greenhouse. This species, although a native of the Organ Mountains in Brazil, is much safer on the whole in a greenhouse than even in what is usually termed a temperate-house. A rather damp position suits it best; if too dry, there is the risk of an attack of thrips or spider. It should also be kept well out of the influence of cold draughts, keen cutting winds, &c., otherwise the edges of the leaves will turn brown. It is not a plant that needs in any degree to be overpotted, its roots are fine and fibrous. By guarding against this it is always possible to water more freely during the summer and with greater safety, for at that season it enjoys a good supply, the syringe being used also in hot weather. Fibrous peat such as will suit Ericas is the best soil to select, with a liberal use of silver sand; should the peat be rather more soft and spongy, it may be modified by the use of a little yellow loam. Firm potting is most desirable, and liberal drainage should be provided. Cuttings of the half-ripened wood will strike kindly under bell-glasses in an intermediate temperature. Whilst quite small and comparatively tender, a little warmth over and above that of the average greenhouse would be most desirable. At no period would I advise manurial applications to be indulged in. If anything be used as a stimulant, nothing will be safer than a weak solution of soot-water.

P. macrantha (syn. Lasiandra macrantha), is not strictly speaking a cool greenhouse plant. It will thrive well in a warm greenhouse or in an intermediate-house, between which there is not much difference. It delights in a moist atmosphere; with this I was once particularly struck by seeing how well it was thriving in one of the larger ferneries at Messrs. Backhouse & Sons, York, where the Ferns were simply luxuriating. At Kew I noted it only recently in the large show-house, with less moisture as a matter of course, yet it was thriving in the best possible manner. In both instances the plants were trained up the roofs, this being by far the better system to adopt, for in spite of stopping, the growths will extend upwards. Flowering as it does during October and November, this species is a decided acquisition. If a suitable position can be given it, I would advise that it be planted out, but not in too much soil. P. macrantha floribunda is a dwarfer form of the species with larger flowers, and like it, is a handsome plant, being more profuse in blooming. In both instances the colour is a deep violet or purplish-blue. Soil, &c., as for Pleroma elegans.



Fig. 90.—Reinwardtia tetragyna: greenhouse winter-flowering shrub. Flowers yellow. (see p. 720.)

Monachætum.

This genus is also of the Melastomaceæ, but a cool greenhouse is scarcely the place for them to thrive well. Where the last-named species of Pleroma can be grown, there these will thrive, and under the treatment in other respects as given for P. elegans. I used to grow M. ensiferum, which is about the best species for cultivation, in a stove kept at a moderate

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temperature. It is very profuse in flowering during the late autumn and winter. M. Lemonianum is a form of the preceding, flowering somewhat later or towards the spring; in colour it is a deep rosy-pink shaded violet, the shading not being so discernible in M. ensiferum. The species of this genus are of much dwarfer and compact habit than the Pleroma. *James Hudson.*

(To be continued.)

NURSERY NOTES.

MR. G. MAY'S NURSERY.

Eucharis grandiflora at Teddington.—As a flower for market purposes, few can boast of a more widespread popularity than the Eucharis. Thus it is that their cultivation occupies a very large share of attention in the nurseries of Mr. George May, at Upper Teddington, where may be seen tens of thousands of plants in the finest possible health, and the greatest luxuriance. At the present time and for some weeks past, a considerable portion of this gigantic stock has been yielding its harvest of blossoms. At the time of our visit (in the early days of November), the stock in flower was in some three spacious span-roofed houses, each about 80 feet long and 20 feet wide. One of these was on the wane, yet still carrying quantities of flowers; but the forest of flower-stems bore ample evidence of the wealth of flowers they had borne. A second house was just expanding its earliest blooms; while a third, somewhat later, had the scapes nearly fully grown. Apart from these, there were other plants occupying a range of glass upwards of 300 feet in length, in three divisions, with successional batches in three stages; the latest of these had the spikes just emerging above the soil, others were a few inches high, and another batch had the scapes well above the foliage. Mr. May's chief aim has been to provide a continuous daily supply all the year round; and his efforts have been crowned with success. I spent some little time in an endeavour to estimate the number of spikes in each house. As nearly as could be determined, this was about 3500, or a total of 10,500 spikes in the three houses now in bearing. Each spike bears from five to seven flowers, and at the time of my visit some 270 dozen blooms were already packed for market, a number that could easily have been doubled had the necessity arisen. The gathering and packing, being of daily occurrence, is done systematically. It is worthy of note that this enormous stock has been worked up through a series of years, and from quite a small beginning. The stock throughout is typical of high-class culture. Individually the flowers are large, and of very firm texture, a property of no small importance in the market. Too frequently the flowers as seen are thin and flimsy, being devoid of substance, while the segments have a tendency to cup. These deficiencies are no doubt largely due to cultural errors or unhealthy stocks, and not unfrequently are the result of excessively high temperatures.

The system of culture adopted at Upper Teddington is simple enough. Abundance of hot-water piping is present in each house, and this is kept at a steady uniform temperature. The very large pot system finds no favour; the bulk of this giant stock being grown in 8-inch and 9-inch pots, with a few in somewhat larger size. The soil used is principally loam, and this rather rough. Indeed, fine soil in the culture of Eucharis should be avoided, as it lies close, and is apt to become sodden quickly. Ample drainage is an absolute necessity. Great care should always be exercised with the watering-pot, as indiscreet watering is responsible for much mischief; in certain stages, in fact, very little water is needed at the root; while in a general way, atmospheric moisture in the growing season is abundantly maintained. Even overhead syringing has its drawbacks, on account of the channelled nature of the leaf and stalk, the water by this means being easily and quickly conveyed to the bulb. The greater portion of the plants are grown on open wooden stages, as the heat uniformly distributed through the house obtains ready access to the plants from below. In the culture of this plant alone some dozen or more large houses are devoted, thus making the Eucharis one of the features of the establishment. With justifiable pride, Mr. May declares this grand stock to be absolutely free from insect pests, and certainly their health and general appearance warrant the assertion. Even in this gigantic stock there is little departure from the type in the flower, but in one or two cases the segments, as well as the fructifying organs appear in duplicate. *J.*

Japanese Plants at Coombe Wood Nurseries.

On a plot of ground surrounded by hedges of moderate height, with an aspect and somewhat rapid slope towards the south-east, was planted soon after their introduction by John Gould Veitch from Japan, quite a collection of deciduous trees and shrubs. After the years that have elapsed since their introduction, several of these have reached quite tree-like size, having survived in safety the very varied winters and springs to which this country is subject, thus affording sufficient indication of their hardihood. The following are of particular interest, and should be noted for their distinctive features:—

Clerodendron trichotomum has possibly been looked upon with some suspicion as to its hardihood by reason of its generic name. The plant in question is now of large dimensions, being of quite tree-like habit. Last year with the additional advantage of the hot weather late in the summer, it produced a plentiful crop of berries which in October were an extra attraction. This plant is some 12 feet or more in height and as much in width, flowering every year in September very profusely. It is of a vigorous constitution and free growth, forming a fitting companion plant to, although of dwarfer habit than Catalpa syringæflora, with foliage of similar shape, but smaller. Some quarters of it in the open nursery are thriving unusually well, having this season made strong growths. The flowers are white, with a purplish calyx, having the additional advantage of a delightful fragrance; the berries are blue, of a similar shade to that of the flowers of Plumbago capensis—it produces berries in most seasons. It was originally introduced in 1800, but until brought into greater prominence at Coombe Wood, it does not appear to have attracted much attention. It may be safely relied on beyond a doubt in all but the most exposed and coldest of situations.

Cæsalpinia japonica, at the first glance, somewhat resembles an Acacia, but it is on closer inspection found to be quite distinct. It has large bi-pinnate leaves, light green in colour, being very elegant, and of most pleasing appearance. At Coombe Wood it is planted in the open ground, and has escaped injury during severe winters. Its flowers are yellow, being produced in long racemes. When inspecting it last autumn the idea suggested itself that it would prove an excellent wall plant; with this object in view I planted it last autumn, and the growth this year has been most satisfactory. As a wall plant it is most distinct. The wood is densely armed with sharp prickles, not unlike a Bramble, and quite as formidable.

Styrax japonica.—This shrub has flowered most profusely during the past summer, its fragrant white blossoms making it a decided acquisition during May. It is of erect and sturdy growth, not disposed to make long sappy shoots. By reason of its compact habit, it is a shrub that will need scarcely any pruning. At the present time, the large plant of it is well covered with berries, although several have been removed for the sake of the seed. The foliage is comparatively small, and of a deep green colour. The effect at the present time when standing under the branches is remarkably good. I see no reason why it should not force well.

Lindera cæsia.—Just at the time of inspection this plant (or plants) was in its full autumnal tint, the foliage being of a bright golden-yellow, and exceedingly effective. The growth is erect, and the leaves about the size and form of those of Rhus Cotinus, the habit of the plant being very compact. For colour-effect at this season, it should prove of essential service. It is known popularly as the Silk-tree.

Carpinus cordata.—This form of the Hornbeam is particularly attractive by reason of its Hop-like clusters of fruit or seeds; these are about the size of fully-developed Hops, and singularly like them in appearance. The growth is hard and wiry-looking.

Clethra canescens.—This plant promises to be a welcome addition to its class. It is of dwarf growth, with linear foliage and long drooping spikes of white flowers. As a plant, it should be in the open ground what C. arborea is in the greenhouse, a most desirable acquisition.

Acer palmatum sanguineum.—This form of the Japanese Maple was at the time of my visit in the height of its brilliant tints, which, for intensity of colouring, could scarcely be exceeded. I noted some fine masses of it, which are presumably old propagating stools. These are planted just outside of the hedges alluded to upon a sloping bank, being thus an apt illustration of planting that might be advantageously adopted.

Taxodium distichum (dwarf form).—This plant appears to be quite the miniature of the deciduous Cypress. As a dwarf and compact-growing variety, this should eventually prove to be of signal service as an ornamental Conifer.

In this interesting collection there are several other things which might be noticed. The growth of those already noted would, no doubt, have been in some instances in excess of what it is, as propagation must in a measure interfere with a free development. *H. G.*

St. Bridget Anemones at the Blackpill Nurseries, Swansea.

I was very much struck, when calling at these well-known nurseries on November 28, to find a large number of these useful plants in full bloom, reminding me of May and June rather than the end of last month. Considering the great variety of colours, and the ease with which they can be grown, it is a matter of surprise to find these flowers seldom met with in private gardens, and especially where cut flowers are in much request, the blooms being invaluable when removed from the plants. I noticed a fine breadth of ground planted with seedling Anemones of this variety some 30 yards long by 12 wide, and containing many thousands of plants which were raised from seed sown about the beginning of July this year. Besides these, there are two long borders of 400 feet by 6 feet, entirely filled with fine healthy plants, which when in full bloom next season will be worth seeing. *R. Milner, Penrice Castle.*

A TRAVELLER'S NOTES.

(*Concluded from p.* 659.)

Wellington, N.Z., *July* 11, 1893.—For twenty-five years Mr. T. Mason, of Taita, Wellington, has been forming a garden of more than ordinary interest; because, what is there growing, shows how many fine plants an English climate just misses. A bed of light sandy loam, of a depth varying from 8 to 11 feet, rests on gravel, affording drainage to the ample rainfall. It may be safely observed that almost every hardy plant known to English gardeners will succeed, and succeed well, in such a spot under such conditions; in addition to which, the mildness of the winter permits many known to us as too tender for the open ground to flourish and make fine specimens.

The Tasmanian Blue Gum (Eucalyptus globulus) assumes the proportions of a forest tree, as does the Western Australian Jarrah (E. marginata). To native trees and shrubs Mr. Mason has not devoted so much attention; possibly because the horticultural value of the major part of the New Zealand flora is distanced by that of other countries. The collection of Abies is large, and the specimens, almost without exception, literally perfect. Few are more than 25 feet, but all are clothed to the ground, massive pyramids—massive, as the rate of growth has evidently been rather slow than otherwise.

Picea orientalis, Abies Pindrow, A. nobilis, A. pectinata, A. Nordmanniana (35 feet, not a branch visible so dense is the foliage), A. balsamea, A.

Mertensiana (28 feet, a most elegant species), Picea Morinda (a conical mass of drooping lateral branchlets and stiff, upright young shoots), A. Pinsapo, A. Webbiana, A. amabilis, Picea polita (15 feet), A. Douglasii, A. lasiocarpa (3 feet), A. Veitchii (2 feet), the two last named but just planted, and A. bracteata particularly fine, are amongst those which, having in the earliest planting days been allotted ample room, with the sole aim of making good single specimens, have repaid the planter in a manner I may certainly venture to call unusual.

Other Conifers unknown in anything like good condition in less favoured spots, here assume considerable proportions. Callitris and Athrotaxis form handsome trees. Saxegothæa conspicua is a failure—why, Mr. Mason is unable to say; but Fitzroya patagonica, represented by a strong young bush some 14 feet in height, spreads its graceful shoots in profusion. Various species of Cupressus are met with, and a specimen of C. torulosa, 25 feet in height, sweeps the ground with its foliage, whilst a stem of Libocedrus decurrens exceeds a diameter of 18 inches; and Ginkgo biloba, now only naked twigs, bids fair to assume the limit of its greatest known size. Araucaria Cookei, brasiliensis, and imbricata are yet young, little more than 15 to 20 feet in height; they are in excellent condition. Retinospora ericoides assumes extraordinary proportions, one specimen being nearly 10 feet. R. squarrosa is in no way behind it. R. plumosa aurea and Cupressus Lawsoniana lutea, the latter 14 feet in height, are highly coloured; for the middle of winter surprisingly so. Many hundreds of Camellias, certainly preferable to Laurels for ordinary planting, make good bushes; and the collection of Rhododendrons has received especial attention. With the exception of the Javanese, most known kinds can be grown. R. Dalhousiæ, Falconeri, Thompsoni, arborea, Jenkinsoni, cinnabarinum, Falconeri, argenteum thrive and flower well, with the exception of the last named, which is somewhat shy. Tall Cyatheas, medullaris and dealbata, planted for the most part in the rear of the borders, spread their immense fronds over wide circuits, occupied beneath by Violets, Narcissi, &c.

Anona triloba flowers. Carpenteria californica is a new shrub, Magnolia stellata is a mass of bud. Magnolia acuminata is shy here as elsewhere—in fact, it has never yet flowered here; it is represented by two perfect specimens, 20 to 25 feet in height, and affording a contrast to M. tripetala, freer in this respect.

Liriodendron tulipiferum, 35 feet, Paulownia imperialis, each shoot supporting a tall panicle in bud. Acacia alata, 35 feet high, is, in Mr. Mason's opinion, the best of the genus. Sterculia acerifolia, the famous New South Wales Flame Tree, and Cedrela australis are amongst the acclimatised trees.

The wide range and varied conditions under which the above-named plants are found in Nature, clearly point to there being many less favoured spots for the formation of a general garden than Wellington, N.Z. Likewise, it is not a question of the mere existence of so many species, for almost without exception all are in excellent condition, for Mr. Mason does away with those that do not please the eye, claiming to be purely and simply a gardener, and obtains no gratification from the mere possession of a species. Mr. Macnab owns the late Mr. Ludlam's famous garden, now somewhat neglected. Sir James Hector has six gullies on his private estate, clothed with hundreds of Tree Ferns, and native vegetation generally, in which pheasants and quail make their home, and mention must be made of the public garden, though it is of little interest. *James H. Veitch.*

WOOD FOR STREET-PAVING.

It has been proved to demonstration that wood grown in the forests of the antipodes can be placed on the market here at prices remunerative to the lumberman and speculative purchaser in London—this, too, in face of the fact that large supplies from much nearer neighbours of ours are continually being put up to auction. This is not to be wondered at when we consider the enormous fields from whence supplies can be drawn, the quality of the timber and the cost of freight. No man has a better knowledge of the value of Tasmanian timber for street-paving than the present Premier of the colony—Sir C. Bradden, K.C.M.G., for a long period Agent-General in London for Tasmania—this was made evident to the writer in the course of interviews two or three years since. Casting about for further information on the subject of this paragraph, we consulted the present Agent-General, and we now subjoin the pith of the information received.

The bulk of the experimental shipment of Tasmanian Blue Gum and stringy barkwood for paving purposes, per the fast steamer to which we called attention some months since, sold for five guineas per load of 50 cubic feet, the buyer paying all landing charges and the cost of cutting the timber into blocks, this being equal to about £9 15*s.* per 1000 blocks, supposing they had to be delivered cut up into blocks. A further shipment of 680,000 feet has been made in the colony, and has already started for London. These have been sold forward at the price above noted. Another similar shipment will be made early in February, but this has not yet been sold. The order of shipments of further supplies will depend on the state of the market. The saw-mills in the colony have formed an association, and have appointed Messrs. Shadbolt & Co., of 11, Billiter Square, E.C., their agents.

The reader may doubtless remember some "Wood Notes" which appeared in these pages some two years' since, in which it was stated that the exports from Tasmania to this country, to order, amounted to some 70*s.* worth—the exports from this country to Natal—there have been no exports thence so far as we can learn—having been valued at between £2 and £3. As for the supply of timber other than that for cutting into blocks, we have nothing to report—yet; stocks of various vessels are generally large enough to tide over three or four years: possibly merchants are, or soon will be, taking into account what can be had at the antipodes.

BERLIN

(From Our Berlin Correspondent.)

THE JAPANESE MELON.

In addition to the climbing Japanese Cucumber, which is highly esteemed here, the Japanese Melon certainly will be in a short time equally praised. The oblong Pear-shaped fruit is about 16 inches long, and weighs 2 kilogrammes, ripens very early, and has a delightful scent. The shell is alabaster-white, and becomes, when ripe, pale yellow. The taste is soft, the pulp spongy. One plant produces about ten fruits. When planted out in the open air at the beginning of June, the first young fruits appeared in the middle of July, which ripened at the beginning of September. Like the Japanese Climbing Cucumber, this Melon is not attacked by noxious insects, and very resistent against bad weather.

Begonia hybrida Pioneer.

The tuberous Begonias are very much liked in Berlin, but they want perfume. The Begonia Pioneer (Begonia Baumannii × gigantea), is the first sweet-smelling hybrid, with large, well-shaped, crimson flowers, of 8 to 10 centimètres diameter. The perfume is like that of a Tea Rose. The large fleshy leaves are oblique cordate. This novelty also withstands the weather, rain, cold, and wind, without injury.

Streptocarpus caulescens, Vatke.

This African species is worth growing in greater quantities in our stoves. It grows rapidly like an Impatiens, and flowers very freely. The flowers are about ½ inch long, bluish-red to violet. It flowers in November.

Mushrooms.

A new mode of Mushrooms culture was shown at the last meeting of the Verein für Beförderung des Gartenbaues at Berlin, November 29. Old cement casks are filled one-third with half-rotted horse-dung, and in this dung is laid the spawn of the Agaric. The casks are laid on their sides in rows one above the other, the spaces between them being filled in with fresh horse-dung, which affords regular warmth, and is afterwards employed for filling the casks. The casks are laid in a cellar, and furnish after a short time a good and regular crop. This mode of growth may be recommended for its cheapness. If one or another cask becomes by any cause unproductive, it may easily be withdrawn. The grower said that the warmth produced by the horse-dung is far better for the growth of the fungus than any artificial warmth, and the dung, after its warmth is spent, is used as a substratum in the casks. Cement casks are cheap, being sold here at 3*d.* each. The casks are covered over with the horse-dung after spawning and soiling.

Cattleya labiata autumnalis alba.*

This fine variety has pure white flowers, with the exception of the labellum, which has two large purple spots on the apex, and is finely rose-coloured and striated below. It was found among a large lot of imported specimens by Mr. Keyssner, a nurseryman at Zossen, who showed it, together with other specimens of Cattleya labiata vera at the meeting of the Verein für Beförderung des Gartenbaues, on November 29. Mr. Keyssner remarked that the colour of the true labiata autumnalis changes by forcing the flowers. The labella become paler the more they are forced, whilst those flowers which open in a cooler temperature have a deeper colour. This species flowers very readily, and is the best for market purposes. An inflorescence with four flowers brings the grower 6*s.*, each flower being sold for 1*s.* 6*d.* The species flowers from the beginning of October till the end of December.

Cut Flowers.

For the funeral of President Carnot one Belgian nurseryman sold in Paris sixty-eight thousand francs worth of the flowers of Odontoglossum crispum Alexandræ.

Chrysanthemums.

Amongst the seedlings of Chrysanthemums raised by Mr. Weber at Spindlersfeld, near Berlin, from seed imported directly from Japan by the Hofmarschall von Saint Paul Illaire, a very fine large-flowering variety was named Tangarita. The flowers are pure white, the single rays acute; the form is a very distinct one.

At the last meeting of the Verein zür Beförderung des Gartenbaues at Berlin, November 29, Mr. F. Weber, head gardener to Mr. Spindler, exhibited a very fine collection of Chrysanthemums. Amongst others, I remarked the following sorts: Léon Fraché (Japanese), flowers enormous, large violet-rose, white centre; Ada Spaulding (Japanese incurved), pale rose-coloured, in the centre lighter; Robert Owen (Japanese incurved), golden yellow, enormous flower; Duke of York (Japanese incurved), very large flower, cherry-red, silvery on the back; Geheimrath Professor Dr. Wittmack (Japanese incurved), violet rose-coloured, silvery on the back, similar to Mr. Freeman; George W. Childs (Japanese), very large flower of a brilliant dark-red colour; G. C. Schwabe (Japanese), gigantic red flower, yellow on the back, similar to Edwin Molyneux, but finer; Mdlle. Marie Hoste (Japanese), very large pure white flower, with broad rays; Mrs. A. A. Neve (Japanese), white, with a rose hue; Miss Mary Weigman (Japanese), canary yellow, very large; Beauty of Exmouth (Japanese), pure white; Waban (Japanese), violet-rose coloured, enormous flowers with broad, curled rays; Charles Blick (Japanese), enormous bright yellow flowers. Of an high interest were the seedlings, the seeds of which were imported by the Hofmarschall von Saint Paul Illaire direct from Japan, as above mentioned. Most of them are not yet named, only one, Tangarita, a pure white, very large, high flowers, with broad, acute rays, was named. Amongst the others are to be remarked No. VI., 12, and a pure white flower with broad, somewhat curled, horizontal distant rays. This flower may be the largest one known. VI., 98, a very large nankeen-yellow flower with tubular rays, VI. 1, a large-flowered golden-yellow form of exactly the habit of Shasta. X. 8, a pale rose-coloured large-flowered form of the form of Mr. Brunet. It is worth remarking that whilst in former years Mr. Weber did not equal the English flowers which were

* *Cattleya labiata autumnalis alba.* — Sepalis petalisqu albis; labello albo in superiore parte rubro bimaculato, inte riore parte roseo striato. *Udo Dammer.*

exhibited here on several occasions by Messrs. Reid and Bornemann, especially as to the number of rays, this year the flowers could well compete with the best English-grown flowers. This result was obtained by manuring the plants as early as possible, and by a right selection of the flower-buds. Each plant had at least six flowers, but there were also a good deal with much more. *U. D.*

THE HERBACEOUS BORDER.

ERYNGIUM PLANUM.

THIS plant should be in every collection of hardy herbaceous perennials, however small. It is a plant easily grown from seed sown in February, and the seedlings cultivated in gentle heat, they are strong enough to prick out into a bed where they may stay till September, and then be transplanted to the border. A rich sandy loam, deeply dug, suits the requirements of this plant. The plant is best planted when eight months old, it being a difficult one to remove when older, on account of the difficulty of dealing with the long tap-root. We have other varieties of Eryngium, viz., E. giganteum, alpinum, Oliverianum, amethystinum, and several more; but I am sure that this one will, when more generally known, become a favourite. Plant about six plants in a clump, in that way they are very showy.

TRITOMA (KNIPHOFIA) CORALLINA

This is a dwarf variety, very suitable for planting in a pocket on the rockery, or near to the margin of a herbaceous border. Tritoma Macowani is not at all a free grower with us. *H. May, Markree Gardens, Sligo.*

CULTIVATION OF PERFUME-YIELDING FLOWERS IN INDIA.

THE subject of the cultivation of flowers in India for the purpose of supplying material for the perfume industry has recently attracted the attention of the *Madras Mail*. It is pointed out that flower-farming might be widely extended over India, and might be made a profitable cottage industry. If a perfume factory were established in one of the hill stations, such as Bangalore, Coonoor, or Octacamund, a large number of flowers that are now simply wasted would be utilised and turned to valuable account. The well-known perfume-yielding plants that are cultivated so extensively in the South of France, such as the Lavender, Tuberose, Cassie, Jessamine, Heliotrope, Sweet Flag, &c., grow freely in Southern India, while the Rose culture, which is now carried on to some extent in the district of Ghazepore, might be considerably extended. The well-known Ylang-ylang (Cananga odorata), the oil of which is such a favourite with European perfumers, and which fetches a high price, grows all over Southern India, not only on the hills but in Madras, and in the plains, so that a systematic culture only is required to develop an extensive Indian trade. What is here said in reference to India, is applicable also to many other British possessions.

In connection with the subject of the growth of similar plants in France and Spain, the following interesting facts were recently given by a member of one of the largest firms of essential-oil distillers at Grasse, in the *Chemist and Druggist*. He states that the industry is still extending very largely in the South of France; within the last ten years the area under this culture has trebled, in spite of the fact that in Algeria, in Spain, and in some other parts, the industry has also made great progress. The Pelargonium culture, however, which was the chief occupation of the Algerian distillers, is becoming less and less important in that colony every year, chiefly because the production in the Island of Réunion has taken away many customers from Algeria, but Réunion in its turn is beginning to abandon the culture, as it has ceased to pay. The French Geranium-oil, however, is far and away the best, and so far as really high-class trade is concerned neither Algeria nor Réunion can compete. In Spain the cultivation of essential oil plants has become an industry of some importance recently. A large number of fragrant oil-yielding herbs grow wild on the plateau of Southern Spain, those bleak regions which Doré drew so well, but their oil is not available, as the districts where they grow are almost uninhabited, and it would not pay to carry portable stills to the distilling-grounds as is done in the French Alps; but even in France, quite a third part of the wild Lavender and Thyme are never distilled because they grow on hills that are almost inaccessible. Pennyroyal, Peppermint, Lavender, and Geranium, however, have been cultivated to some extent in the south and east of Spain lately. Spanish Geranium-oil ranks next to French, which is largely used by soap-makers, usually mixed with patchouly and Clove-oil, to bring out the odour. The cultivation of Wormwood, of which the oil is used in absinthe making, is declining very considerably. Formerly Wormwood-oil was in great demand in Holland and Germany, where it was used as an ingredient in some popular bitters; but of late the demand has declined.

THE BULB GARDEN.

WATSONIA O'BRIENII.

I WAS much interested in the contents of C. G. van Tubergen, Junior's, letter at p. 701, concerning the flowering of the above plant, because I have more than once urged the necessity for according many plants a treatment similar to that mentioned by him, in order to bring them back to a flowering state. There are many plants of a like nature to those named in the letter referred to, that we only flower either indifferently, or not at all. Both the experiment and the result in the case of the Watsonia are so absolute, that it can only be regarded in the future as a standard for reference in the case of species and forms not amenable to the usual treatment. Ornithogalum arabicum is one of those which requires year by year a thorough roasting in full sun; while some of the Cyclobothras, wintered over the hotwater-pipes in sand, have started growth, and flowered more freely than others merely secured from frost. Twenty years ago nearly, I first flowered Hyacinthus candicans, after a thorough rest, near a return-pipe in the greenhouse. In this instance, however, the treatment is not essential. Anemone fulgens, again, given two or three seasons in some clay soils will hardly grow at all, but if lifted and baked in full sun and replanted in the same garden, will flower well. It is perfect and absolute rest which appears to be necessary, and this, if possible, in full sun. *J.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

SOILS FOR WINTER POTTING.—Before hard frosts occur, the various soils, manure, &c., required in potting during the late months of winter should be placed under cover where frost does not penetrate, or where they may be protected from it with litter. Turfy loam should also be dug and carted-in, stacking it without delay in stacks with nearly upright sides and a sloping top. Loam one year old is in good condition for potting any kind of plant, but if kept for more than one year, much of its fibre becomes decayed, which is a loss to potted plants. In getting soil from a stack, the outside should be taken first if the heaps are large, this being the most sweetened by exposure, and it has also decayed the quickest. Charcoal should be separated into fine and coarse by sifting, each sort coming in for a different use. Spent Mushroom-bed soil is a useful substance, and a good quantity should be got in. The other items will consist of sifted leaf-mould, clean crocks and pots. The boxes used for cuttings and rooted plants may need repairing, and these should be looked to on wet days. Labels, both hanging and others; pegs for bedding plants and for layering purposes, stakes and flower-sticks, are among the numerous requirements which should be got in readiness at this season. Mixtures of soils for seed-sowing purposes should be prepared, making use in these of the potting-bench refuse soil, which if finely sifted, is by itself a useful material for covering seeds in the open and in boxes, &c.

PROPAGATING.—Cuttings of Aucubas, Skimmias, and other evergreens taken off in September and placed in frames with bottom heat should be examined, and if found to be well rooted, they should be taken out and placed in cold frames on ashes, keeping the lights closed for a time, and protecting from frost, and doing what is possible in gradually hardening them off. Cuttings of Hollies may be taken now, using short ripe shoots with a heel of the old wood attached.

TREE PÆONIES (PÆONIA ARBOREA).—These varieties are not so lasting in flower or so useful for cutting, and also not quite so hardy as the herbaceous varieties, and to succeed with them they must have a good deep loamy soil, or they will become poor stunted objects. They require protection in the spring to keep the young early-flowering shoots from being disfigured and injured by late spring frosts; and rough winds and rain very often disfigure these. It is best, therefore, to plant them where they will be screened from the sun till mid-day. Pæonia Moutan and P. M. papaveracea are often the only varieties of these plants met with in gardens, and where others have been worked on them the stock has been left to outgrow the graft instead of the graft receiving all the nourishment from the stronger-growing variety. Plants may often be obtained of these by removing the young suckers from old-established plants. There are now about a hundred varieties of these in cultivation.

GENERAL WORK.—Pick over and clean all plants, pricking up the surface of the soil, reversing the position of plants if they are standing in lean-to houses, keeping them as close to the roof-glass as is safe. If Coleuses are growing fast, the tops may be nipped off and utilised as cuttings. Look to all bulbs, Dahlia tubers, Lobelia cardinalis, Begonias, Gladiolus, also Fuchsias, Cannas in store, making sure that frost cannot reach them. Magnolias, Myrtles, Banksia Roses, and all tender shrubs should have the coverings fixed up ready for dropping down over them when the necessity occurs for so doing.

THE KITCHEN GARDEN.

By ARTHUR COOMBES, *Gardener, Himley Hall, Dudley.*

FRENCH BEANS.—Continue to sow seeds in quantity in accordance with the demand and the conveniences of cultivation. Mould up the stems of those which have formed a pair of true leaves, and afford them a good watering before so doing. Liquid manure may be afforded plants when the soil is permeated with roots, including that which has been added in moulding up the stems. Keep the forcing pit moist in degree accordingly as the weather is bright or dull, and in well-lighted houses a free syringing may be applied on sunny days; but, under the opposite conditions of weather, a slight dewing-over in the early afternoon in addition to the usual damping of the floors will suffice for the needs of the plants. The pit or house should be covered at night with mats or Frigi Domo, as a means of saving fuel, and preventing the condensation of moisture on the glass and the resulting aridity.

WATER-CRESS.—The beds of water-cress should be cleared of weeds, scum, and floating rubbish, which choke growth and befoul the water. If the Cress is growing in a bed which can be submerged, it should be done on the approach of frost as a means of saving the crop for present and early use. As far as possible, the beds should be situated in a warm, sheltered position, and in such a spot running water will not readily freeze except in very severe weather. The submerged Cress may always be gathered by slightly raising the penstock, so as to reduce the level of the water. Where this method is impracticable, roots may be placed in shallow pans or saucers, partly filled with some fine mould, and coated with clean gravel, the saucers being then filled to the brim with water, and placed in a vinery or Peach-house now being started. The water in the saucers should be renewed every day. If only pans of soil and no water be employed, frequent waterings and syringings are necessary. In this manner sufficient Cress may be grown to tide over the winter, or till such time as growth begins on out-of-door plants.

TARRAGON AND MINT.—Roots should now be lifted and placed in boxes or pots (if large clumps of the former, 12-inch flower-pots will be most suitable), with a little good soil made firm about them, and placed in a forcing-house, removing them when the tops are sufficiently long for use, to cooler quarters, say, of 50° to 55°. If the soil used in the potting was moist, no water will be needed before the plants begin to grow.

CHERVIL.—This should also be lifted in clumps and placed on the border of a Peach-house or in a cool frame.

THE SPROUTING OF POTATOS.—The present is a desirable season for placing the tubers of early varieties which will be grown on hotbeds on end with the eyes uppermost to sprout. These varieties are even now beginning to grow, especially Sharpe's Victor. The most suitable receptacles for sprouting tubers are shallow trays or boxes, of a size which may be readily moved from place to place by one person. In these boxes place the tubers close together in one layer; and if no boxes can be had, stand the tubers on the floor of some cool well-lighted room to which frost has no access.

LATE CELERY, which continues to make growth, should have some more soil put round the heads, if it be not sufficiently moulded up already.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

ODONTOGLOSSUM CITROSMUM.—Most of the plants of the above-named species will by this time have completed their growth. To bloom this plant satisfactorily, it requires a long and decided rest, so that each pseudobulb can become fully matured, and a gradually diminishing quantity of water from the present time, which in a few weeks may be quite discontinued. Some cultivators do not like the pseudobulbs to shrivel; but shrivelling does not affect the well-being or flowering capacity of the plants in the least. When the flower-spike is perceived in the centre of the new growth, the plants should be immersed in tepid rain-water, allowing them to remain in it till the compost is saturated. It is wonderful to observe how quickly the pseudobulbs plump up again to their normal condition after this immersion. I attribute our successful flowering of this species to the severe drying process to which the plants are subjected during winter, and at Burford, under our methods of cultivation, the smallest pseudobulbs rarely fail to produce a flower-spike. The best position for O. citrosmum when at rest is near the roof of the Mexican-house.

FOG AND DULL WEATHER AND THEIR EFFECTS.—The recent weather has been unfavourable to Orchids, owing to lack of sunshine, and especially to those now forming new growths. Fogs have also caused the destruction of a great number of flowers, particularly those of deciduous Calanthes, Lælia anceps, Dendrobium Phalænopsis, Angræcum sesquipedale, Phalænopsis Schilleriana, and P. amabilis; but with the last-named plants, the loss may be remedied to some extent by allowing the spikes to remain on the plants till they have attained their proper length; then by pinching off the top of each, lateral shoots will branch out from the original flower-spike, growing quickly, and producing a quantity of flowers in the early spring months. Probably this method would, unless the plants were strong and vigorous, have an exhausting effect upon them, but this may to some extent be counteracted by cutting off each spike immediately the terminal bud has opened.

DAMPING DOWN.—A common mistake made by tyros in Orchid cultivation is in damping down the houses too often whilst the external air is moist. The paths and stages of the East Indian division should be well syringed each morning as soon as the thermometer indicates the required temperature, and again between 2 and 3 P.M., and if much artificial heat be required to keep up the temperature the paths may be sprinkled again in the evening. An important matter to remember when damping down in the afternoon is to thoroughly moisten the ground immediately underneath the hotwater-pipes so as to counteract the drying effect of these on the air during the night. In some instances it is almost impossible to avoid aridity owing to the construction of the houses, or from their being on a naturally-dry soil; and in such cases it is advisable to lower the temperature a few degrees. As regards the Cattleya and Mexican divisions, where the majority of the occupants are, generally speaking, at rest, less atmospheric moisture will be required, especially when the plants are subjected to a lower temperature than 55° at night, which in all probability they will be should severe weather come upon us. But during mild weather like that now prevailing, a moderate damping two or three times a week will be sufficient. There are many other species of Orchids besides Cattleyas and Lælias which require an intermediate-house temperature, viz., Cypripedium insigne, C. Spicerianum, C. Fairrieanum, C. Schlimi, C. barbatum, C. venustum, C. × Leeanum, &c., also Sobralias, Epidendrums, Miltonias, Cœlygynes, Vandas of the tricolor and suavis section, and others. Where, as in some collections, these species are accommodated in a house by themselves, they may be afforded a more moist atmosphere, and also more water at the root, than the plants in the Cattleya-houses. Where such an arrangement does not exist, the Cattleyas and Lælias should be stood altogether at one end, while the other species should be placed at the opposite. While on the subject of moisture in the houses, I may mention that we find the hygrometer a useful instrument for ascertaining the exact state of the atmosphere as regards moisture, especially throughout the winter months, and during severe frost. Here we have a house facing north-east, entirely filled with Masdevallias, and, owing to its being naturally damp, very little moisture needs to be applied at any time to keep the atmosphere sufficiently moist. One of the principal causes why black spot is so prevalent on leaves of Masdevallias of the Harryana section, is a too great abundance of moisture combined with a low temperature. A minimum of 50° at night should be maintained.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

BOUVARDIAS.—The flowering period of these plants now drawing to a close, points to the need of lessened quantities of water being afforded at the root by degrees, so that thorough ripening of the wood may result. Those plants from which the flowers may have been cut should be placed in a cool greenhouse, water being withheld, the moisture of the air sufficing to prevent any undue shrivelling of the shoots.

HIPPEASTRUMS (AMARYLLIS).—In order that the re-potting of the plants may have a fair start, pots should be washed clean, crocks prepared, and the potting materials placed in readiness. A few of the stronger bulbs should first be re-potted for early flowering, but the re-potting of the main batch postponed to January. Continue to push on in warm-houses the young stock of bulbs. If well rooted, a slight manurial aid may be afforded them at regular intervals.

POT-ROSES.—Most of the leaves having fallen, the pots should be placed in a cold pit or frame, provided there is ample head-room, plunging the pots to the rims in coal-ashes or dry leaves; and save for the giving of air on all favourable occasions, they will need no other attention till the time arrives for starting them anew. If mildew should still adhere to the shoots, dusting with flowers-of-sulphur will destroy it.

CYCLAMENS.—These plants are now giving much bloom, well filling the gap between the blaze of the Chrysanthemum and the flowering of forced plants. Owing to the moist weather a very small amount of water is needed at the root; but any dryness of the atmosphere of the house should be carefully avoided, and if as previously directed the pots are standing on fine gravel, coal-ashes, or shingle, these substances as well as the paths should be moistened once daily. Plenty of air may be afforded if a slight heat in the hotwater-pipes be kept up, but draughts must be avoided.

ZONAL PELARGONIUMS.—The earliest batch of these plants will now have finished flowering, and should be removed to the shelves in a cool greenhouse to ripen the shoots preparatory to being cut back. Cuttings of any desirable variety may be made and placed round the edges of 48's, using a sharp sandy soil, and placing them in a vinery or Peach-house that is being started.

POINSETTIAS.—Feeding the plants should still be carried out, and farm-yard drainings afforded once a week form a good manure for them. This will increase the size of the bracts which as yet are not of their full size. A few plants placed in convenient parts of the stove add a pleasing bit of colour; while the bulk of the plants may be arranged in a house by themselves, making use of Ferns in the grouping.

AZALEA DEUTSCHE PERLE.—Than this variety no better can be had for pushing into flower for meeting Christmas requirements. I find that this year the buds are in a very forward state, some of the most prominent being in flower in cool quarters, and the retarding of the blooming period has had to be practised instead of forcing. I should point out, however, that where this flower is in demand at the above-named season, and in case severe frost should set in during the interval, a few plants should be put into forcing quarters, and forwarded to a stage at which they can be easily pushed into flower, removing them to a slightly cooler house, should this be likely to happen at a too early date.

CALLAS (RICHARDIA).—This is another favourite at the approaching season that should not be overlooked; and should the requisite number of spathes be not forthcoming under the existing conditions, then advantage must be taken of vineries and Peach-houses, which are being forced to place the more advanced plants therein, where they will soon show spathes. Keep a sharp look-out for green-fly, as the increased heat and moisture will tend to propagate this pest.

SHOW PELARGONIUMS.—Pinch out the points of young plants now in large 60's, place a neat stake to each to give support to the side-shoots, slinging these as they grow to this stake. The plants, if well rooted, may be watered once weekly with weak soot-water till the beginning of the year, when they should be shifted into 48's. Guard against attacks of aphis by fumigating the house once a fortnight.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

KEEPING GRAPES.—Constant care will be required in the case of Grapes on the Vines and in the Grape-room, the chief enemies to good-keeping being damp, mice and rats. The rodents are particularly fond of the fruit, and I have known rats to take away whole bunches of Grapes in a night. It is a good plan to place a liittle phosphorus-paste on small pieces of bread, and place these under the floors or pipes, where dogs or cats cannot reach them. As a protection, half-inch-mesh wire-netting should be fixed in the borders against the arches or pillars, if rats are in the habit of making an entrance to the vineries from that point. Rats will soon let you know which are the best-flavoured Grapes. Cats should also be kept in a large garden; they are the best thinners of the rats and mice. Abundance of air should be given to the Grape-room and vinery during dry days, the temperature being kept about 45°, not lower, and it is necessary to have a good deal of heat in the hot-water pipes sometimes, especially on windy days, which are the most suitable for ventilating purposes. Plants which need much water at the root should be excluded from vineries where Grapes are hanging; but bedding Pelargoniums, and anything that requires to be kept dry during the winter, may be tolerated. If not much fruit is left on the Vines, it is best to cut the bunches, and place them in bottles of water in a dry room, if a Grape-room be not available. Then the Vines can be pruned and rested for as long a time as possible before starting them again, the longer being the rest the better the prospect of a good crop of fruit the next season.

PEACHES AND NECTARINES.—In the early-house which was closed at the end of November the temperature should be 50° by night, 55° to 60° by day, and may range on sunny days 10° higher than the higher figure, air being afforded freely at the top of the houses at the same time. Great care is necessary in the application of artificial heat at this part of the season, especially at night, it being better practice to allow the warmth to sink to 45° than to rise to 55°, which would render the starting of the wood-buds in advance of the bloom-buds a probability, causing weakly and deformed flowers, which would set imperfectly or not at all. Maintain a moist warmth, but not a stagnant atmosphere. As the flower-buds approach the time for expanding, a very light syringing once a day may be afforded, and even this will not be required in foggy or frosty weather if the floors and walls are well moistened over, and a genial buoyant air maintained. Under this kind of treatment, the buds swell, and the flowers are larger and more perfectly-formed than if heavy syringings are indulged in. As the flowers expand, much attention should be paid to the ventilation, especially in frosty weather, the front ventilators being kept closed, unless during very bright sunny days, when they may be opened a trifling space, air being in a general way obtained from the top lights, as well as by leaving a little opening all night whilst the trees are in bloom. No hard-and-fast rule can be laid down in this matter, and the gardener must use his own discretion, avoiding always, sudden fluctuations of temperature. The syringing of the Peach trees when in flower should be discontinued till after the setting period is passed, and the flowers fertilised every day by passing a camel-hair pencil or rabbit's tail lightly over them, and also by gently shaking the trees. Some varieties of the Peach produce more pollen than others, and a rabbit's tail is a good medium for conveying it to those which are less well provided.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	DEC. 17	Dutch Bulbs at Protheroe & Morris' Rooms.
TUESDAY,	DEC. 18	Dutch Bulbs at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 19	Japanese Lilies, Roses, Amaryllis, &c., at Protheroe & Morris' Rooms.
THURSDAY,	DEC. 20	Dutch Bulbs at Protheroe & Morris' Rooms.
FRIDAY,	DEC. 21	Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.8.

Forestry in America.

IT appears that Great Britain is not the only country which leaves the systematic management of her forests to private enterprise. In the Alleghany Mountains of North Carolina, Mr. G. W. VANDERBILT has been devoting some of his spare capital to the purchase of large tracts of forest land which have been partially denuded by the lumbermen, and in many places cleared and cultivated for short periods. These tracts Mr. VANDERBILT has placed under the care of an expert, with a view to restocking and working them on principles similar to those on which the state forests of Continental Europe are managed. The purchaser, we are told, is animated with the praiseworthy ambition of thus inaugurating a system of economic forestry in the United States, and, we may also assume, of making a sound investment for the benefit of his heirs. Mr. PINCHOT, who has been entrusted with the carrying out of this work, has published a pamphlet descriptive of a portion of the property known as "Biltmore Forest," consisting of nearly 4000 acres lying on the banks of a tributary of the Tennessee River. An account of this forest, contributed to a recent number of the *Zeitschrift für Forst und Jagdwesen*, by Sir DIETRICH BRANDIS, furnishes some interesting particulars regarding the present condition and stocking of the tract. No fewer than seventy-two species of trees are to be found, among which may be enumerated seven species of Oak, five of Maple, five of Pine, four of Hickory, &c., Spanish Chestnut being the only European tree. Broad-leaved species predominate, especially the Oak (Q. alba), which, together with black Walnut and Liriodendron, prove the most valuable as lumber, but the two last have, unfortunately, almost disappeared from this forest.

So far, the principal operations have been confined to the demarcation of working blocks and compartments, and the removal of badly-thriving and stunted trees. An opportunity has also been taken of inculcating more careful and economical methods of felling upon the lumbermen and woodmen of the district, in place of the wasteful style of working commonly practised. Mr. VANDERBILT intends introducing various exotic species into certain parts of the forest, in order to test their adaptability for the district, and a large nursery has already been formed. A library of forest and botanical literature has also been established in Biltmore, so that a nucleus for a possible forest school is already in existence.

Sir DIETRICH BRANDIS is of the opinion that forestry prospects in the United States are brighter than some would have us believe. He considers that a steady rise in the wages of the American labourer is likely to render intensive agriculture out of the question in many districts. At present, Wheat is principally grown in forest districts by methods similar to those practised in some parts of India, and known as "fine cultivation." In course of time this system of agriculture must cease, and the relative conditions of American agriculture and forestry will alter to the advantage of the latter, while the extention of railways will raise the price of timber. Another force likely to promote the cause of economic forestry lies, Sir DIETRICH BRANDIS believes, in the limited power of the "almighty dollar" in satisfying American ambition. Millionaires must find some means of immortalising the family name, and what could effect this better than the possession of extensive forests? Nevertheless, Sir DIETRICH BRANDIS is inclinced to think that State intervention might accomplish the desired state of matters more rapidly even than family pride, and the history of European forests would seem to confirm this latter view. Sir DIETRICH BRANDIS concludes by reminding his readers that they in Germany consider the serving of their country a more honourable occupation than the advancement of personal interest. Americans have not yet reached this high standard of public morality, hence their dread of any increase in the official staff which state-forestry would involve. In this last statement we possibly find the key to the indifference and apathy which our own government exhibits towards the forestry question, and explains the invariable adjournments of those occasional parliamentary debates on the subject, the resumption of which we never hear of.

OUR ALMANACK. — Secretaries of Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and Meetings of Botanical and Horticultural Societies of any kind for 1895, for insertion in the Almanack, to be published in our issue for January 5.

SERRASTYLIS MODESTA, *Rolfe, new genus and species.*—That this singular Orchid should have escaped detection by the many plant-collectors who have passed over the Cauca seems a singular circumstance, and the fact itself should give hope to the amateurs of novelties who are content with such simple beauty and curious structure. At the end of 1893, some half-dozen plants of it were discovered by Mr. F. C. LEHMANN, and in due course one which fell into the hands of Sir TREVOR LAWRENCE flowered, and was found to be of a new genus entirely. It was named Serrastylis modesta by Mr. ROLFE, and published in the *Kew Bulletin* of May, 1894. At the meeting of the Orchid Committee of the Royal Horticultural Society on Tuesday, November 27, 1894, another specimen was exhibited by Major JOICEY, Sunningdale Park, Sunningdale (gr., Mr. F. J. THORNE), when it was awarded a Botanical Certificate, and supplied the material for our illustration (fig. 91). The sepals and petals are reddish, edged with yellow; the lip white, with a few purple streaks. A curious feature in the flower is the arrangement of the two large wing-like auricles on the column, the side-lobes of the lip being similarly formed, and curiously arranging with them in colour and shape, although on separate organ. The plant is said to stand near Brassia. In habit it resembles a small Oncidium sarcodes, and it is said to thrive well in the Cattleya-house,

"THE BOTANICAL MAGAZINE."—The December number contains portraits and descriptions of the following species:—

Eulophiella Elisabethæ, Linden and Rolfe.—A remarkable Madagascan Orchid, first shown in bloom at the last Ghent Quinquennial by M. Linden.

Daphne caucasica, Pallas.—A hardy shrub, introduced by Mr. Smith of Newry. It is of dwarf habit, with linear, oblanceolate leaves, whitish on the under surface. Flowers white, in terminal clusters, each with a narrow tube about half an inch long, and a five-parted limb. Kew.

Erycina echinata, Lindley. A Mexican Orchid of singular appearance, like a small Oncidium, but with an equally three-lobed lip, and a column destitute of wings, with a long rostellum, and long, incumbent anther. Kew.

Strophanthus Petersianus (Klotzsch) *var. grandiflorus*, N. E. Br. A climber from Delagoa Bay, with shortly-stalked, oblong, lanceolate leaves, and terminal clusters of funnel-shaped orange-coloured flowers, 1½ inch long, the fine petals prolonged into long tails. Kew.

Gmelina hystrix, Schultes.—A climbing-plant of the Philippine Islands, and belonging to the Verbenaceæ. The leaves are shortly-stalked, oblanceolate, entire, or somewhat lobed, glandular on the under surface. The flowers are in terminal heads, intermixed with broad, boat-like bracts, with purple veins. The flowers are 2 inches long, with a small-cup-shaped glandular calyx, and a yellow corolla of about the same size and form as in a Foxglove.

—— The *Botanical Magazine* for the present year is dedicated by the Editor, Sir J. D. HOOKER, to Mr. CHARLES FORD, Superintendent of the Botanical Garden at Hong Kong, in recognition of the numerous interesting and beautiful Chinese plants introduced by him to Kew, and accompanied by the Editor's congratulations on Mr. FORD'S successful labours as a botanist and forester, "which have contributed so largely to the resources, the health and beauty, of your Island Home."

ROYAL GARDENERS' ORPHAN FUND.—A meeting of the committee was held at the Horticultural Club Hotel, Windsor, on December 7, Mr. William Marshall presiding. The secretary announced the purchase of £500 worth of consols. The following special receipts were announced: The Reigate Chrysanthemum Society, £10; Rugby Chrysanthemum Society, per Mr. W. Bryant, £5; Mr. Toogood, per Mr. G. W. Cummins, 10*s.*; The Croydon Chrysanthemum Society per Mr. W. B. Beckett, £3 3*s.* 6*d.* Mr. G. Bolas, two donations collected, £2. Mr. Savage, per Mr. G. Munro, £1; Mr. J. Miller, Ruxley Lodge Gardens, £1; Mr. F. Miller, Margate, £2 12*s.* 6*d.*; Market Harborough Horticultural Society, per Mr. Green, Secretary, £2 2*s.*; and Mr. G. Fennell, Tonbridge, 5*s.*; and the following boxes: Mr. J. Miles, Southampton, £2 13*s.* 6*d.*; Mr. T. J. Nelson, Chesterfield, £1 8*s.* 9*d.*; Mr. C. Gibson, Mitcham, £1 7*s.*; Young Men at Park Place, Henley, per Mr. J. T. Powell, 18*s.*; Mr. T. Newbould, Rawdon, Leeds, 14*s.*; Mr. G. T. Cole, Ascot, 14*s.*; Messrs. H. Cannell & Sons, Swanley, 10*s.*; Mr. N. Kneller, Malshanger Park, 10*s.*; Mr. A. D. Christie, Alcester, 12*s.*; Mr. J. Lemmon, Chichester, 7*s.* 6*d.*; and Mr. R. Scott, Bradford, 5*s.* 8*d.* It was resolved that the date of the annual general meeting and election be Friday, February 8. The names of four applicants, in addition to those not elected in February last, were announced. It was resolved that six children be elected upon the Fund at the next ballot.

NATIONAL ROSE SOCIETY. — The balance-sheet shows a balance on the right side of £72 11*s.* 9*d.* The receipts, including a balance of £81 19*s.* 3*d.*, amount to £795 1*s.* 11*d.*, the expenditure to £722 10*s.* 2*d.* Windsor only contributed £40 to the receipts, against £105 from the Crystal Palace; the expenses in connection with Windsor amounting to £4 13*s.*, those at the Crystal Palace to £9 1*s.* The prizes at Windsor amounted to £93, at the Palace to £275 15*s.*, and at Halifax to £130 15*s.*



Fig. 91.—Serbastylis modesta (Rolfe): flower segments reddish, edged with yellow; lip white, with purple stripes. (see p. 726)

National Chrysanthemum Society.—A meeting of the general committee took place at Anderton's Hotel, Fleet Street, E.C., on the 10th inst., Mr. B. Wynne in the chair. A letter was read from Mr. J. W. Wilkinson, secretary of the Royal Aquarium Society, stating the willingness of the directors to contribute the sum of £50 towards a Dahlia show in September next. An interim financial statement of a very satisfactory character was submitted by the secretary, and it was resolved that the annual general meeting should be held on Monday, February 25. Twelve ordinary members and two Fellows were elected, bringing the number elected in the year just closing to 130 ordinary members and eleven Fellows. The Swindon Amateur Chrysanthemum and Horticultural Society was admitted to affiliation, making a total of nineteen Societies for the year.

Bournemouth and District Gardeners' Association.—On Tuesday, December 14, the members of the above Society spent a pleasant and profitable "Evening with the Microscope," through the kindness of J. F. Tanner, Esq., a well-known microscopist. Before exhibiting the splendid slides illustrative of the structure of the different parts of plants, Mr. Tanner read a valuable paper, in which he explained how the various tissues in a plant were built up of cells; and sketched, with some amount of detail, the life-history of a Fern. This paper, which was illustrated by excellent diagrams, made it possible for the audience to understand what they actually saw under the microscope. Without such an introduction to the subject, the objects might in many cases have merely struck the observer as being "pretty." The collection of slides shown comprised pollen grains of various flowers, with and without pollen-tube development; transverse and longitudinal sections of stems, leaves, and roots; cuticles of leaves, showing stomata; parasitic fungi, &c. Hearty votes of thanks were accorded to Mr. Tanner and to Mr. Hope, who had added much to the interest of the gathering by exhibiting a collection of slides under his microscope.

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, December 20, at 8 P.M., when the following papers will be read:—1, "On the Spinning-glands in Phrynus," by H. M. BERNARD, F.L.S., &c.; and 2, "On Monocotyledonous Saprophytes," by PERCY GROOM, F.L.S., &c.

—— On the occasion of the meeting of the Society, Thursday, December 6, Mr. C. B. CLARKE, F.R.S., President, in the chair, Mr. WALTER TOTHILL was elected a Fellow. Mr. E. M. HOLMES exhibited and made remarks upon a small collection of Japanese marine Algæ, some of which were of considerable rarity in European collections. Professor D. CAMPBELL brought forward some illustrations of the relations of vascular Cryptogams as deduced from their development. His remarks, which were listened to with great attention, gave rise to an interesting discussion, in which Professor BOWER, Dr. D. H. SCOTT, Mr. CARRUTHERS, and Professor MARSHALL WARD took part. "A New Revision of the Dipterocarpeæ" was the title of a paper by Sir DIETRICH BRANDIS, K.C.I.E., who gave an excellent account of this order of forest trees, and their structure and mode of growth, together with a survey of the literature relating to them, and a clear exposition of his views concerning classification. He pointed out that the order Dipterocarpeæ consists almost entirely of large trees, which do not flower until they have attained a great size, with a spreading crown on a branchless stem often more than 100 feet high. Hence, it is difficult to obtain complete specimens in flower and fruit; and this explains why a large proportion of the genera and species have only of late years become accurately known. KORTHALS, in 1840, knew 34 species; DE CANDOLLE, in 1868, described 126; Mr. THISELTON DYER in 1874 estimated the order at 170. Sir D. BRANDIS now considers that there are 320 well-ascertained species belonging to sixteen genera, omitting the genera Ancistrocladus and Lophira, which he regards as justly excluded from the order. Notable species are the Sâl tree of India (Shorea robusta), great forests of which extend along the foot of the Himalayas, and in Central India; the Eng tree (Dipterocarpus tuberculatus), of similar growth in Burma; and others found in Cochin China and Borneo. In the discussion which followed, an extended criticism was offered by Mr. THISELTON DYER, who had paid special attention to this order of trees, and who, admitting the soundness of the author's views, considered his exposition of them most valuable. The paper was illustrated by lantern slides, showing the chief peculiarities of structure in flowers and fruit.

MR. CHARLES WARDEN.—Sir F. H. BATHURST, Bart., Clarendon Park, Salisbury, has placed the Home Farm and woods under the management of Mr. CHARLES WARDEN, who has ably filled the post of Head Gardener at Clarendon during the last twelve or fourteen years; a position which he still retains. In addition to being a good all-round gardener, Mr. WARDEN is an energetic and good business man, and we are sure he will have the good wishes of his gardening friends and acquaintances in his new sphere of duties.

THE VIOLA CONFERENCE.—The Report of the Conference held at the Botanical Gardens, Edgbaston, in August last, has been published. It contains, in addition to a report of the proceedings, portraits of the promoters and officials of the Conference, together with others of celebrated raisers.

EDINBURGH CHRYSANTHEMUM SHOW.—We cull from the *Edinburgh Evening Dispatch*, of Wednesday December 5, that at a meeting of the Scottish Horticultural Association held in Edinburgh on Tuesday December 4, Mr. A. M'KENZIE, treasurer, submitted the accounts of the Chrysanthemum Show. He stated that that show was the second most successful show they had held in the Waverley Market. The income only showed an increase over that of last year of about £15, but the expenditure had been curtailed. The gross income was £996, and the expenditure £872, leaving a balance in hand of £124. From the surplus it was agreed to give £5 to the Royal Infirmary, and £3 to the Gardeners' Orphan Fund.

THE ANTWERP EXHIBITION.—Horticulture has been recognised by the award of Decorations of the Order of Leopold to MM. J. Everaerts, Ch. Vanderlinden, Florent Pauwels, Jules Closon, F. Massange de Louvrex, Raphaël De Smet, Paul De Schryver, our correspondent, and M. Charles De Bosschère. M. De Cock, President of the horticultural section, was promoted to the grade of Officer of the Order of Leopold.

A TRAVELLER'S NOTES.—In the present issue we bring to a conclusion the remarkable series of letters contributed to our columns by Mr. JAMES H. VEITCH. The first letter appeared on March 12, 1892, and was devoted to the account of the traveller's impressions of Ceylon. India from south to north and east, Burmah, Singapore, Java, Japan, Corea, all the Australian colonies, and New Zealand were visited in succession. Never has any horticulturist traversed in one journey so large and varied an area. Many of the districts visited are rarely seen by ordinary travellers and globe-trotters, and no more complete account of the botanical and horticultural establishments of the countries visited has ever been published. We trust that the results may be commensurate with the enterprise and zeal that planned this journey and carried it out to so successful an end.

HORTICULTURAL MEETING AT GHENT: DECEMBER. — M. Jules Hye staged some hybrid Cypripediums, noticeable among them C. Hébé, with very wide and much-undulated petals; one of the parents is doubtless C. Spicerianum, the other might well have been C. Sallieri; C. Augusta, with a very fine lip; C. Nicias, C. delicatum, parents unknown, according to the label, but decidedly showing the influence of C. Spicerianum; C. Romulus, a hybrid from C. Chantini and C. Sallieri, the characteristics of which it displays. Odontoglossum virginale, from the same exhibitor, was admired for its handsome lip, tinged with very bright yellow, and very distinct; the sepals are much spotted with greenish-yellow. There were also shown — a fine, well-flowered variety of Oncidium ornithorhynchum, from M. Coryn; Cattleya labiata (white), from M. Devolder; and a Cypripedium Charlesworthi, with very large standard, from M. Dallière—all first-class Orchids. Jatropha podagrica, from M. de Smet-Duvivier; Cliveia fol. var., from M. Capitaine; a fine new Croton, C. Duvivierianus, whose principal tints are yellow and green, and with broad and fine foliage, from M. de Smet-Duvivier; and Bilbergia Cappei, much like B. Leopoldi, from M. Poelman-Maenhout, must also be mentioned as among the best plants staged.

FOREST HILL AND CATFORD HORTICULTURAL SOCIETY.—Among suburban societies which has achieved success this year may be mentioned the above, which has, as is shown by its balance-sheet, paid its way during the first year of its existence, and has the gratification of possessing a balance in the hands of the treasurer, amounting to more than £15, which, as the report says, is eminently satisfactory. Doubtless the Society will be accorded generous support in the district from the numerous amateurs resident therein. A general meeting will be held on Monday, December 17, at St. James' Hall, Stanstead Park, at 8.30 P.M. The Society is affiliated with the Royal Horticultural.

THE FAT BEAST SHOW.—The annual exhibition of the Smithfield Club was opened in the Agricultural Hall, Islington, on Monday last, the 10th inst., and was the centre of very considerable interest during that and the four following days. As was announced recently in our columns, a new feature in the schedule for the present year was a number of classes for dead poultry, and in the annexe of the large hall a good display of excellent poultry was made. As is usual on the occasion of the Christmas beast show, there were numerous stands of agricultural and horticultural roots, seeds, and fruits contributed by well-known firms, such as Messrs. Sutton & Sons, Reading; Webb & Sons, Stourbridge; Carter & Co., High Holborn, London; Harrison & Sons, Leicester; Cheal & Sons, Crawley; Dickson & Co., Chester; Jarman & Co., Chard, Somerset, and others. Implements of various descriptions for field and garden purposes were also exhibited on a large scale, and a visit to these annual meetings of the Smithfield Club has an educational attraction for the horticulturist as well as for farmers and others more directly interested in the exhibition; but the display of animal fat that is seen is discouraging and repulsive to any who favour vegetarian principles in any degree.

"THE HORTICULTURAL DIRECTORY."—This useful publication for the ensuing year has again made its appearance. It embodies all of the familiar features, including the particularly useful list of plants which have received certificates and awards of merit from the Royal Horticultural Society during the interval from October, 1893, to September of the present year. It is published at 171, Fleet Street, London, E.C.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—The annual general meeting of the Royal Caledonian Horticultural Society was held on Thursday, the 6th inst., in Dowell's Rooms, Edinburgh. Mr. M. DUNN, Dalkeith, presiding. Mr. FRASER, the Treasurer, submitted an abstract of the accounts for the year ending November 30 last. The receipts, it appeared, had amounted to £1496, of which the drawings at the three shows held during the year accounted for £1013, and the members' subscriptions to £390. On the other hand, the payments had reached the sum of £1641, making an excess of payments over income of £144. During the year £901 had been given in prizes at the several shows. On November 30, 1893, the funds of the Society amounted to £1183; at the corresponding date this year the amount was £1030, showing a decrease of £153. The Chairman said they would observe that there was a balance on the wrong side of the accounts this year, but the Council had taken steps to ensure that next year instead of the balance being on that side, it would in all probability be on the other, and that the amount would be about the same. The Council had agreed to hold only two shows next year—the spring show, which was always a paying show, and the autumn show, which was also a popular exhibition. They could not, however, see their way to make any inroads on the prize-lists of these two shows. The financial report was approved of. On the appointment of office-bearers being taken up, the Marquis of LOTHIAN was reappointed President, and Sir JAMES GIBSON CRAIG, Bart., of Riccarton, was appointed a Vice-president. Mr. JAMES MILNE was elected representative of the nurserymen on the Council, and Mr. DUNN was reappointed a member of the Council. In returning thanks for his re-election to the Council, the Chairman said the Society, in the matter of its expenses, would compare very favourably with any other in the country. Mr. FRASER and Mr. STEWART were reappointed Treasurer and Secretary respectively. *Edinburgh Evening Despatch, Thursday, Dec.* 6.

DISEASES OF PLANTS.—The Royal Botanical Society of Belgium has appointed a committee of research and of reference, in order to supply cultivators with information relating to the various maladies which infest plants. The members consist of MM. Marchal and Nypels of the Botanic Garden, Brussels, MM. Gravis and Michiels, Liège, and Laurent of Gembloux, to whom botanical specimens, fungi, &c., may be sent. Insects in like manner may be forwarded to M. Lameere, Chaussée de Charleroi, 119, Brussels, or to M. Poskin Agricultural Institute of Gembloux.

BOTANICAL SOCIETY OF EDINBURGH.—The first part of the twentieth volume has been issued. In addition to the usual records of temperature and outdoor vegetation which have been continued for

some years, details are now given (by Mr. HARROW) of the most remarkable and interesting plants that flower in the several houses. An account of the late Mr. JENNER'S garden at Easter Duddingston will interest horticulturists. A paper on the history of Saxifraga Wallacei × is given in which it is stated, on the authority of Mr. J. GRIEVE, to be a hybrid between S. Maweana and S. Wilkommiana raised by Mr. GEORGE WALLACE.

THE BOTANICAL EXCHANGE CLUB.—The report for 1893, which has lately reached us, contains a record of the plants collected by the members and distributed by the club, together with critical notes on their structure and distribution.

SOCIETY OF AMERICAN FLORISTS.—The report of the tenth annual convention of this Society, at Atlantic City, N.J., has been forwarded to us. It contains a record of the business proceedings, as well as of the social gatherings incident to the meeting. A full list of members and their addresses forms a useful appendix.

EALING GARDENERS' ASSOCIATION.—The weekly meeting took place in the Victoria Hall on the evening of the 4th inst., when Mr. A. WRIGHT, of the Gardens, Falkland Park, South Norwood, read a very able paper on "The Orchard House and its Management" before a large meeting. At the outset he dealt with the advantages of an orchard-house, and said no matter what weather we had, a good crop could always be obtained. Referring to dessert Pears, the opinion was expressed that handsome profits could be made in the winter months from select fruits grown under this system of cultivation. The necessity of potting every three or four years, and of top-dressing every season, laying particular stress on the use of lime-rubbish and wood-ashes in the potting, were alluded to. Mr. WRIGHT also mentioned the best stocks suitable for Apples, Pears, Plums, Cherries, &c., remarking that Bigarreau and May Duke Cherries should be double-worked, using the Mahaleb stock, giving also a list of the best varieties of fruits for this form of culture. The necessity was urged of placing the plants out-of-doors for four or six weeks before they were ripe to ripen there, and to increase the flavour of the fruits. The resting of the trees, too, in winter was dwelt upon, it being stated that mistakes were often made by ripening the trees too dry. The beauty and effectiveness of the orchard-house when in blossom were remarked upon. A good discussion followed the reading of the paper, all agreeing that the subject had been treated in a thoroughly practical manner by Mr. WRIGHT, who was cordially thanked for his very capable production.

SCOTTISH HORTICULTURAL ASSOCIATION.—The following awards have been made in competition, open to all assistant gardeners, viz.: For the best collection of herbaceous plants, dried and correctly named, 1st prize to Mr. A. MCLENNAN, Easter Duddingston Lodge, Portobello, N.B. (405 varieties); and 2nd prize to Mr. J. C. NEWSHAM, 3, Cumberland Place, Kew. For the best plan of laying-out a kitchen garden of not more than 2 acres, plan to be drawn to scale; 1st prize to Mr. GEORGE BEECH, Morton Hall, Liberton; 2nd prize to Mr. J. C. NEWSHAM, 3, Cumberland Place, Kew; and 3rd prize to Mr. A. GRANT, Callender Park, Falkirk.

M. COGNIAUX.—A Belgian botanist, well-known for his monographs on Cucurbitaceæ, Melastomaceæ, &c., and now engaged on a revision of the Brazilian Orchidaceæ, has been elected an honorary member of the Torrey Botanical Club, New York.

PUBLICATIONS RECEIVED.—*Hints on the Planting of Orchards*, by Prof. Bailey.—*Native Dwarf Cherries*, from the same (Prunus pumila, Prunus Besseyi, and a hybrid between Besseyi and Watsoni).—*Cultivation of Orchards*, by Prof. L. Bailey; these constitute Bulletins Nos. 69—72 of the Cornell University Experiment Station, Ithaca, New York.—*Boletim da Sociedade Broteriana.*—*The Effective Advertiser.*—*The Book of the Rose*, Rev. A. Foster-Melliar (Macmillan & Co.)

HOME CORRESPONDENCE.

DOUBLE LYCASTE.—At the last meeting of the Warsaw Horticultural Society, a new form of Lycaste Skinneri was shown by Mr. F. Kaczynski, of the firm of Kaczynski Brothers, nurserymen, Warsaw. The new variety resembles, in all parts, the common L. Skinneri, the only difference consisting in the fact that two flowers are put closely together, this doubleness being observed for several years, so that the plant may be regarded as a novelty, but I would ask your Orchid-growers for their advice in that matter. The new Lycaste has been named Lycaste Skinneri Turkiewiczi, in honour of Mr. Turkiewicz, President of the Warsaw Horticultural Society. *Brothers Hoser, Aleja Ferozolimska, Warsaw.* [We do not understand the nature of the double condition. If our correspondent can obligingly send us a flower, we will examine it and report. ED.]

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—I would like to ask, through the medium of your columns, who is responsible for the descriptions appended to the names of the candidates appearing in the official list of the above for 1893-4? That such descriptions should be most complete and full in their every detail, even to the place where each and every candidate performed his first duties as a gardener, is of the greatest importance to a very large mass of gardeners, and particularly so to all who are subscribers to the above institution. I am led to make this inquiry, because I am informed that one candidate at least in the above-named list was not a gardener at all till he had attained the age of 45 years or more. As a matter of fact, he was a shoemaker till that time—a piece of information not found in the list referred to; yet, notwithstanding, this particular candidate, in some apparently mysterious way, obtains upwards of 850 votes; while a life-long gardener, who has also contributed 11 guineas during a period of 11 years to the funds of this institution, only manages to obtain 556 votes. Two other life-long gardeners (non-subscribers, like the first-named candidate) only obtained 27 and 71 votes respectively. Assuming that present claims in each case are equal, surely the life-long gardener should stand the best chance of being elected a pensioner, in preference to one who has spent the best part of his life following a distinctly foreign calling. This should be so, even supposing both to be non-subscribers; and more so when we find one candidate subscribing for 11 years, and in the end 300 votes behind. Is it a case of haphazard voting, or is it favouritism? *Enquirer.*

A NEW WINTER VEGETABLE.—A vegetable has lately appeared in the seedsmen's catalogues under the name of Seakale, or Silver Beet. The midrib of the leaf is the part which is recommended to be eaten, and of this I will only say that it is, in my opinion and the opinion of others who have tasted it, a very tasteless vegetable indeed, and this part of the plant being only available in summer, so far not worth growing. But it occurred to me to try the root, of which nothing is said in the catalogues. This is quite unlike any ordinary Beetroot, being a branched tap-root, and quite white. The branches are about as thick as roots of Salsafy, and when cooked look exactly like this vegetable. But the flavour is totally distinct, being of a decided though mild Beetroot character, while the root is tender and succulent, and can, of course, be dug up and kept like other Beets. It appears to be a variety of Beta chilensis, having a white midrib. *Alfred O. Walker, Nant-y-Glyn, Colwyn Bay.*

PROTECTING ROSES IN WINTER.—There can be little doubt that more harm is done to Roses by heaping a lot of long litter around them in winter than by leaving them alone, more so in retentive soil and wet situations. I have kept Roses through the winter with a slight protection of dry straw and leaves, where we often had 50° below zero [32°], and never lost many—I mean, of course, of the hardier varieties; and I have grown the same varieties in England, where I had to put litter to a depth of 6 to 9 inches around them all the winter, and wrap standards and climbers up with mats. My success, however, was better in the colder climate. I have seen beds of Roses grown in kitchen gardens in the North of Scotland, where they never thought of protecting them, and very seldom had any losses from frost amongst these, no doubt the protecting material keeping the Roses in a wet state, which causes losses during the winter. *J. F. M., St. Albans.*

DIVERSE OPINIONS ABOUT PEARS AND PEACHES.—The soil at Teddington does not seem to agree with many fruits which are supposed to be fairly good in other districts. I cite a few examples from Hogg's *Fruit Manual*:—

	Hogg.	*Blackmore.*
PEARS.		
Bergamotte Esperen	A most delicious late Pear	Does not ripen well in his garden
Bési Vaet ...	A first-rate dessert Pear	Does not succeed at Teddington
Beurré d'Aremberg	Of varying merit ...	Scarcely worth growing
,, Bachelier	Large, handsome, and very excellent	Fine appearance, but very low quality
,, Bosc ...	Of first-rate quality ...	As hard as an Apple
,, Bronzé	Excellent	Never ripens
,, Diel ...	Of the highest merit ...	Of coarse texture, and vastly over-rated
,, de Jonghe	Equal, if not superior in flavour, to Marie Louise	Worthless
,, Six ...	A very fine Pear ...	Watery and insipid
British Queen	A first-rate Pear ...	Not worthy of its name
Catinka ...	Very excellent... ...	Poor and small
Citron des Carmes	Excellent early Pear, very liable to crack on its surface	Cracks and rots
Colmar ...	Old, and highly esteemed	Not worth growing
,, d'Été	Remarkably fine ...	Too small, and possessing no strong character
Comte de Lamy	Delicious	Middling quality, and not worth growing
Délices d'Hardenpont	Excellent	Useless
Doctor Nélis	Very fine	Very inferior
Duchesse d'Angoulême	Sometimes of great excellence	Very coarse, and gritty
Duchesse d'Orléans	Most delicious	Dry and insipid
Easter Beurré	Of the highest merit ...	Cracks and spots, and is seldom very good
Glou Morçeau	First-rate	Bad on a standard, and worse on a wall; flat, and loose-textured at its best. A vastly over-rated Pear, in my opinion
Marie Louise	Of the highest merit ...	Too sweet, otherwise most excellent
Nouvelle Fulvie	Of great excellence ...	Not good
Passe Colmar	Of the best quality ...	Melting, but insipid
Pitmaston Duchess	Of the finest quality ...	Good, but not of first quality; worthless on a wall
Red Doyenné	Excellent	Small, and inferior
Triomphe de Jodoigne	First rate	Very coarse
Urbaniste ...	Delicious, excellent bearer	Shy bearer, and the fruit is too aromatic
Williams' Bon Chrétien	Of the highest merit ...	Small and spotted, and the aroma is always coarse
Winter Nélis	One of the richest flavoured Pears	A good Pear, but of rather flat flavour
Zephirin Gregoire	Most delicious	Not good
PEACHES.		
Alexandra	Ripens in the middle of August, very tender and melting, juicy, richly flavoured and vinous	It is of no value here
Barrington	Tree very hardy, vigorous, and generally a good bearer	A shy bearer, and seldom ripens thoroughly
Belle Beauce	A delicious Peach; a variety of Grosse Mignonne, but considerably larger	Is apt to crack, and not to be compared to Grosse Mignonne
Belle de Doné	A handsome, melting Peach	Does not do well
Early Beatrice	Earliest Peach known; flesh melting and juicy, rich flavoured	Not worth growing
Early Louise	Although not so early, it is a larger and superior fruit to Early Beatrice	Too small, and a clingstone
Early Rivers	The finest early Peach known	A large and good Peach, but very pale, and splits even in dry seasons. On this account worthless here
Early Victoria	A first-rate early Peach	Not worth growing
Early York.	One of the best early Peaches	Does not do well
Nectarine Peach	Grown in an orchard-house, this is a very fine and handsome Peach	A bad grower
Royal George	... ...	Worthless at Teddington
Stump the World	Has not attained the excellence in this country which it is reputed to have in the United States	Utterly useless
Sulhamstead	Much resembles the Noblesse	Not worth cultivating
Walburton Admirable	A good bearer	A very bad bearer

F.R.H.S.

LATHYRUS FODDER.—In the notice of the October number of the *Kew Bulletin* in the *Gardeners' Chronicle* for December 1, 1894 (p. 665), is an error which I may perhaps be permitted to correct. The plant to whose poisonous properties recent legal proceedings made it desirable to draw attention in our *Bulletin* was not Lathyrus sylvestris, but L. sativus. Of the poisonous properties of the seeds of the latter species there can be no matter of doubt, and those of the former are open to suspicion. It is, as you say, very disturbing to hear that anything in the nature of a "pulse" is poisonous; but it must be remembered that poisonous properties are scattered up and down the family of the Leguminosæ. Abrus, whose seeds are the well-known Crab's-eyes, is nearly allied to Lathyrus. It is used in India for "sui-poisoning," a criminal method of killing cattle. The poison appears here to be a proteid. The whole tribe of Genisteæ is open to suspicion, as many of the species are known to yield the poisonous alkaloid cytisine. If my memory does not fail me, the roots of the Scarlet-runner are poisonous. *W. T. Thiselton-Dyer, Kew.*

DOUBLE CHINESE PRIMULAS.—Although double Primulas do not, as a rule, present such attractive plant features in a greenhouse during the winter as fine single forms do, yet they are, when well-grown and flowered, of singular value for furnishing cut-blooms. Those fine forms, White Lady and Marchioness of Exeter, the latter sometimes marked with carmine flakes, are usually very pure-coloured during the winter, and as the individual flowers are very large and double, they can be when gathered and wired used in bouquets, &c., with great advantage. No one in the metropolitan area grows and shows these doubles better than does Mr. Mease at Doronnde, Leatherhead. He has, chiefly in 6-inch pots, some 80 plants, averaging from 15 to 18 inches across, and when at their best carrying very massive heads of flowers. One plant alone will carry some 150 of these fine blooms during the winter; hence their value can hardly be over-estimated. The flowers of the finest, of the old alba strain, are of not one-third the size or of the purity of colour that marks the double forms mentioned. The plants were all from layered side-shoots, soil being added in the pots for the purpose during February and March, then stood in a temperature ranging from 60° to 65°, and kept watered through a fine rose. By the end of April all the layers are sufficiently rooted to enable them to be taken off, shifted singly into small pots, grown on for a time in a similar temperature, finally shifted into the blooming-pots, and stood into a frame where, during hot weather they are well-shaded with mats that are occasionally wetted to keep the frame cool. A good compost of turfy loam, leaf-soil, and silver sand suits well, and potting should be fairly firm. It is Mr. Mease's rule to use tepid water always for watering. He has won the first prizes at several local shows this autumn, as well as at the Royal Aquarium at the recent December exhibition. *A. D.*

VALUE OF GARDEN WALLS.—Years ago, when there was not so much fruit imported, and glass-houses were less common, the garden had to supply all the fruit required by the household, and, as a result, more attention had to be paid to the construction of garden walls. When at Kedleston (Lord Scarsdale's seat, near Derby), some time ago, I was much struck with the manner in which the walls were built. The kitchen garden, which is eight acres in extent, is bounded on the north, north-east, and north-west by a wall 18 feet high, built in the form of quadrants, each of which is about 20 feet in diameter, the whole forming one grand semicircle, extending from the east to west of the garden, so that there was almost every angle that could be mentioned between those two points on the wall. Inside this, and forming a sort of a chord to this great arc, is a straight wall, extending from east to west, the south side being furnished with glass-houses. The ground between these two walls is so sheltered, that though the thermometer fell to 23° Fahr. on September 28, Mr. Voss the gardener, informed me neither Chrysanthemums or Tomatos suffered in the least. The other boundary walls round the garden are 16 feet high, so that fruit trees have ample room for extension. In addition to these, there are two cross walls about 3 feet in thickness, that were at one time heated by means of flues, with such walls as these, there are space and accommodation for the cultivation of all kinds of hardy fruit. One tree was noticed in this garden carrying a nice lot of Apricots, although it was near the end of September. Mr. Voss said that he had had a wonderful crop of Apricots; Morello Cherries were also very fine. Pears were to be seen hanging in abundance, particularly on the inner sweep of the circular wall. Marie Louise, Doyenné du Comice, Glout Morçeau, Passe Colmar, Brockworth Park, and others, were fruiting remarkably. The value of such walls is apparent to anyone, affording as they do so many different aspects, thus enabling the gardener to lengthen the season of any particular variety or kind. What could be more useful than one of these high walls with a northern aspect, having a wide coping for the protecting of the trees from frost in the spring, and for enabling the fruit of Morello Cherries, late Plums, such as Coe's Golden Drop, Coe's Late Red, Grand Duke, Guthrie's Late Green, Imperial de Milan, Late Rivers, Monarch, Nouvelle de Dorelle, Pond's Seedling, Prince Englebert, White Magnum Bonum, and the like to be kept under nets till late in the season, to say nothing of the lengthening of the season of the summer Cherries? Moreover, the shade afforded the border on the north side of the wall in summer would be invaluable to prolong the Strawberry season, and enable the gardener to get juicy salads. With good soil like that of which the kitchen garden at Kedleston consists, with high walls like these, he would be a poor gardener who could not show good results. Kedleston has gone down of late years, for the gardener, Mr. Jackson, had grown very infirm before he died; and he had presided over the garden for a great number of years. Under the present gardener, who was a successful cultivator in the south before going north, there is every prospect of improvement. As an earnest of this, many of the old trees are being replaced with young ones, and the entire place is being put in good order. The immense size of the Oaks in the park indicates the fertility of the soil, for some of these are 30 feet in circumference, with clean straight trunks. Most of these Oaks are, however, decaying. Outside the garden wall was about 1½ acre of Drumhead Cabbages, which would not average less than 80 tons to the acre, this being also proof of the goodness of the soil. *H. C. Prinsep.*

A PUBLIC PARK AT TRURO.

In the illustration given on p. 731, our readers will see the form of the area included within the boundary of the new park now being made at Truro, the proposed direction of the walks, the amount of the shrubbery, and other planting, as well as the lake, &c. The land has been reclaimed from the low shores of the Fal, and is therefore somewhat low-lying, but this will doubtless be efficiently met by increasing the depth of the soil, and a thorough underground system of drainage. The plan shows extensive areas of turf devoted to sports, and breadth and openness are not lost in a too great amount of tree-planting; indeed, we should have thought that in a windy county as is Cornwall, the plantations and groups of trees, &c., might have well been rather denser and more numerous, but we have no doubt that Messrs. Veitch & Sons, Royal Nurseries, Exeter, whose landscape gardener, Mr. F. W. Meyer, designed the park, have a more adequate idea of the requirements in these respects than we can have. The plan, it will be observed, shows an esplanade and retaining embankment-wall along the river front, and a due amount of protection from trees and shrubs on the opposite side—the north. It will form, when completed, a pleasant addition to the attractions of the town.

SOCIETIES.

ROYAL HORTICULTURAL.

December 11.—Even for a December meeting, the one held on Tuesday last at the Drill Hall, James Street, Westminster, can hardly be considered other than below the average, and the awards obtained by novelties fell unusually low, only two Awards of Merit being accorded by the Floral Committee, and these to Chrysanthemums. There was a grand collection of Apples from Maidstone, but, excepting this, the exhibits before the Fruit Committee were few. Orchids, though less numerous than usual, furnished the greater number of novelties, and included several very distinct and charming hybrid Cypripediums.

Floral Committee.

Present: W. Marshall, Esq., in the chair; C. T. Druery, J. H. Fitt, H. B. May, R. Dean, G. Stevens, W. C. Leach, R. Owen, C. J. Salter, C. F. Bause, Geo. Gordon, T. Godfrey, J. D. Pawle, E. Mawley, C. E. Shea, H. J. Jones, C. E. Pearson, J. Walker, H. H. D'Ombrain, G. Paul, and P. Barr.

Messrs. Jno. Laing & Son, Forest Hill Nurseries, S.E., staged a very pretty group of miscellaneous plants, which in the sparsely-filled hall greatly helped to make such display as was furnished. Well-grown plants of Dracænas, Palms, Crotons, &c., were interspersed with Bouvardias, Ericas, Cyclamens, and Poincettias. The new decorative Dracæna, Lord Roberts, Nicotiana affinis variegata, and some Cypripediums in bloom, were also remarked (Silver Flora Medal).

A large exhibit of cut Chrysanthemums was made by Mr. Robert Owen, Castle Hill Nursery, Maidenhead, including about 150 blooms, and representing in a large degree new English Seedlings. Awards of Merit were obtained by King of Plumes, a first-rate yellow decorative variety, with forked petals, and Bellem, a large globular-flowered Japanese incurved. It has broad petals, and is a pretty cream-colour, going to slight rose. [These two varieties were, as we learned from the Secretary, awarded First-class Certificates by the National Chrysanthemum Society, at whose meeting on Wednesday 12th inst., they were exhibited.] Amongst other good flowers were Madame Royaine, a rose-coloured Japanese incurved, rather flat, with long petals; Challenge, and Col. Bourne (Silver Flora Medal).

Mr. Herrin, Dropmore Gardens, Maidenhead, exhibited sprays and cones of the following Conifers, Pinus Lambertiana, with three large cones; Araucaria imbricata with female cones as large as a good Cocoa-nut; Abies nobilis, with three handsome cones on a spray, the cones about 9 inches long; Cupressus Goveniana, with numerous pretty little cones; and Cupressus sempervirens, also Cedrus atlantica, Cedrus Deodara, and Sequoia gigantea (Silver Banksian Medal).

Examples of plants growing in Jadoo fibre were exhibited by C. Halford Thomas, Esq., East Cliff, Teignmouth, including such plants as Primulas, Cinerarias, Cyclamens, Asparagus, Begonias, and Bouvardias.

Mr. Moore, of the Glasnevin Botanic Gardens, exhibited several interesting specimens, including two scapes of Nerine Manselli, a hybrid from N. flexuosa and N. Fothergilli. The large trusses of flowers were very showy, being a bright rose colour. Also flowers of Iris stylosa alba, and Bilbergia Windii, the latter a hybrid from B. decora × B. nutans.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Secretary), Dr. M. T. Masters, E. Hill, H. J. Chapman, H. Williams, W. H. White, H. Ballantine, H. M. Pollett, Walter Cobb, and A. H. Smee.

At this, the last meeting of the year, exhibits were neither so numerous or so good in quality as has been observed at previous meetings, though a few remarkably good things were staged. One of the finest of these was a noble spike of Cymbidium Tracyanum, with immense flowers, sent by Baron Schroder, The Dell, Egham (gr., Mr. Ballantine), and which was illustrated in the *Gardeners' Chronicle*, January 31, 1891; C. grandiflorum, between which and C. giganteum it is probably a natural hybrid, being illustrated by us, February 27, 1892.

The Right Hon. Lord Rothschild, Tring Park, Tring (gr., Mr. E. Hill), sent the beautiful Cattleya guttata Prinzii, Vicomte de Figueirado; a splendid form of the plant, known in gardens as C. amethystoglossa, but with creamy-yellow flowers blotched with purplish-crimson, and with a very showy crimson front-lobe to the lobe to the lip (Award of Merit).

The Duke of Westminster, Eaton Hall, Chester (gr., Mr. Barnes), sent flowers of Cattleya labiata Princess Adolphus, a very showy and richly-coloured form, with cream-coloured blotches on each side of the dark crimson lip.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed Epidendrum × Wallisio-ciliare (Wallisii ♂, ciliare ♀), a very singular-looking and pretty hybrid, with flowers having yellow sepals and petals, and a white labellum, with yellow crest, in front of which are some fine purple lines. The lip is delicately fringed, and the whole flower very singular and attractive. Messrs. Veitch also showed Cypripedium × Sirius (Godefroyæ ♂, barbatum Crossii ♀), with white flowers tinged with rose-purple, and with thin rose-purple lines. In the plant shown the upper sepal had two smaller lateral blades, one on each side, at the base, a singular freak which may be constant. C. × minosa (Spicerianum × Arthurianum) with rather small flowers spotted with

dark purplish-brown. C. × Zeno (insigne Chantinii ♂, altens ♀) and a fine variety of C. × Niobe were exhibited by the same firm.

E. Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Hollerook), showed Cypripedium × Swinburnei magnificum (Argus-Moensii × insigne Maulei), a noble variety differing from the original in its larger flowers, and in the nearly black blotching of the petals, which are as showy as those of C. Argus-Moensii (Award of Merit).

T. W. Swinburne, Esq., J.P., Comdean Hall, Winchcombe (after whom the plant was named), also exhibited C. × Swinburnii magnificum and received an Award of Merit for his plant.

Messrs. F. Sander & Co., St. Albans, staged a neat group of Orchids, containing several and various forms of Dendrobium Phalænopsis Schroderianum, Lælia autumnalis atrorubens, and L. a. alba; L. furfuracea, Catasetum Christyanum, Restrepia antennifera, Stenia pallida, Cattleya Wallisiana, Cypripedium radiosum superbum, C. × J. Bartels (Boxalli × callosum); C. × Albert Truffaut (Harrisianum vivicans × Spicerianum); C. × Pryorianum (Harrisianum superbum × Lathamianum; C. × Hollidayanum (concolor × almum); C. × maculatum (tonsum × Leeanum), with very bright purple-flushed flowers; and various Orchids of botanical interest only.

T. Statter Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed the pretty Lælia × Euterpe (crispa × pumila Dayana), a very compact plant, and free to flower (Award of Merit); Lælio-Cattleya × Tresederiana (L. crispa superba × C. Loddigesii), an attractive flower, approaching L. crispa; Cypripedium × Ariadne, and the singular pale-coloured C. × Leeanum albens.

Messrs. Heath & Son, Cheltenham, showed Lælia Tresederiana pallida, in which the labellum is of a light rose-pink.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., staged a group of Orchids, in which were one of the original specimens of Cypripedium × Sallieri, with about a score flowers; a good example of their apparently perpetual flowering C. × Pitcherianum, Williams' variety; C. × Leeanum, C. × Harrisianum superbum, C. villosum, C. × Meirax, Lælia autumnalis atrorubens, L. anceps Williamsii, Cœlia bella, Oncidium cheirophorum, O. (not Lælia) prætextum, O. Forbesii. &c. (Vote of Thanks).

Messrs. Hugh Low & Co., Clapton, arranged an effective little group of Cypripedium Charlesworthii, C. × Leeanum superbum, C. Harrisianum superbum, and other Cypripediums; Lælia prætans, &c. With them were the curious little Cypripedium × Argus-Spicerianum, and the new Schomburgkia rhinodora var. Kimballiana, which somewhat resembles a tall, few-flowered spike of Cattleya Bowringiana, the colour of the flowers being of the same purple hue, but the lip is open, and not rolled over the column (Award of Merit).

Mr. P. Weathers, Silverhall Nursery, Isleworth, showed Cypripedium × William Lloyd (bellatulum × Swanianum) a beautiful, and richly-coloured hybrid, with some resemblance to C. × Chas. Richman, in the dark rose and crimson colour which suffuses almost the whole of its surface. The substance of the flower is thick and wax-like, and the broad upper sepal has feathered crimson-purple lines (Award of Merit). Mr. Weathers also showed C. × Gravesiæ, white, with small purple dotted lines, and with little of the dark marking shown on the original variety, illustrated in the *Gardeners' Chronicle*, March 10, 1894, p. 299. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin, showed Platyclinis uncata, Masdevallia velifera, and M. Peristeria (Botanical Certificate). Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr., Mr. J. Howe), showed Cypripedium × J. Howe (Sallierii × villosum aureum). The flower is an improvement in size and colour on C. × Sallieri Hyeanum, which in other respects it resembles.

C. J. Lucas, Esq., Warnham Court, Horsham (gr., Mr. Duncan), showed Vanda Bensonii anchorifera, and the singular Bulbophyllum mandibulare (Botanical Certificate). W. C. Walker, Esq., Winchmore Hill (gr., Mr. G. Cragg), sent Eulophia megistophylla. A. H. Smee, Esq., The Grange, Wallington (gr., Mr. Cummins), showed Amblostoma tridactylon, and a light form of Cypripedium × Ashburtoniæ. S. G. Lutwyche, Esq., Beckenham (gr., Mr. Paterson), showed Cypripedium insigne, C. Dayanum, C. Curtisii, Dendrodium × endocharis, and a fine form of D. Phalænopsis Schroderianum.

Fruit Committee.

Present: T. F. Rivers, Esq., chairman; and Messrs. Geo. Bunyard, J. H. Veitch, P. C. M. Veitch, W. Wilks, G. W. Cummins, T. J. Saltmarsh, J. Wright, A. Dean, J. A. Laing, W. Bates, C. Ross, J. Hudson, C. Herrin, H. Balderson, F. Q. Lane, Geo. Wythes, J. Smith, G. Norman, J. Willard, and Arnold Moss.

Messrs. George Bunyard & Co., Maidstone, staged a magnificent collection of culinary Apples in about 100 dishes. They were of fine quality, and good colour. Dishes especially noticeable, either from their size or colour, were Baumann's Reinette, Lord Grosvenor, Queen Caroline, Grantonian, Bismarck, Gascoigne's Scarlet Seedling, Flanders Pippin, Lady Henniker, Tyler's Kernel, Golden Spire, Wadhurst Pippin, Mrs. Barron, Peasgood's Nonsuch (very fine), Lord Derby, Gloria Mundi, Osborne's, Newton Wonder, Warner's King, &c. (Silver-gilt Knightian).

From Mrs. Wingfield, Ampthill, Beds (gr., Mr. Empson), came nine bunches of well-grown Gros Colmar Grapes, and three bunches of Golden Queen (Vote of Thanks).

Six fruits of a seedling Melon called Belmont Favourite were exhibited by C. A. Hanbury, Esq., Belmont, Eastbourne, gr., Mr. Porteous. The fruits



FIG. 92.—DESIGN FOR PUBLIC PARK AT TRURO, CORNWALL. (SEE P. 730.)

were of pale colour, green flesh, but the present date of season is against good flavour in all Melons.

Mr. Chas. Herrin, from the gardens at Dropmore, exhibited a dish of Farmer's Seedling Apples, a medium-sized culinary variety, rather conical in shape.

Messrs. Cooper, Taber & Co., 90, Southwark Street, London, S.E., exhibited two dishes of new American varieties of Potatos, Carmen No. 1 and Carmen No. 3. The first-named are described as early, and the latter late. The tubers, particularly the last-named, were large, white, and in shape rather long and flat.

From the Royal Horticultural Society's Gardens, at Chiswick, came a dish of Beurré Sterckmann Pears.

Mr. A. G. Nichols, Nuneham Park Gardens, Abingdon, showed branch and fruits of a Cucumber called White Spine Winter Cucumber, an old variety, but said to be a capital one for winter-fruiting. Apparently it is very free, and possesses a very deep colour.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., exhibited plants in pots of Tomato Warden Park Favourite, recommended as a good one for winter forcing. The fruits are rather small as shown, and corrugated.

TRENGWAINTON, CORNWALL.

This is the name of a richly-wooded property near Penzance, belonging to Mr. J. Robins Bolitho. The flower gardens near the house do not call for particular notice, except for the lovely views (obtainable from the terrace on the south side of the building), of Mount's Bay and St. Michael's Mount. But the fruit and vegetable gardens, with the orchards which surround them, have many points of interest, and cover nearly 5 acres. When these gardens were originally laid out, two walls were built about 18 feet high, 468 feet long, 78 feet apart, and running east and west. Between these tall walls are four others about 6 feet high, which run north and south, and divide this part into five equal areas. On the western side of each of these shorter walls is an inclined bed of earth, beginning at 16 feet from the base of the wall and going up to the top. An old labourer on the estate, now ninety-four years of age, remembers these walls being built about the year 1814, upon what was then an open moor, much exposed to south-westerly gales, and says that these inclines were planted with Hornbeams as screens. About the same date the grounds surrounding these gardens were planted with Beech, Plane, Ash, and Elm; and as these trees grew (being now generally about 80 feet high), the need for the Hornbeams ended, and they were in due course removed. It is somewhat singular that not a single specimen of Hornbeam can now be met with anywhere near. These inclined beds are now devoted to Strawberries, to Violets, and to other flowers of which the gardener, Mr. S. Clarke, is often called on to furnish large supplies for bazaars and other charitable purposes, and for church decoration.

Notwithstanding the very unusual amount of frost which was experienced here last spring, 14° having been registered, there are some very interesting plants in one of the compartments of this garden. Embothrium coccineum, the Flame Tree, 20 feet, had a few blooms on it on August 10, and had evidently flowered well, as there were plenty of seed-pods on it, nearly ripe. A fine tree of Acacia dealbata had been nearly killed, but was breaking out again at 2 to 5 feet from the ground. Erica australis, 8 feet; a Podocarpus, 10 feet; Olearia Haasti, 10 feet; and Leptospermum baccatum, 12 feet, were noteworthy. There are also enormous clumps of Bambusa Metake and Arundinaria falcata, both of great height. There was likewise a plant of Chimonanthus with many fruits on it, each 3 inches long, and with leaves much larger than the usual size of C. fragrans. Against the walls were Trachelospermum (Rhynchospermum) jasminoides, 5 feet, flowering freely; Solanum jasminoides, covered with blooms up to 15 feet; Habrothamnus coccineus, Coprosma Baueriana, and many other things usually treated as stove or greenhouse plants in other parts of the country.

There is a tradition in the neighbourhood that the part of these gardens between the high walls was intentionally arranged to represent the size of Noah's ark. Now, the ark was 300 cubits long by 50 cubits wide; and as the cubit is usually taken to be 16 inches, this would give 400 feet by 67 feet as its dimensions. But, as will be noticed from the measurements already given, the enclosed part of the garden is somewhat larger than this. It is, however, somewhat singular that the actual length and breadth of this part are in exactly the same proportions as the Biblical measurements. We have, therefore, only to suppose that the designers or builders of these walls considered the length of a cubit to be 18¾ inches, to give us ground for thinking that there may have been some foundation for the tradition. *W. T., Hea Moor.*

FLORISTS' FLOWERS.

NEW CHRYSANTHEMUMS.

Whilst all interested in the Chrysanthemum must feel some sense of relief that the busy and exciting season of exhibitions is over, they may yet be much troubled with regard to the difficulty of selecting the best of the novelties so-called, but not always so, that have through the granting of certificates, &c., been placed in very prominent positions. Every grower likes to have a few new sorts each year, and every exhibitor must do so, or else he would soon find himself left behind by others. The annual increase in new Japanese sorts seems to be at the rate of about 30 per cent. on the whole, when all the lists of home, French, and American sorts, are brought together. Of this number perhaps some 5 per cent. get certificates awarded to them, so that the growth is enormous. With no other exhibition flower is there anything like the same increase. Roses, Dahlias, Carnations, Auriculas, come slowly, and it it is easy to keep pace with them. The increase in Chrysanthemums is bewildering. Thus the selection by private growers from the numerous trade lists of even the best of the novelties becomes a severe tax on one's judgment as well as pocket. Unfortunately the novelties are not always pleasing additions, but because large they elbow out from cultivation many smaller, yet more beautiful varieties. Thus our progress in Chrysanthemum production is by no means all gain. Certificates generally are granted from the exhibition point of view. Rarely, perhaps never, are decorative considerations regarded, so far as relates to the large-flowered section; were a selection made of twenty-four Japanese varieties for elegance and refinement of flowers not a few of the favoured exhibition ones would be excluded. Their merit is that they fill the board, and judges seem to detest voids on show boards. *A. D.*

The Carnation.

Before saying anything about the border Carnations, I may advert to some remarks made by J. B. Crichton at p. 674. The system of propagation given there is that usually practised for border Carnations. Plants layered in July and August would not flower in the late autumn and winter months, but it is at that season of the year that the flowers are wanted. I well remember some years ago, when some conversation arose on certain points of culture of the Carnation, at one of the National Society's exhibitions; one enthusiastic amateur exclaiming, "Do not tell me how to get Carnation blooms in summer. I want to know how to get them in winter!" Just so. In the first place, good varieties must be grown, and such as flower well at midwinter. Tree Carnations cannot very well be propagated by layering. As the name implies, they take the "tree" form, by shooting out from the stem, forming side branches. These grow and flower, and again form lateral growths, and none of these can be bent down to the surface of the ground to be layered. I have in years gone by described how to obtain a succession of flowering plants, but in a month it will be necessary to put in the cuttings or slips for the earliest batch of plants, and at that early season of the year they require both bottom heat and the temperature of a forcing-house, the minimum of which is 50°, the bottom-heat being from 75° to 80°, and a uniform temperature maintained. Fermenting material heats violently for a few days, and rapidly subsides again, rendering thick dung lining necessary, which is a kind of work that takes up much time, and is laborious. The bottom-heat should be, if possible, afforded by hot-water, as being not liable to much fluctuation, and easily maintained at the right heat. A small frame or hand-light, or something similar, must be put over the bed, so as to keep the slips in a plump condition till roots form. Some varieties form roots very readily, and scarcely require this aid, whilst others are stubborn and linger long in the cutting state. Owing to this peculiarity, it is good practice to put one variety only in a flower-pot. As fast as the cuttings form roots and are self-supporting, they must be removed from the bottom-heat and placed on a shelf near the glass-roof of the house, and after a few days they should be potted off into what are termed thumbs. The smaller and tenderer side-growths form roots more readily than others, and such, of course, when rooted, do not need even small sixties to start with. Keep the potted-off plants on the shelf till they are established, when they will be able to stand the temperature of a greenhouse. It is well for tyros to remember that a young Carnation will not remain healthy if kept for a long time in a hothouse. From the greenhouse the plants pass into cold frames, and ultimately out of doors. Cuttings for succession may be taken as late as May. Those earliest propagated begin to flower about the end of the month of September, and a succession can be maintained throughout the winter and spring. The potting-soil for the rooted cuttings and young plants should consist of a little peat, loam, leaf-mould, and sand. *J. Douglas.*

SCOTLAND.

ORCHIDS AT OSWALD HOUSE, EDINBURGH.

A visit to the gardens at Oswald House, the property of J. Buchanan, Esq., which lies at the outskirts of the town, is always of interest to orchidists, and although at this time of the year a gay display is not to be expected, yet several good plants were remarked as being in flower, notably an excellent plant of C. Leeanum, carrying some finely-coloured flowers, C. Warneri, C. cardinalis, C. Amesianum, C. Dominianum, and others. These plants have possessed leaves and flowers of remarkable vigour and size. In the same house a fine flower-spike of Lælia superbiens was remarked still undeveloped, which promised a good lot of flowers shortly. Cattleya labiata in several shades of colour was brightening the house with its rosy-purple flowers. Plants of Cattleya gigas Sanderiana were very vigorous, and Lælia albida, L. anceps, and the variety L. a. Scottiana, were carrying heavy flower-spikes. Amongst the cool Orchids many interesting plants were to be noted. Two fine baskets of Nanodes Medusæ, a difficult subject with some growers, grows luxuriantly here in a cool greenhouse under Mr. G. Wood's care. Large plants of Cœlogyne cristata are well set with flower-spikes. The Odontoglossums also look well, and cleanliness is everywhere observed. The greenish-yellow flowers of Odontoglossum Uro-Skinneri were showing freely, and O. bictonense, and Oncidium incurvum were noted, the graceful spikes of the latter being conspicuous objects. Plants of Masdevallia Chimæra and M. tovarensis were flowering freely, and a strong plant of Lycaste Skinneri had thirteen flower-spikes, and the rarer L. Skinneri alba too, showed signs of flowering. The sweet-scented Cymbidium sinense and Pilumna fragrans gave out their delightful perfume. Angræcums, Vandas, Aërides, were represented by large specimens the very pictures of good health, and this varied collection reflected much credit upon Mr. Wood's methods of culture. *H.*

PLANT PORTRAITS.

Anguloa Madouxiana×.—A cross, as is supposed, between A. Ruckeri and A. uniflora. *Lindenia*, t. cdxxxiv.

Anthurium Crombezianum × André.—A cross raised at Cannes between a hybrid of A. Andreanum and A. Scherzerianum, the latter being the pollen parent. Leaves deeply cordate, with rounded lobes, ovate-acuminate; spathe reflexed, crimson; spadix erect, cream-coloured. *Revue Hort.*, December 1.

Apple (Reinette) Descarde, *Revue de l'Horticulture, Belge*, November.

Azaleas.—1, La Tsarine, lilac; 2, Nicholas II, orange (mollis × sinensis). *Revue de l'Horticulture Belge*, December.

Brugmansia chlorantha and B. cornigera, *Garden*, November 17.

Calla Elliottiana — *Garden*, November 24.

Calochortus venustus roseus.—C. Vesta, C. V. purpurascens. *Garden*, November 17.

Cattleya Mossiæ var Wambekeana. A fine form of Mossiæ, with a lip resembling that of Dowiana or gigas. *Lindenia*, t. cdxxxiii.

Chorozema Lowii ×, hort.—A hybrid raised in England between C. elegans and C. ilicifolia. *Revue de l'Horticulture Belge*, December 1.

Cornus florida rubra, *Revue Horticole*, Nov. 1.

Crab-Apple, General Grant, very productive, handsome, and of good quality. *Canadian Horticulturist*, November.

Cypripedium Godefroyæ Godefroy, var. leucochilum, hort. *Lindenia*, t. 431.

Double Lilac, Michael Buchner, *Gartenflora*, t. 1409, erroneously labelled as L. Maxime Cornu.

Gentiana crinita, Froelich, *Mehan's Monthly*, November.

Hydrangea Lindleyana, *Garden*, Dec. 1.

Iris Leon Tolstoi, *Garden*, November 10, 1894.

Lælia autumnalis var, *Dictionnaire Pratique d'Horticulture*, liv. 32.

Lælia purpurata, Lindl. var. Comte de Montebello, Linden. Sepals and petals milk white, lip rich purple. *Lindenia*, t. cdxxxv.

Masdevallias: elephanticeps, fractiflexa, hieroglyphica, Mooreana, muscosa, ophioglossa, pachyantha, striatella, ventricularia, Wendlandiana, all figured in Part 6 of Miss Woolward's *The Genus Masdevallia*, issued by the Marquis of Lothian.

Odontoglossum cordatum, Lindl., var. aureum.—Perianth segments lanceolate, yellowish; lip white, halberd-shaped; with a long acumen. *Lindenia*, t. 430.

Odontoglossum crispum var. ocellatum.—Perianth segments white, thickly beset with small crimson spots between the margins and the centre. *Lindenia*, t. 429.

O. Pescatorei, Lindl., var. Chaberiæ, Linden.—A form with the lip of a rich purple colour. *Lindenia*, t. 432.

Osmunda Claytoniana, *Mehan's Monthly*, October, 1894.

Pear Alessandro Lambre, *Giornale d'Agricultura*, November.

Pear, Souvenir du Congrès, *Canadian Horticulturist*, October.

Phœnix melanocarpa, *Revue Horticole* Nov. 1.

Rose, Paul's Carmine, *Garden*, Oct. 27.

Vriesea Rex, *Revue de l'Horticulture Belge*, November.

BOOK NOTICE.

"PHYSICAL AND CHEMICAL PROPERTIES OF SOILS"*

A useful little treatise has recently issued from the pen of Prof. R. Warington, F.R.S., on the "Physical and Chemical Properties of Soils."

This subject being very slightly treated in most English text-books, the pamphlet is written to supply a temporary want, and with the view of enabling teachers of agricultural and horticultural classes to do fuller justice to this part of their subject. In speaking of the "Relation of Soil to Water," the author says:—"The influence of humus on the capacity of a soil for water is remarkable. The surface soil of the experimental wheat-field at Rothamsted, which was sampled in January, 1869, when saturated with water, the unmanured land contained 32·4 of water per 100 of dry soil; the land manured with farmyard manure for twenty-six years contained 65·8 of water per 100 of soil.

"Thus the humic matter of soils is of great horticultural importance; not only does it profoundly modify the physical properties of soil, it is also the principal source of the nitrogenous food of plants. A soil rich in humus is rich in nitrogen. A soil poor in humus is poor in nitrogen. An old pasture at Rothamsted, with plant-roots removed, contained when dry, in the first 9 inches of depth, 0·245 per cent. of nitrogen, and 3·36 per cent. of carbon, corresponding to about 5·6 per cent. of humus.

"In very rich English pastures the percentage of nitrogen will reach 0·5 or 0·6. The soil of old kitchen gardens will reach a similar amount.

"It is stated that the proportion of plant-food present in soils is very small, even when the soil is extremely fertile, the bulk of the soil serving chiefly as a support, and as a sponge to hold water.

"A good arable soil may contain 0·15 per cent. of nitrogen, 0·15 per cent. of phosphoric acid, 0·2 per cent. of potash, 0·5 per cent. of lime; much larger quantities may, of course, occasionally be present.

"The weight of soil on an acre of land is so enormous that small proportions of plant-food may amount to very considerable quantities. Supposing, therefore, a dry soil to contain one-tenth of a per cent. of nitrogen, phosphoric acid, or potash, the quantity in nine inches of soil will be from 2,250 lb. to 3,500 lb. per acre.

"A large part of the elements of plant-food contained in soils is present in such a condition that plants are unable to make use of it. An acre of soil may contain many thousand pounds of phosphoric acid or of nitrogen, and yet be in a poor condition; while a dressing supplying 50 lb. of readily available phosphoric acid or nitrogen, in the form of superphosphate or nitrate of soda, may greatly increase its productiveness.

"The available condition of the plant food depends much on the character of the soil; a much smaller proportion of plant food will render a sand fertile than would be required in the case of a clay. This is due in part to the far greater development of the roots in a sandy soil, and to the different condition in which the mineral food is held.

"Food can be taken up by the roots of plants only when it is in solution, or in a condition capable of being dissolved by contact with the acid sap of the root-hairs. Matter which is in neither of these conditions is useless to the plant, though it may afterwards become available by the chemical action within the soil. Most of the ingredients of soil are in an insoluble condition; this fact is really of the utmost advantage, especially to those who cultivate under glass, and in pots, or else soils would lose their fertility by the frequent heavy waterings to which they are necessarily submitted."

These few notes touch only briefly the subjects treated upon, and we can confidently recommend the work to those for whom it is specially intended.

* Published by Chapman & Hall, Ld, London.

MARKETS.

COVENT GARDEN, December 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, Cooking, p. sieve	3 0	4 0
— Dessert, ½-sieve	2 6	3 0
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	3 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 0	6 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	6 0	8 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz. sprays ...	0 10	1 0
Iapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	3 6	4 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, per lb. ...	0 9	0 10
Cauliflowers, per dozen	1 0	1 6
Cucumbers, per doz.	5 0	6 0
Mushrooms, per lb.	0 8	0 9
Onions, per bush. ...	1 6	2 0
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

Potatos.

There has been, during the week, a general run on first-class Potatos at an advance of 5*s.* to 7*s.* 6*d.* per ton. The best samples off Dark soils have also commanded quick sales and better prices than last week. *J. B. Thomas.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Above (+) or below (—) the Mean for the week ending December 8.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 +	7	28	+ 345	— 74	7 —	213	47·0	22	31
1	3 —	0	50	— 80	+ 35	4 —	188	32·1	10	34
2	1 —	2	33	+ 45	— 85	3 —	194	24·3	5	30
3	1 —	5	33	+ 72	— 131	3 —	190	25·2	17	34
4	2 —	1	38	+ 56	— 127	4 —	181	25·4	11	31
5	1 —	9	28	+ 137	— 153	3 —	183	30·4	19	34
6	0 aver	6	28	+ 75	— 81	8 —	199	45·5	12	31
7	2 —	4	32	+ 214	— 144	5 —	194	33·1	12	31
8	1 —	14	15	+ 116	— 85	6 —	196	41·6	21	38
9	1 —	7	29	+ 54	— 32	4 —	216	35·1	11	30
10	0 aver	24	13	+ 64	— 74	5 —	196	40·4	26	32
*	1 —	28	3	+ 306	— 21	7 —	204	36·4	39	42

The districts indicated by number in the first column are the following:—
0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 8, is furnished from the Meteorological Office :—

"The *weather* continued fair and dry over the Kingdom generally, but towards the end of the period the condition became less settled, and some rain was experienced in nearly all places. A good deal of mist or fog prevailed at times—especially at the inland stations.

"The *temperature* was slightly above the mean in 'Scotland, N.,' and just equal to it in 'Scotland, W. and Ireland, S.;' in all other districts it was a little below the normal. The highest of the maxima were recorded either near the beginning or the end of the period; they ranged from 55° in 'England, S.W.,' and 54° in the 'Channel Islands,' to 46° in 'England, N.E.' The lowest of the minima were registered, as a rule, either on the 4th or 5th, and ranged from 16° to 21° in Scotland, from 23° to 27° in Ireland, and from 21° to 26° over England. In the 'Channel Islands' the lowest reading was 28°.

"The *rainfall* was much less than the mean in all districts.

"The *bright sunshine* varied considerably in amount, but was generally above the mean in the west and south, and below it in the east. The percentage of the possible duration ranged from 5 in 'England, N.E.,' 10 in 'Scotland, E.,' and 11 in the 'Midland Counties and Ireland, N.,' to 22 in 'Scotland, N.,' 26 in 'Ireland, S.,' and to 39 in the 'Channel Islands.'"

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ADDENDA.—In our report of the National Chrysanthemum Society's exhibition at the Aquarium last week, we omitted to give the name of Mr. Carlisle of Watford as the winner of the 1st prize in the class for six cut blooms of Japanese Chrysanthemums.

AMERICAN BLIGHT ON APPLE TREE: *A. B.* Petroleum emulsion as sold by the sundriesmen; or soap-suds and petroleum, a wine-glass of the latter to one gallon of the former, as a winter dressing. The roots should be uncovered, and soap-suds (no petroleum) applied heavily, returning the soil over the roots. Dabbing the hiding-place of the aphis after denuding the trees of the rougher portions of the bark with whale-oil or brine is effective.

APPLE TREES AND MOSS: *A. B.* Dressing the trees with quick-lime as powder when they are wet with rain or dew. It may require more than one dressing if moss infests the trees very much. Whitewashing with lime is effectual, but the wash stays on the trees too long, and is therefore objectionable on the score of appearance.

APPLES (DESSERT) 12, AND PEARS (DESSERT) 12, FIT FOR CULTIVATION IN IRELAND: *Kerry.* Apples: Irish Peach, Summer Strawberry, Jennet Moyle, Court Pendu Plat, Margil, Red Astrachan, Yellow Ingestre, Cox's, Kerry, Ribston, Sturmer, and King of Pippins. The varieties which make shoots of moderate length, *i.e.* short jointed wood, which matures in a short summer, and which are therefore not so much affected by wind as long jointed shoots would be, are the best for Ireland. Pears: Swan's Egg, Dunmore, Napoleon, Thompsons, *Louise Bonne, *Jersey Gratioli, *Beurré d'Aremberg, *Doyenné du Comice, *Jargonelle, *Winter Nelis, Glout Morceau, *Knight's Monarch. Those with an * would be the better for being grown on a wall or fence, or if as bushes, in some warm sheltered enclosure.

BOOKS: *Grove.* The best books for a student of the science and art classes are Dr. Scott's *Introduction to Structural Botany*, 1894; and Henfrey's *Elementary Course of Botany*, 4th edition; published by Van Voorst, Paternoster Row, E.C.—*K. B.* The book that you enquire about is published by John Murray, Albemarle Street, Piccadilly, London.

CORRECTION. — WATER-TIGHT STOKEHOLES. — An obvious error has crept into my notes at p. 701, middle column, half-way down. The correct rendering should read thus:—"The width of the hole must be sufficient to permit of two 9-inch walls, one on each side." *E. H. J., Hampton Hill.* —In our last issue, under the heading "Fruit and Fact," p. 701, Mr. D. T. Fish desires us to state that in the fourth line from the end it should read 6*d.* per quarter peck instead of 64*s.* per quarter.

DEPOSIT IN BOILER: *D. R. Dixon.*—A substance called by the trade name of Anti-incrustator is sold by some of the London horticultural sundriesmen, which is good for the purpose of dissolving the incrustations on the inner surfaces of hot-water boilers.

FRUITING OF STEPHANOTIS FLORIBUNDA: *J. H.* The fruiting of this stove plant is not uncommon. It is not edible—is, in fact, poisonous. Some of the seeds might grow.

INSECT: *R. Grafe.* The scale is Ischnaspis filiformis, Douglas, found on various Palms and other plants, chiefly in tropical America. *R. McL.*

LARCH SEED: *Larix.* The seed may be safely extracted by drying the cones on a timber kiln, brick or metal covers being unsafe. The cones should be placed on the wooden cover to a depth of 6 inches, and the temperature raised to 100° F. They will be sufficiently dry and brittle in about ten hours, and should be turned twice in that period of time. The cones should then be placed on a smooth floor of earth, stone, or brick, and thrashed to pieces with a flail. The seed must be sifted from the *débris* of the cones, and kept in a dry place till towards the end of April, when it should be sown after steeping it in water for a few hours. The land should have been manured for some previous crop, and should be thrown into 4-feet beds, with 1½ feet alleys between. The weight of seed for sowing four lineal yards of a bed of this width is 1 lb., which will produce 14,000 to 15,000 plants. The seed should be covered to a depth of ¼ inch.

LILIES: *Contich.* Lilium longiflorum and its variety Harrisii, will force well if potted early in the autumn, or in undisturbed masses in large pots if top-dressed with rich soil, and the drainage put in proper order. L. candidum will bear slight hastening into flower after showing its buds, but L. umbellatum, L. dahuricum, L. Chalcedonicum, and L. auratum, are not good forcers. Much may be done in getting late bloom in the autumn by imbedding, as the Japanese do, the bulbs in balls of clay, and keeping them cool and at rest as long as possible. The "Chinese Fairy Lily" is not a Lily at all, but a variety of Tazetta Narcissus. When Lilies are forced, the cultivator must wait till the roots have permeated the soil thoroughly, and the first stages should be very gradual, not higher than 50° at night and 60° by day, but when the flowers show these figures may be increased 10°, remembering that the higher the degree of warmth employed at the flowering stage, the more evanescent the blooms. Lilies received at this season may be potted at once, or embedded in cocoa-fibre refuse out of doors, or in cold frames in close order.

MUSHROOM GROWING FOR MARKET: *A. B. J.* As yet good remunerative prices are obtained for the produce at all seasons, and we believe that they might be made more plentiful, even should the returns to the grower be somewhat less. They are too dear for middle-class households. The best kind of structure for cultivating Mushrooms in is one that, being wholly or partly under the ground-level, is economical in the matter of heating. If such a place be of sufficient width for two or three tiers of stone or slate shelves or benches, on either side of a broad central path, so many beds will be accommodated at one time, and a certain number of them in the process of cooling down to proper temperature for "spawning," that the warmth of the air will attain 55° to 60°, and no higher degree is required or desirable—that fire-heat becomes needless except in severe winter weather. Mushroom sometimes sell at £1 per bushel wholesale, though, as a rule, it is one quarter lower. If you engage in the business largely, it might be profitable to make the Mushroom spawn at home. A good manual on the subject of making the spawn and cultivating the esculent indoors and out-of-doors, will be found in Mr. Wright's *Mushrooms for the Million*, published at 171, Fleet Street, E.C.

NAMES OF PLANTS: *J. B. S.* Maxillaria punctata.—*R. G.* Ouvirandra fenestralis, the Lattice-plant native of lakes in Madagascar. — *B. N.* Spiræa Lindleyana.—*J. H. B.* 1, Gymnogramma ochracea; 2, Adiantum Pacotii; 3, Nephrodium molle; 4, Adiantum gracillimum; 5, Pteris tremula; 6, Pteris cretica albo-lineata. — *Pro bono publico.* Cannot name from leaves only. A Willow, probably.—*D. S.* Prunus serotina (N. America).

PHALÆNOPSIS SCHILLERIANA, AND OTHERS BRANCHING FROM THE CHIEF FLOWER-SPIKE: *Constant Reader.* Branching commonly takes place if through any cause the flowers first formed drop off, either in bud or later; moreover, branching is natural to these plants. Fog will cause a fall of the flowers, so will a low temperature and errors in cultivation. Probably the secondary growths will flower satisfactorily in the spring. The temperature should be a little higher at this season, and during January and February, than that which is suitable for the plants in the stove in which they are now standing, viz., 60° to 65° at night, and 65° to 68° in dull weather, with a slight advance over the highest figure in sunny weather.

PHOTOGRAPHS: *W. B.* We do not undertake to return these unless we are specially asked to to so; and we have none in our keeping of the years 1891 and 1892.

POINSETTIA SEEDING: *W. B.* The seeding of this plant is, we believe, an unusual occurrence.

POLYGONUM SACHALINENSE: *W. R. & L.* Immensely productive. You can obtain sets by advertisement in our columns.

RATING OF MARKET GREENHOUSES: *Overrated.* See answer in our last issue in Notices to Correspondents.

RED PLUM: *C. W. de Heger.* Probably Prunus myrobalana is meant.

TAR DRESSING FOR VINES: *A. B.* A pint of gas-tar to three gallons of dry powdered clay, mixing together with 1 lb. of soft soap and some soot to give colour to the substance, reducing the mixture to the consistency of thick paint, by adding warm water. There are other formulas, but the above is safe in the using, and effectual as a dressing for mealy bug.

VINES: *B. G.* The soil is by no means in bad condition, but the appearance of some of the roots sent points to the stagnation of water in the soil. Look to the drainage. There was no fungus on the roots.

COMMUNICATIONS RECEIVED.—F. W. S., Cannes.—W. W. Kew.—D., Berlin.—H. E.—H. C., Geneva.—F. S.—The Keeper, Royal Botanic Garden, Edinburgh.—J. D.—Prof. Trelease, St. Louis.—W. B. Hartland.—W. B. H., Kew.—H. F.—J. R. J.—Harrison Weir.—Sir Joseph Hooker.—J. D.—National Rose Society.—D. T. F.—F. W. O.—A. B. S.—R. D.—J. Ritchie.—E. C.—T. B.—Q. R.—W. Rapley.—J. R. J.—J. D.—A. P.—H. M.—J. D. [H.—Riviera.—E. J.—W. P. R.—T. F. R.—J. G.—P.—J. Freeman.—W. D.—J. E.—W. B. H.—J. H.—U. D.—W. Stanbury.—Webb & Sons, Stourbridge.—Sutton & Sons, Reading.—G. W.

PHOTOGRAPHS RECEIVED.—G. P. (with thanks).

SPECIMENS RECEIVED.—A. J. A. B.—D. S.—R. G.—T. H. S.—J. W.—F. G. W.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

BRITISH CHRYSANTHEMUMS.

The following are undoubtedly the finest lot of British Seedlings ever introduced. They will need no puffing from myself, but their own merits will make them indispensable to every exhibitor :—

DUCHESS OF YORK (J. Carruthers), fine yellow ... ... 6s.
MISS GOSCHEN (H. J. Jones), grand yellow ... ... 6s.
WILLIAM FIFE (H. J. Jones) beautiful pink ... ... 5s.
MR. B. FLETCHER (H. J. Jones) rich rose ... ... 5s.
MRS. H. W. DREWETT (H. J. Jones), splendid small petalled, white ... ... 5s.
MRS. J. H. TAYLOR (H. J. Jones). broad petalled, white ... ... 5s.
MR. B. B. MARTIN (H. J. Jones), fine bronze ... ... 5s.

CHARLES H. CURTIS (H. J. Jones), grand yellow incurved ... ... 7s. 6d.
MRS. C. E. SHEA (C. E. Shea), largest white grown ... ... 21s. 0d.
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MISS ELSIE TEICHMANN (C. E. Shea), white incurved Japanese ... ... 7s. 6d.
MISS BRONNA FOSTER (C. E. Shea), deep rose incurved Japanese ... ... 7s. 6d.
MRS. CHARLES COX (Cox), fine full yellow ... ... 5s. 0d.

PLANTS IN MARCH.

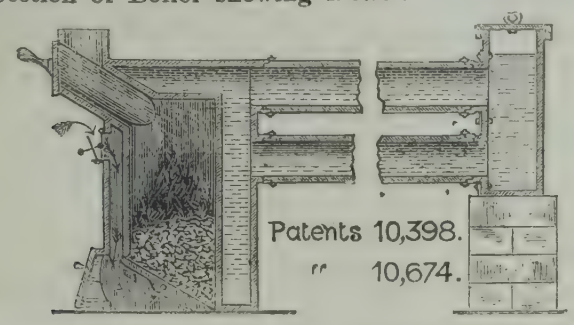
My full CATALOGUE will shortly be ready, and Buyers will do well to wait for this, which will be posted to Customers free; non-Customers, 7 stamps.

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SILVER MEDAL HORSE-SHOE BOILER

(KINNELL'S PATENT).

Section of Boiler showing Action of Hot Blast.



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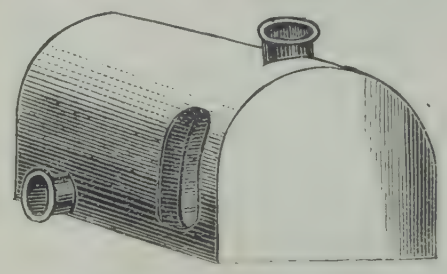
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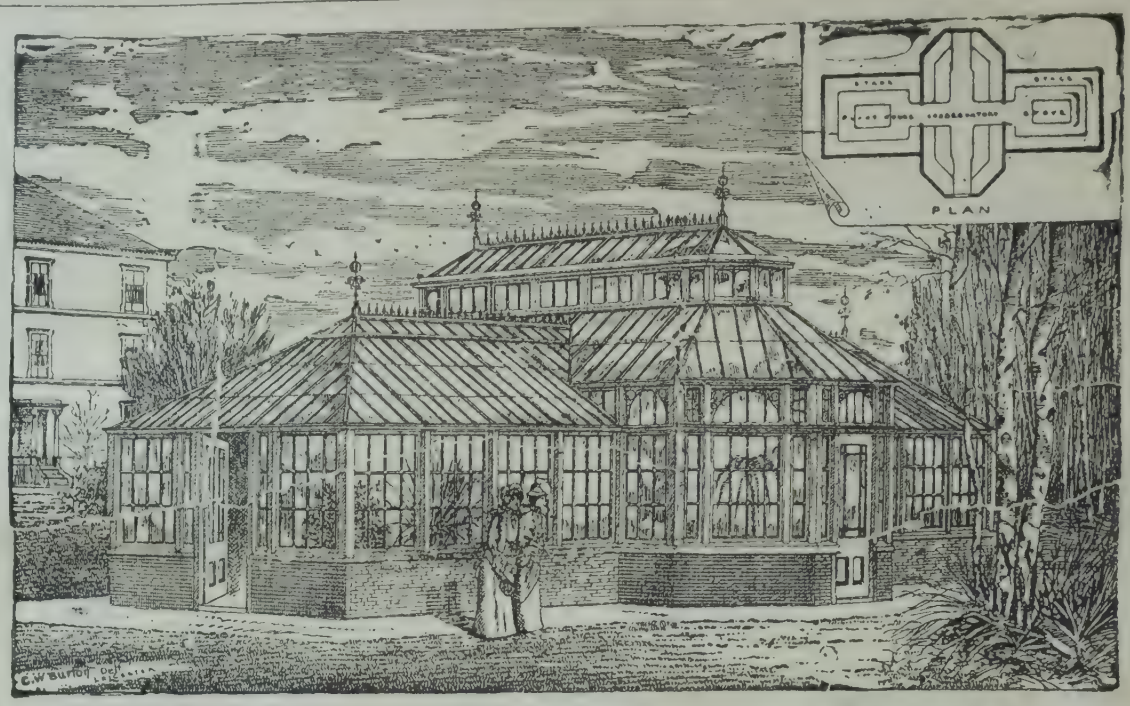
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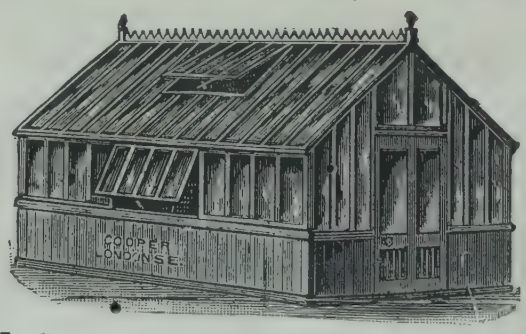
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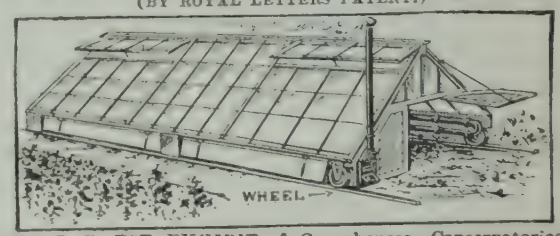
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TO

THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

_____ 1894.

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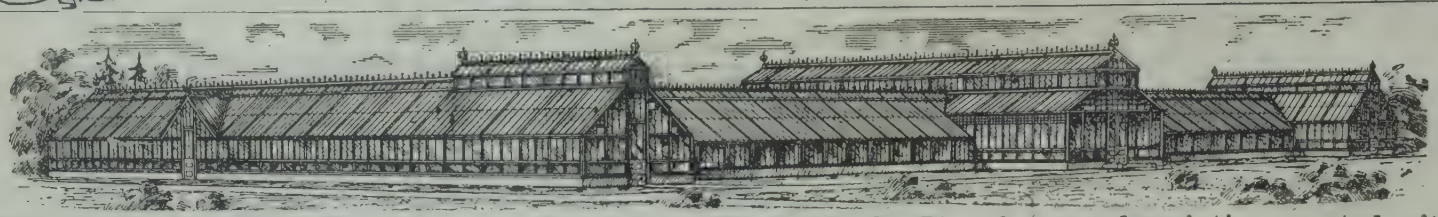
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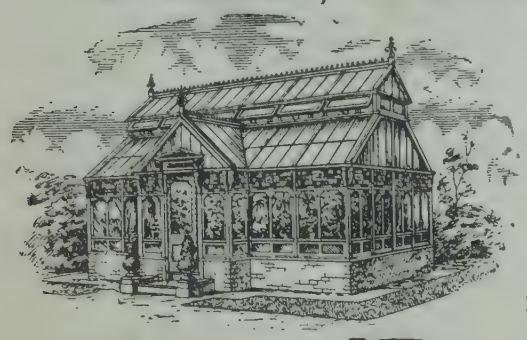
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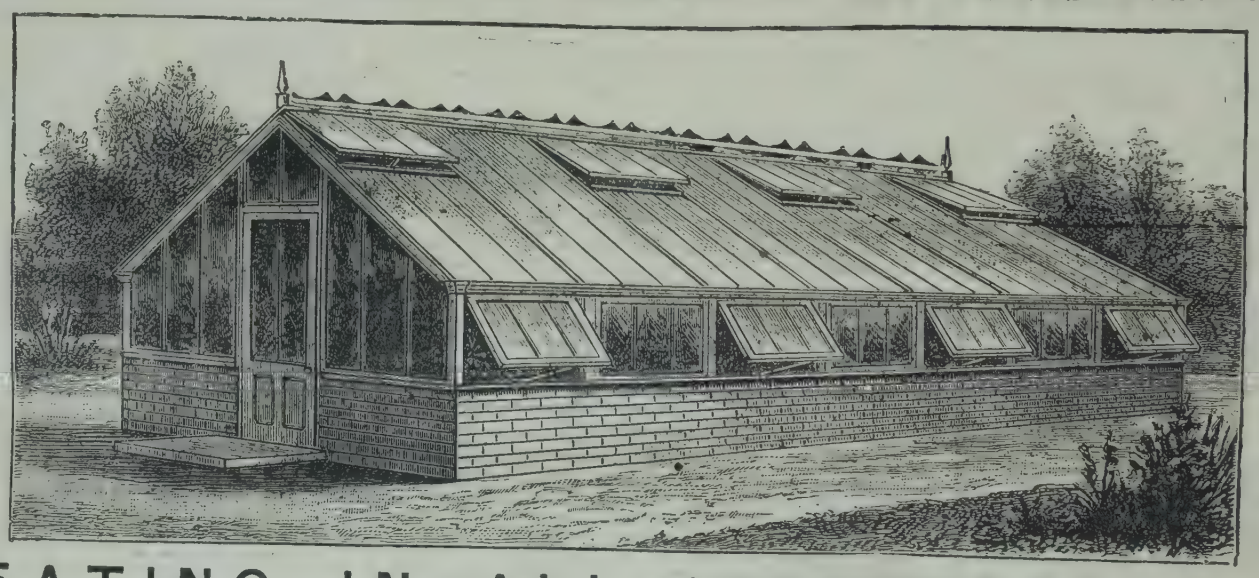
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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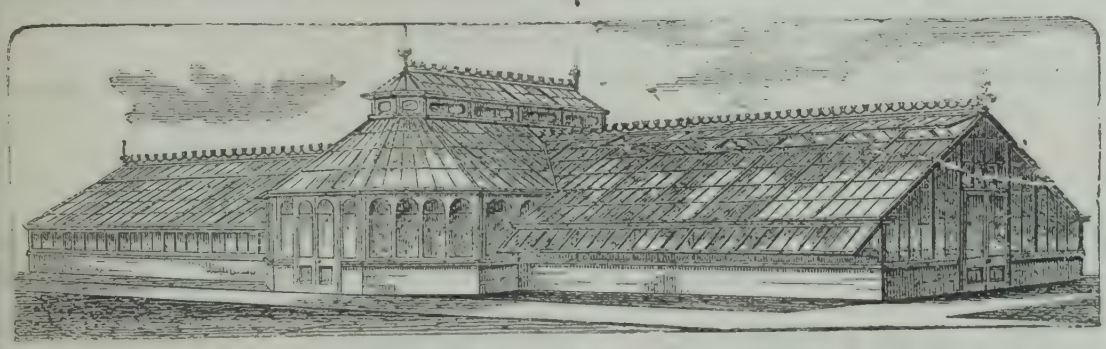
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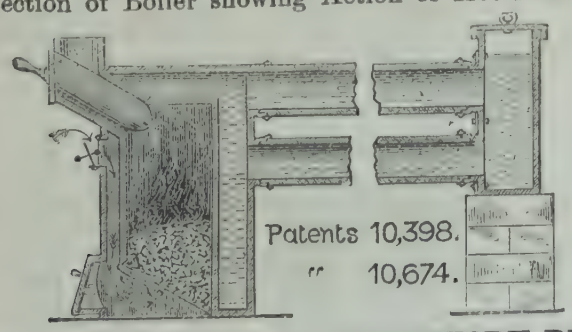
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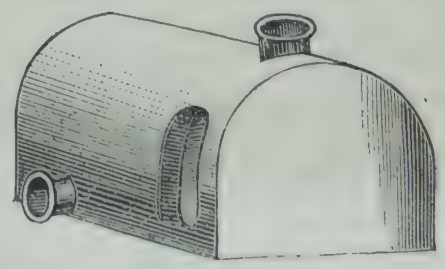
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 22, 1894.

MISLETOS.

MUCH has been written on the folk-lore of the common Misleto and the ceremonies and privileges attending its use at this season of the year; and almost everybody knows it growing, at least as it is to be had, or seen at the greengrocer's; yet, probably, few persons are aware of the wide geographical range it and its numerous congeners, often very different looking, have.

GEOGRAPHICAL RANGE.

It extends from Scandinavia to the Mediterranean, including North Africa, and from the extreme west of Europe to the extreme east of Asia, in China and Japan. It grows on a surprising variety of trees, including the Apple and the Scotch Fir, and most rarely on the Oak (see fig. 98, p. 759). Wide as its range is, however, it is by no means generally diffused and common over the whole area of its distribution, even where the conditions are apparently favourable to its existence. Thus in the eastern counties of England it is nowhere I believe, sufficiently abundant to be a pest; but, on the contrary, it is generally rare. In the north of England it is quite rare, and in Scotland and Ireland it only exists here and there, where it has been introduced; whereas in south-western England, especially in Herefordshire, and some of the neighbouring counties, it is excessively common, more particularly on Apple trees and Poplars.

This partial local profusion and partial local scarcity are exemplified also in its continental distribution; but it is a phenomenon not easily explained, because, as already mentioned, it flourishes on a great variety of trees, and it produces fruit freely season after season. Many other members of the same genus, or the same order, exhibit the same peculiarity. The common Misleto, Viscum album, presents little variety in habit and foliage, even in its most distant and diverse localities (see *Gardeners' Chronicle*, 1873, p. 1703, for figures of some varieties, repeated on p. 746). Size, due to degree of vigour, is the principal difference; and a person knowing it as it grows in England, would at once recognise it on seeing it in China or Japan, or the mountains of North India. It will be remembered that the common Misleto is furnished with ordinary green leaves, capable of assimilating crude food; but a large number of the species of Viscum are either leafless, or the leaves are reduced to small scale-like organs, and such species can consequently only use partly-organised food.

The genus is spread over the Old World; it is represented in all countries, including many

remote islands; yet it is absent from large trees of the same countries. For instance, it inhabits only the eastern side of Australia, while several species are found in New Zealand; and it extends eastward in the Pacific to the Hervey, Society, Marquesas, and Hawaiian Islands.

As now generally limited, the genus Viscum is not represented in America, where, however, other genera abound — genera not distinguishable except by a botanist; and some of the species have received the Old World's name of Misleto. Phoradendron flavescens, the Misleto of the Eastern States of North America, is very similar in foliage, habit, and colour to our own, and also has white berries. Apart from the two or three other European forms, regarded by some botanists as distinct species, by others as varieties of Viscum album, there are at least between thirty and forty species in various parts of the world.

Protective Arrangements.

The fact that the common Misleto flourishes on such a large variety of different trees, coupled with its wide range, and the fact that its seeds pass through the intestinal canal of birds without injury, indicates that it has no need of special protection to maintain its position in the struggle for existence. But it is evidently not so with all the species of the genus, whether leafy or leafless. Many of the leafy species, as in the allied genus Loranthus, have leaves so like the trees or shrubs on which they prey that they might easily be passed over unobserved. Of course, it is not so easy to find an explanation of the necessity for this protection, if protection it be, except perhaps in the fact that most of these species are comparatively local, and often restricted in their parasitism to one species or one genus of plants. It may, however, be no more than a physiological result of the association. It is less clear why certain leafless species live on spiny plants only, and are so situated with regard to the spines that they are strongly protected, whether they require protection or not. This is exemplified by a tiny South African species, Viscum minimum, which grows on some of the prickly, Cereus-like Euphorbias. As its name indicates, this species is perhaps the smallest species of the genus; an entire plant being often less than a quarter of an inch high, and bearing three minute flowers, one terminal and two lateral. These are succeeded by bright red berries, which, when ripe, are very much larger than the plant that bears them. Indeed, the axis of the plant is so small as to appear like a mere stalk to the berries; and any person might be excused for supposing it to be the fruit of the Euphorbia itself, in the absence of its own flowers or fruit. The South African Misletos number about a dozen species, half of which are leafy, and half leafless. Of the former, Viscum obscurum is one of the commonest, and it closely resembles the common European one; but it has yellowish-white berries. V. crassulæ is one of the rarer species, concerning which Professor Macowan, Government Botanist, Cape Colony, records, in a note in *Kew Herbarium*, that so far as his experience goes, it invariably grows on Portulacaria afra, an arborescent succulent, and bears a strong resemblance to it in foliage.

The Loranthus.

An even more striking instance of protection is afforded by the Chilian Loranthus aphyllus, a slender-tufted species 2 or 3 inches high, which preys invariably on Cereus Quisco, and is always found in the axils of the clusters of formidable spines, with which the Cereus is armed. Mr. J. W. Warburton, who lately sent specimens, to Kew, wrote that he had examined thousands of plants, and they were all in the same position. This species has large, showy red berries, and is well represented on its nurse-plant in the North Gallery at Kew.

In Australia the genus Viscum is largely replaced by the more showy species of Loranthus; but there are three species of the former on the eastern coast, two of which, V. orientale and V. articulatum, have a very wide distribution. The latter is a leafless species, with flat-

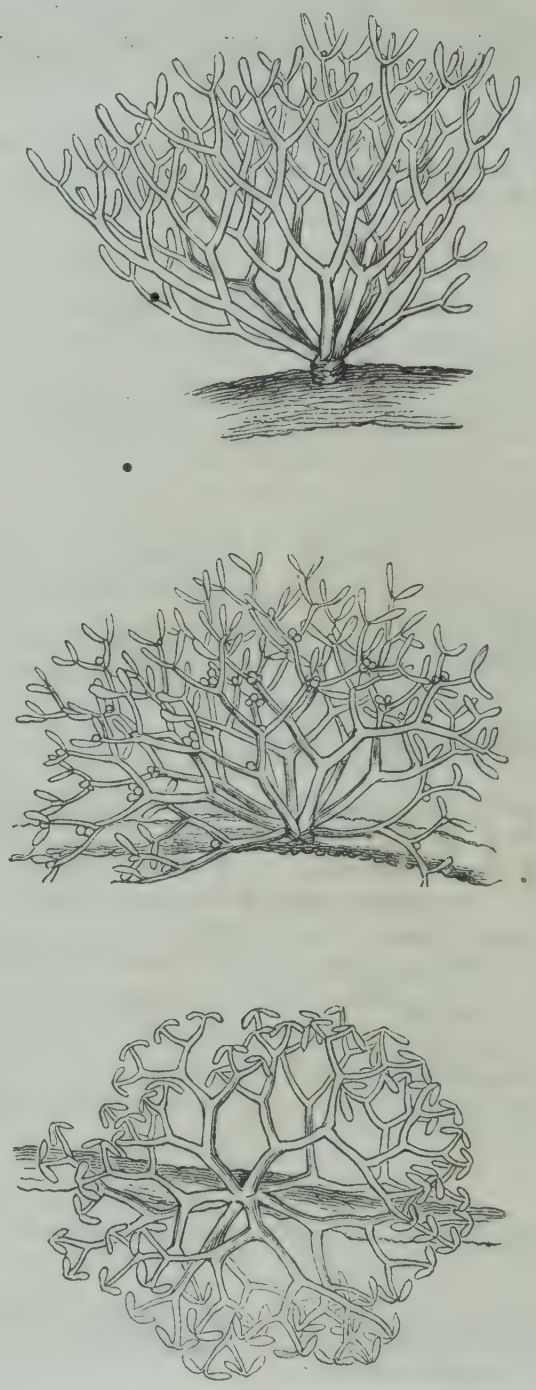


Fig. 93.—Varieties of Misleto. (see p. 745.)

tened, jointed branches, resembling an Opuntia in miniature, or even more closely the sea-weeds of the genus Halimeda. It is spread over Polynesia and tropical Asia.

The other members of the Loranthaceæ found in Europe are Loranthus europæus, a small-flowered species, not unlike the Misleto in foliage, and Arceuthobium Oxycedri, which is a slender leafless plant usually parasitical on some species of Juniper. The former occurs in central and southern, and the latter in south-eastern parts only. An Indian species of the latter genus, A. minutissimum, Sir Joseph Hooker describes as the smallest flowering plant he could call to mind. It grows on the branches of Pin excelsa, and the exceedingly small flowers a almost sunk in the bark.

I have already mentioned that the commo Misleto grows on a great variety of trees, ar in Bentham's *British Flora* it is stated that sometimes grows on the equally parasitic Lo anthus: a parasite on a parasite! I have n been able to verify this, but several other i stances are well known. Thus the New Zealan Tupeia antarctica, a plant of the same natur order, not unlike Misleto, has been found o Loranthus micranthus by several persons; an all the specimens of the four or five species o the Santalaceous genus Phacellaria in the Ke Herbarium are parasitic on various species o Loranthus.

I may mention, in conclusion, that the last named genus numbers at least 500 specie generally dispersed in tropical regions, an extending into some subtropical and temperat regions, and many have most brilliantly-coloure flowers, some of large size or in large cluster For example, L. macranthus, a native of th Andes of Quito, has flowers a foot long *W. Botting Hemsley.* [At the meeting of th Linnean Society on the 20th inst., Mr. Hemsle showed numerous most interesting specimens illustrating phenomena corresponding to thos mentioned in the above communication. Ed.]

ASPARAGUS SARMENTOSUS.

This is an elegant evergreen species of Asparagus from South Africa, which has been in cultivation on and off since Miller's time, but which does not appear to have received attention till recently. The spray here figured was shown from Kew at one of the summer meetings of the Royal Horticultural Society, when it attracted attention because of its gracefulness, the prettiness of its white starry flowers, and their powerful honey-like fragrance. The plant has been grown in a greenhouse since 1887, when it was brought from Grahamstown, where I found it on the side of a stream, its stems at that time being clothed with bright green leaves, and studded with bright red, pea-like berries, the outline of each stem suggesting a fine full fox-brush. Last summer the plant was a sheaf of stems 2 feet high, pretty enough before it bloomed, but when clothed with short crowded racemes of flowers, it was really a delightful picture. A specimen of it planted out in the Temperate-house has stems 4 feet high. The species varies somewhat in the form and size of its leaves, and in the arrangement of the flowers, the handsomest variety being that called densiflorus by Mr. Baker, and which is, I believe, identical with the plant here shown (fig. 94). It may be propagated by division, probably also from cuttings formed of the branchlets, but we have not tried the latter method. There are about a score of species of Asparagus cultivated at Kew, and this is one of the handsomest of them. *W. W., Kew.*

MARKET GARDENING: A PROFESSION FOR THE SONS OF GENTLEMEN.

Orchards.—Now that the time of year for planting is upon us, and the continued mildness favours this kind of work, although in general November is the best month, a few words on the subject for the benefit of intending fruit growers, may not be out of place. As in other matters so in this, the all-important question, "does it pay?" to plant orchards and grow Apples and Pears, is very naturally the first to arise. Treating of this subject some months ago at a meeting of gardeners, I was met, as I fully expected to be, with the objection that the orchards already planted, orchards laid out by our forefathers, did not pay, and there was no reason to suppose



Fig. 94.—Asparagus sarmentosus, Linn.: flowers white. (see p. 746)
From a Photograph taken at Kew.)

that newly-planted trees would prove a more remunerative investment? To this objection I urged that the old-established orchards failed in two important particulars: first, that they were old, and for the most part worn out; second, and most important, that the varieties of Apples grown were not marketable kinds; they were small and of poor quality, and, for the most part, useful only for their original purpose—cider making. And herein, to my mind, lies the whole secret of success. Certainly small inferior quality fruit does not and cannot pay to grow, but I contend that, given a suitable site, the best sorts of fruit and careful cultivation, Apples certainly, and in most districts Pears and Plums, will pay, and pay well, for the planting. As a proof that these statements are based upon something more substantial than mere hearsay, I may say that last year—a particularly fruitful one all the country over, and at a time when inferior fruit was practically unsaleable at even 1*s.* per bushel—I was able to get as much as 6*s.* for such Apples as Cox's Orange Pippin and Worcester Pearmain, and 4*s.* and 5*s.* for good cooking Apples. Fruit at these prices will certainly pay for growing, as all practical men will be ready to admit. Before touching upon the more technical part of the subject, I should like to meet one more objection that will probably be urged. Possibly some will say, "Why should we plant for future generations? We can never hope to get much result from trees of our own planting." There is an old saying, often quoted, "Plant Pears for your heirs;" and no doubt the same would be applied to Apple-growing too, if there happened to be a rhyme to suit it, but this, like many another specimen of ancient wisdom, has nowadays become a fallacy. The remedy against a long and tedious waiting before realising the fruits of your labours, lies in planting trees of the right form and habit of growth. Standards are becoming more and more discarded for trees of lower and more lateral growth, pyramids and bush trees taking their place. The reasons are obvious. Bush trees yield sooner, grow finer fruit, and mature it better, from being in closer proximity to the warmth of the earth; are less trouble to prune and pick from, and, in exposed places, are better able to withstand winds and weather. So that this objection has no real worth; plant pyramids or bush Apples and Pears, and in five years you will be picking valuable crops.

Situation.—Choose, if possible, a site for an orchard sheltered both north and east, but as this is not always possible, let it suffice to say that the spot should be as well protected naturally as can be found. Much can be done by the timely and judicious planting of screens around the orchards. Damsons form a good shelter, and are very inexpensive, and we have seen a good screen formed by a hedge of Poplars, planted close together, and topped to keep them bushy. As the orchard trees grow, however, they will protect each other more every year. It is generally considered that the side of a hill, a gentle slope southwards for preference, is the best site for an orchard, but I would even recommend planting on the hill-top, rather than in the valley. True, the soil may be richer, and the trees make more vigorous growth in the low-lying lands, but the great fear is that late frosts, such as we experienced this spring, will often ruin the crop at the blooming and setting time.

Soil.—Undoubtedly the best and most suitable soil for fruit trees of all sorts is a good sound loam, the deeper the better, and rather inclined to be heavy than too light. Such a soil is certainly the ideal, but the absence of it need not by any means preclude fruit-growing. Whilst we have before us the prolific orchards of Kent, where fruit is grown successfully in shallow chalky land, and weak sandy soils, and of Sussex, upon the clay, we need not despair of planting judiciously in almost any land of moderate depth. The great evil to be guarded against is wet, badly-drained land, where the water stagnates round the roots of the trees. This is the most fertile source of that dire enemy to Apple trees—canker. See, then, that your orchard site is well drained; that it has a natural drainage, if possible, but, at all events, is freed, as perfectly as can be managed, from stagnant water.

Cultivation and planting.—There has been a considerable difference of opinion amongst authorities as to the wisdom of trenching the land before planting an orchard, but, for my own part, I would advise the young fruit-grower to trench well and thoroughly at all costs. It seems to me—particularly on shallow soils—that the mere fact of having the best of the soil at the bottom must at least ensure the trees making a good start; must provide for the roots, eager to start into growth, just that essential they are seeking. Apart from this, trenching is, to some extent, an equivalent to draining.

My advice, then, would be, trench the land by all means if your pocket will allow of it, but failing this, have the field ploughed up as deeply as possible, and, if grass land, allow it a season to get into condition before planting. In planting, the distance from tree to tree and between the rows depends somewhat upon the nature or habit of the variety grown, whether widespreading or compact, and upon the form of tree chosen, standard or bush. For standards, Mr. Bunyard, of Maidstone, recommends a distance of 20 feet all ways; for bush and pyramids 15 feet, and even 12 feet for dwarf varieties. My own experience leads me to believe, that a uniform distance of 15 feet from tree to tree, is, for almost all purposes, the best. An acre of land will require 108 trees, 20 feet apart; 193 trees, 15 feet apart; and 302 trees, 12 feet apart.

A few words about the actual process of planting. Dismiss from your mind at once the erroneous idea that anyone can plant a tree; there is a proper method in planting as in all other operations—and the grower cannot be too careful for the future welfare of his orchards, that this first and most important work is done well. See first that the hole is large enough, that it is made to accommodate the roots, and not *vice versâ*, as is too often the case. Be careful, that in filling in, the tree is not planted too deeply, let the soil be made fine, so that the roots being spread out naturally, and not cramped, it may filter in amongst the fibres and induce them to make a start. The tree should be gently shaken up and down by the man holding it during the process of filling in, so as to settle the soil; and as far as possible, treading (a frequent source of injury to tender roots) should be avoided, and only a gentle pressure allowed just before banking up. When finished, the centre of the hole should be the highest, the soil sloping away on all sides from the tree. On very shallow soils, the planting should be as near the surface as possible, and the roots encouraged to keep near the top, by occasional mulchings of manure. I do not believe in heavy manuring at the time of planting, but think a good mulching round the trees the first year after planting far more efficacious. Have all the trees staked and firmly tied, day by day, as the planting proceeds, and never leave any unsecured at night, if it can be avoided. As we began by saying, November is the best month for planting, but it can be successfully effected up to January or even February, provided the weather remains open.

Trees.—As I have said before, I strongly recommend the orchard-planter, to choose trees in the form of pyramids or bushes, in preference to standards. Order the trees from some really reliable nurseryman, and see that they are well-rooted and free from any sign of disease, particularly canker, before planting them. We are rather of opinion that bushes grown in another county, or at all events in a soil differing in some ways from that of the new orchard, are to be preferred, inasmuch as the change usually promotes a free and more ready growth, so that the intending fruit-grower would do well to go further afield, than to the nearest nursery, merely because it is close to home.

Varieties.—This is the age of hungering after novelties, the horticulturist doing more to augment it than, perhaps, any other class. Without disparaging experiment and improvement, we heartily wish there were less of them, that the varieties of plants of all kinds were reduced by one-half, and that many of the high-sounding names of plants with their accompanying glowing qualities, were erased from the catalogues. It is misleading to the young mind, and vexatious to the more experienced, to read through the long list of modern tradesmen's catalogues, and to try to discriminate between good, bad, and indifferent, when all are so apparently excellent. What, and how to choose them, is the puzzle! Happily, there are certain sorts of Apples and Pears that have become known by their excellence as good marketable kinds, and that they are not more numerous is, to our mind, rather an advantage than otherwise. Without denying that there are many more varieties worthy of cultivation, we would submit that the following short lists of Apples and Pears will be found, in their way, complete, and, for market purposes, always saleable when well grown.

Apples.—Dessert: Mr. Gladstone, the best of the early Apples; Worcester Pearmain, to follow the first, a fine brilliant-coloured fruit, selling well straight off the trees; Cox's Orange Pippin, the most excellent of all English Apples for flavour, colour, and money-value; King of the Pippins is good in quality, and colours well, but it will not do on all soils, being inclined to canker. Blenheim Orange is too well known to need description, but it is rather a slow bearer; Lady Sudeley is considered the most showy dessert Apple yet introduced. Cooking:—Beauty of Kent, a great cropper, and of attractive appearance; Lane's Prince Albert, a gigantic Apple; Ecklinville Seedling, a flat, medium-sized fruit, of good quality; Wellington, valuable chiefly for its keeping properties.

Pears.—Dessert: Williams' Bon Chrétien, an old and early favourite; Clapp's Favourite, not sufficiently known or cultivated, being handsome in appearance, large, and of excellent flavour; Louise Bonne of Jersey, a great cropper; Doyenné du Comice, most delicious in flavour, the best in its season; Marie Louise, succeeds well in dry soils; Pitmaston Duchess, very large and popular; Beurré Clairgeau, a very free bearer, not first-rate quality, but a good market sort. Stewing: Catillac, a gigantic fruit, the best cooking Pear; Bellissime d'Hiver, heavy cropper and good keeper.

The varieties of both Apples and Pears that I have selected here are as nearly as possible those that usually succeed on most soils, and I have myself grown most of them with success upon somewhat shallow soil.

Cost.—Naturally this is an important consideration, and one that requires careful handling. What will it cost per acre to plant an orchard of Apples and Pears? Three-year-old trees should be obtainable by taking a quantity at from £5 to £7 per 100. Most nurserymen who quote trees at from 1*s.* 6*d.* to 2*s.* 6*d.* each are willing to average them at 1*s.* when several hundred are taken. The cost of the trees then, 15 feet apart, will average about £11; the labour of cultivating, planting, staking, mulching, &c., averages from £4 to £6 per acre, so that we may estimate that the cost per acre, inclusive of everything, will be about £16, more or less, according to the cultivation necessary.

Profit.—Bush and pyramid trees may be expected to yield a small crop three years after planting, and when about ten years old should be bearing heavily. Fabulous yields of 500 bushels per acre are on record, but it is not by these we must judge in order to obtain a fair idea of the probable profit. The average crop per acre from an orchard in full bearing may be stated at about 130 bushels, but taking a low figure, we may say 100 bushels, which, if good fruit, should sell readily at 4*s.* per bushel, leaving a profit, after deducting the expenses of picking, packing, &c., which would amount to from £3 to £4, of about £16 per acre. We leave it to our readers to decide whether the "game is worth the candle." *A Market Gardener.*

THE CALANTHES.

The garden varieties of Calanthe vestita are amongst the most useful of winter-flowering plants, and since numerous amateurs have occupied themselves in the raising of seedling Calanthes, crosses of various kinds have become very common. The beautiful pale and deep rose-coloured varieties have been produced by crossing the C. rosea (Limatodes rosea) with soft rose-coloured flower with C. vestita. Dominy effected this cross forty years ago, his seedlings, named C. Veitchii ×, flowering for the first time in Messrs. Veitch's nursery in 1859, and until Mr. Seden crossed C. Veitchii with C. vestita rubro-oculata twenty years later, nothing further was done in this direction. The produce of this cross was named C. Sedeni ×, and it is rather singular that the offspring of this cross should produce darker-coloured flowers than the seed-bearer C. Veitchii ×, while the pollen parent has pure white sepals and petals, with a reddish blotch in the centre. Mr. Cookson, Oakwood, Wylam-on-Tyne, and Sir Trevor Lawrence, Bart., have each been the means of introducing many seedling varieties; some of them producing spikes of great length, beset with beautiful pure white flowers, others with rosy-crimson flowers of large size, and others with different shades of pink. The cross-fertilisation and hybridising of Orchids is a slow process, but the time required in bringing to the flowering stage these Calanthes is shorter than that of any others which have been attempted. From the time of fecundation of the blossoms till plants appear above ground, a period of six months only intervenes, and these flower in three years. I have taken mental notes of the progress made in the flowers of these seedlings, and it does not appear that the more recent varieties show such well-marked progress as those flowered ten years or more ago. C. Bella, flowered in 1881, is a lovely variety with delicately tinted pale rose flowers; C. lentiginosa carminata in 1883, is a rich carmine; C. porphyrea, 1884, is of a lovely deep carmine colour; the white form of C. Veitchii was flowered more than ten years ago; Mr. N. Cookson raised a fine form and named it C. Cooksoni, and he has flowered some fine seedlings quite recently, and aided by his excellent gardener, Mr. W. Murray, he is likely to get new breaks from his more recent crosses. We make a very good show in Great Gearies with C. Veitchii × and the two forms of C. vestita with the red and yellow blotches on the lip; these can be purchased at a cheap rate. It is one of the most interesting, exciting occupations of the amateur or the gardener to raise crosses from flowers fertilised with a purpose, especially as the operation calls for but little labour, and the time of waiting for the ripening of the seed vessels and the appearance of the seedlings, and their flowering, are not very protracted.

The work of the hybridist in the production of distinct novelties of Calanthes was hampered owing to the lack of variety in the types; but now that so many distinct breaks have been made, this work is becoming much more interesting. The same process of progressive development must be applied to the Calanthes as to the Carnation, Pansy, Dahlia, &c. One generation of cultivators will hand the work down to another, with the result that a gradual improvement in the flower will go on. Improvement in the form of the flowers of Calanthes must be sought after as well as variety and distinctness of colour, just as we have for many years been looking for and also obtaining improved form in the flowers of our Gladiolus and Phloxes. How beautiful in form, as well as brilliant in colour, are the flowers of our Phloxes, compared with those of fifty years ago; and this desirable change has all been brought about by years of careful cross-fertilisation and good culture. The deciduous Calanthes seem to be quite as amenable to the same kind of manipulation. Changes occur in the seedlings which are not easily accounted for, and this is especially true of florists flowers, one lot being very great improvements on the parents, whilst others are equally disappointing. It is possible that the state of the weather at the time of fertilisation of the blooms may have some subtle kind of influence that is at present unknown to us. The year 1893 was the most favourable for seed-saving that has been known for many years, and I am looking forward to the flowering of the plants produced from the seed of that year with much interest.

As regards the culture of Calanthes, they may be separated from the general stock of Orchids and grown in any warm house. As to potting-soil, loam, sand, and decayed cow-manure in a dry state suit them best, with good drainage, and they should be rather under than over potted. They may be planted three good strong bulbs in a 5 or 6-inch flower-pot, with the base of the bulbs only in the soil. The new growths start from the bases of the bulbs, and with the growths the new roots are seen pushing freely amongst the new fresh loam. They require good treatment; for instance,

the bulbs are kept at rest until March in a warm house, say 50° to 55°, no water at all being afforded. I lay the pots on their sides under the stages till the time comes to repot them. Another important point is watering the plants. The pseudobulbs should be planted in a moderately-moist compost, and no water applied till it is seen that the roots are putting forth, when it should be afforded in moderation, till, as the season advances, the pots become filled with roots, when water may be applied almost every day, and when the new bulbs are forming, weak liquid manure-water may be applied, but all artificial manures should be avoided. The safest kind is cow-manure, even stable-manure being unsuited to their needs. The great thing is to keep them near the roof-glass in the warmest house when they are making their growth, shading from bright sunshine, but not overdoing the shading. The leaves will begin to decay when the flower-spikes appear in the autumn. *J. Douglas.*



Fig 95.—HYBRID PERPETUAL ROSE, GUSTAVE PIGANEAU: FLOWER, BRILLIANT CARMINE LAKE.

(From Foster-Melliar's *Book of the Rose.*)

BOOK NOTICE.

THE BOOK OF THE ROSE. By the Rev. A. Foster-Melliar, M.A., Rector of Sproughton, Suffolk. (Macmillan & Co., pp. 336, 29 illustrations.)

When a writer undertakes to add another book on any subject on which many have been written, there are two questions which inevitably occur to one's mind—first, whether there is room for such an addition; and second, whether the writer is qualified for his task. With regard to the book now before us, we think the answer to both these questions must be in the affirmative; we have had, it is true, books of various kinds, but not one of them quite answers the expectations of the Rose grower, or meets his many requirements; of course the most popular book is Dean Hole's, and neither Mr. Foster-Melliar's or any other book, is likely to dethrone it from that position: but we believe the Dean himself will be the first to admit that there is room for another more thorough and more practical work. With regard to the second point, there can be little doubt as to Mr. Foster-Melliar's qualifications for the task; he has been a successful grower and exhibitor of the Rose, especially of the Tea Rose, for many years; he has been a careful and accurate observer, and a constant contributor to gardening periodicals on his favourite flower. His style is bright, and the book before us is one which is easy and pleasant to read.

The *Book of the Rose* consists of fourteen chapters, in which the following subjects are treated: the history and classification; situation and soil; planting; manures; pruning; stocks; propagation; pests; Roses under glass; exhibiting; manners and customs; selections and calendar of operations;—of these, the longest and one which sets forth more especially the writer's qualifications, is that on "Manners and Customs," which is, in truth, a graphic description of all the best known and most valuable Roses. We have no wish that this notice should be of so comprehensive a character as to be in any way a substitute for the book itself, and we shall, therefore, note what we consider its chief characteristics and excellencies.

In the first place, it is a book for exhibitors; Mr. Foster-Melliar does not himself say so, but he writes for enthusiasts. Now, we never yet knew a Rose enthusiast who either was not, or did not aspire to be, an exhibitor. We know there are some purists who look upon this statement as a very shocking one, but it is none the less true; and, what is more, we have known many an amateur who has been an exhibitor, but who, for one reason or another, has retired from the contest, and with this result, that the enthusiasm has gone. They even cease to attend Rose shows; and although they will tell you that they still love their Rose garden, you can see that the means and labour that used to be bestowed upon it no longer find a place. The exhibitor, then, or the would-be exhibitor, will find in this book everything that he needs, not only in the actual way of setting up his Roses, but also the method of culture which will bring them up to the point of perfection he requires.

The second point of excellence in the book is its thoroughness; nothing is left to mere conjecture or loose interpretations; you are told exactly what to do; and you must be exacting indeed if you find any point on which you desire information that is not included in these fourteen chapters. Again, and in close connection with this, we would notice its thoroughly practical character: take, for example, what the author says on the subject of planting—we refer merely to one portion of the subject—that of filling up vacancies in beds; he says: "If a separate hole be made for each plant, let it be wide enough; do not curve the roots, or let them cross each other. If they naturally want to cross, or there be two or more going in the same direction, put some fairly light soil between them that they may lie in layers, but always horizontally. See that the soil which is put against the roots themselves, or to cover each layer of roots, is at all events fairly fine and crumbly, if not actually dry and powdery; lift the plant by the top up and down a little with a shaking movement to settle the soil more thoroughly amongst the fibres, and remember that the whole operation of planting is done much more thoroughly and expeditiously by two men than by one. If single-handed, a short pointed stick for scratching fine soil between the fibres will often be found more handy than trowel or spade. Just fairly cover all the roots with a couple of inches of soil, tread it very lightly and carefully, and pass on to the next plant, for the rest of the soil can be added at the conclusion of the day's work." Surely no one, after reading this, can say he does not know how to plant a Rose. But, undoubtedly, the most important portion of the book, as we have already said, is that in which, under the quaint title of "Manners and Customs," he describes all the best Roses; this chapter occupies nearly one-third of the volume. We venture to say that there are few persons, if any, who could take up this ground as he has done; he says, "On looking over a good collection of Roses, a keen observer, even if he be unlearned in their culture, cannot fail to be struck with the difference observable in what is called the habit of each sort, for there is almost endless variety in wood, leaves, thorns, strength and manner of growth, apart from the blooms themselves. He would also probably notice a good many of what he would call red Roses, very much alike to his untrained eyes in general appearance, and he might wonder how they could all be distinguished apart." To show how he carries his views out, take his description of "General Jacqueminot" (Rousselet, 1853): good, but rather slender growth, and fine but thin foliage; liable to mildew, but not much injured by rain; very free-flowering, fragrant, and a good autumnal, but decidedly thin. It must be grown very strong, and cut young to be fit for exhibition; but it is often well shown, principally by nursery-

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men and large amateurs, and is best as a standard maiden. As bright as Duke of Edinburgh when grown to perfection, but not lasting, or of the largest size; still, "Le Brav Général" knows its weakness, "pulls itself together" in hot weather, and tightens its point as hard as it can. Few Roses have had such a lasting reputation; for this grand old veteran is the great-grandfather of almost all our red H. P.'s, and is still grown very largely on all stocks for market and florists' purposes, "Générals" being almost as well and affectionately known in the trade as "Niels." Of course, there will be differences of opinion on some of the points on which the author insists; on two subjects which have been frequently written on in the pages of the *Gardeners' Chronicle*, we are glad to find that Mr. Foster-Melliar is in accord with those writers. He dislikes the idea of making a separate class of hybrid Teas, so called, and also objects to the multiplication of sections, and would include under the term hybrid Perpetuals, the so-called hybrid Teas and perpetual Bourbons, such as Mrs. Paul. If this were done, it would simplify matters very much.

The book is well got up; paper, type, and binding are alike good; it is illustrated with twenty-nine process-blocks, for the use of two of which we are indebted to the publishers. Among them are some celebrated Rose gardens, Rose bouquets, and portraits of individual flowers. It comes out at an opportune time; no more acceptable Christmas gift could be offered to a Rose enthusiast than this charming and instructive volume, which, as a practical guide, we venture to think justifies its title, ambitious though it be, of *The Book of the Rose*.

RED POISON FRUITS.

Some singular circumstances have just been brought to our notice by the Government Botanist for Queensland, in Australia, which may be of interest to our readers, although we are as yet unable fully to penetrate the mystery. The story commences with a paragraph in a local newspaper to the effect that on September 11, 1894, "A lad named Herbert Ellis, who was admitted to the hospital last week, suffering from blindness, supposed to be caused through eating red berries, has died from general paralysis." The comment made by the botanist in question on this text is, that the berries were the fruits of Rhodomyrtus macrocarpa, which "have for some years past been accused of causing blindness in persons who have eaten largely of them in the raw state, while others have eaten of it freely without feeling any ill effects." Having received from the scene of the above accident a large supply of the fruit and foliage, and as many particulars as could be learnt; these were sent over to London for examination and report. From the account of the disaster, it transpires that the young man was over twenty years of age, and it seems that a boy had told him that the fruit caused blindness, so that its pernicious effects must have been largely known.

The Government botanist states that he had previously been appealed to for an explanation of this phenomenon with which the fruit was credited, and relying upon its affinities, he had always stated that it could not cause blindness, as the fruit was not unwholesome, but one of the native species which might doubtless be improved, and become worth growing for its fruit, after careful selection and cultivation. This was the position when the report of the disaster, and the delinquent fruits, were communicated to our correspondent. The fruits were sent over in two conditions, in one case immersed in preservative fluid, and in the other dried and packed in charcoal. The moist fruits were about the size and appearance of Olives, and when they arrived were of the same colour, as all the redness had disappeared. The element of doubt still surrounds the determination of the name, since fruits and leaves sent to Kew are stated to be quite different from the fruit and leaves of the Rhodomyrtus macrocarpa of Bentham, and also those of Baron Mueller, but what the true designation of the species was could not be determined by a superficial search.

The next step was to ascertain the cause of its toxological properties. The doctor at the hospital to which the young man was sent, expressed the opinion that some microbe or bacterium must have been present in the fruit. Hence, it has been inferred that such persons as have eaten of the fruit and found it harmless, may have eaten it when free from any parasite; and, in other cases, where bad effects have followed, the fruits, although apparently sound, were infested by some parasite which caused the mischief. With these details before us, we examined the fruits and the leaves, in which we were also kindly assisted by Mr. G. Massee, of Kew. Superficially, it was not difficult to recognise beneath the cuticle of the fruits, and closely collected together in large blotches, small globose, yellowish granules, not half a millimètre in diameter, but without any definite perithecium. These granules contain rather large sporules, having the character of those prevalent in the genus Glæosporium, and for that reason we have given the parasite the name of Glæosporium periculosum.* The sporules are colourless, and elliptic-oblong, with rounded ends, standing upon short peduncles. It is presumed that, when fully mature, these sporules are discharged in tendrils through the broken cuticle; but this could not be determined from the fruits immersed in fluid. Throughout the entire fleshy mass of the fruit, stout branched threads of mycelium permeated in all directions. On the leaves and twigs there were no indications of the presence of the same parasite; therefore it appears to be confined to the fruits. On the subject of the presence of microbes, we are not in a position to affirm anything, except that we did not recognise them.

Whether the parasite imparts toxological properties to the fruit we are not prepared to affirm or deny, but the most singular property is that of causing blindness. Later information respecting the youth who succumbed, is to the effect that he died in great agony. "The paralysis worked upwards from his feet, and before he died he was paralysed right up, yet his heart and lungs worked, and he was conscious up to within a short time of his death. He declared that the fruits in question were the only ones of which he had eaten." As a supplement, the doctors report that the symptoms were like those of Hemlock poisoning (perhaps, rather of Belladonna).

Certainly, it is possible that a minute parasitic fungus may so change the character of an otherwise wholesome fruit as to render it deleterious or poisonous; but we are not aware of any facts in support of the conclusion that it could specially affect the eyes, or cause blindness. If such a change was wrought in the present instance it was a most remarkable change. It seems to require stronger confirmation whether the fruit is really harmless at any time, because it is just as probable that it is normally poisonous, as that the minute fungus is the cause of the mischief. Under any circumstances, we have not sufficient evidence to convict the fungus, nor can we cite a single case in evidence to support the theory.

There are numerous species of Glæosporium which attack fruits of different kinds—Grapes, Pears, Apricots, Melons, &c.; and we know that the presence of a small mould, or of a fungus similar to the above, will impart a distinct and unpleasant flavour to very pleasant fruits, so that we cannot deny the possibility of the cause alleged being a sufficient cause. We have alluded already to the doubts expressed as to the accurate determination of the host plant; but this is a point which will not be so difficult to settle as that of the origin of the poison. As the case stands, it is one of sufficient interest to warrant this notice, and we hope that it may result in a speedy solution of all doubts. *M. C. Cooke.*

* *Glæosporium periculosum*, Cooke & Massee.—Pustules occupying the whole or part of the surface of ripe fruit, forming pale yellowish minute nodules beneath the cuticle, about ½ mm. Sporules elliptic-oblong, straight or curved, continuous, obtuse at the ends, hyaline 14—15 × 4 μ. on cylindrical sporophores, 6—8 × 2 μ. Entire fruit permeated with dense branched hyphæ, 6—8 μ diam. On ripe fruits of Rhodomyrtus macrocarpa (?). Queensland.

SICILIAN ESSENCE INDUSTRY AND THE EARTHQUAKE.

The following interesting note, bearing on the recent earthquake in Italy, is from our contemporary, the *Chemist and Druggist*, who says—Our Sicilian correspondent, writing on November 23, informs us that, since his telegram of last week, no further serious earthquake shock has taken place, though the panic still continues, people being afraid to return to their houses, and keeping to tents and wooden shelters.

Reports come from Calabria that in the plain of Radicena the gangs of men who go out to make essence of Sweet Orange refuse to continue work, owing to the damage done to their houses, some of which continue to fall every day. The centre of this earthquake is in the district where the whole of the Calabrian Sweet Orange essence is made, and where the principal article of production is Olive-oil. This Olive-oil is stored in huge cement cisterns dug in the ground, and it is quite possible that some of these have been cracked, but a leak would not be evident for some time.

With few exceptions, the chemists shops have been closed, but they are now commencing to re-open for a few hours daily. In Messina the chemists shops, which are on the ground floor, and mostly have vaulted ceilings, appear to have escaped without serious damage beyond the cracking of some walls. As the town has been built specially to resist earthquakes, these walls in many cases are 4 feet thick. It is estimated that several millions of liras of damage has been done in Messina, and several of the essence merchants' houses have suffered severely. Everybody, except the working population, has escaped to the country, with the result that business is at a complete standstill. The first shipments of essence of lemon, which are usually made about the beginning of November, will not probably be made till the beginning of next month (December).

The effect of the earthquake on prices is, of course, a chief topic of conversation, and opinions are divided. It is most probable, however, that as regards essence, the tendency will be to harden prices, at least for a time. The citric acid factory, which was re-opened at Syracuse some months since, has now been definitely closed, but it is not improbable that the output from Sicily will be considerably increased in the course of this year.

SCOTLAND.

GARDENING NOTES FROM PAISLEY.

In the west of Scotland, the town and district of Paisley have maintained a name for high-class horticulture for a long time, the numerous suburban gardens of the environs of the town so full of factories and wealth-producing industries, being centres of good gardening. It is remarkable, as being the residence of some of the wealthiest manufacturers of the north, and liberal and philanthropic employers of labour, proofs of which are everywhere apparent. A recent visit to Kilnside, the seat of Stewart Clark, Esq.—where the cultivation of plants under glass is pursued with zeal and success by the gardener, Mr. McLauchlan—revealed spacious and well-kept lawns diversified with large plantations of shrubs, the Rhododendrons especially looking green and healthy, as if they were not immediately surrounded by large factories, pouring forth volumes of smoke. Mr. McLauchlan conducted his visitors through the glass-houses, in which were long lines of Chrysanthemum plants; about 700 are grown, some with four stems, every plant being in luxuriant health, and giving promise of fine blooms. Some of the most admired were Purity, Yellow Comet, Yellow Marguerite, and Feu d'Or; and the choicest varieties are grown in great numbers for home decoration and exhibition.

A Camellia-house, which was afterwards visited, showed plants growing in a bed of soil mostly the double-flowered white, that gave promise of a capital

show of flowers about the end of the year, a season when they are most admired. When inspecting the Tomato-house we were informed by the gardener that Austin's Eclipse and Conference are the varieties most favoured, but one or the other may be discarded, the fruits being so much alike. Sutton's Magnum Bonum, and Perfection from the same firm, are good-bearing Tomatos. The Azalea-house, is a valuable structure for furnishing cut flowers and plants in the winter and spring. Specimen Azalea-growing has some amount of attention, but varieties for early forcing and plants for furnishing cut flowers are in the greater numbers. Azalea amœna is much valued for early work, its nice colour and the simplicity of its culture recommending it. Passing large clumps of Rhododendrons, the ornate conservatory which is fittingly decorated with foliage plants, pillars draped with Ivies, &c., has a pleasing effect. It is elaborately decorated with mirrors on the walls. This structure when seen through a small greenery has a very fine effect. A cool Orchid-house contained more than 500 Odontoglossums of the more useful species and varieties, and here recently about 250 spikes of bloom could be observed at one time. Some good specimens of Cattleyas and Cœlogynes were remarked in other houses; and the Chatsworth variety of the latter is the one most in favour; it is cultivated in large wooden tubs. In a plant stove were fine-foliaged plants, some capital plants of Dendrobiums nobile and Wardianum; Crotons, Dracænas, Anthuriums, and Pandanus were associated with these, very luxuriant of growth, and of exquisite colours. Cymbidium Lowianum giganteum was also in fine form in this house. In the fernery a beautiful selection of species is cultivated, Davallias being numerous, these affording excellent material for cutting. Large numbers of Dendrobium nobile were doing well in this structure amongst the Ferns. A Pelargonium-house for the culture of the zonal varieties, both double and single-flowered, was visited, the plants therein being profusely flowered. We left this well-managed place gratified with that we had seen.

At Woodside, the residence of A. Coates, Esq., the garden is well managed by Mr. Hogg, who is widely known for his knowledge of plants, and like other gardeners about the town, he cultivates an immense number of them. Bulbs, flowering shrubs, and other plants, are grown by the thousand for supplying cut flowers. Woodside is a more smoke-laden part of Paisley than Kilnside, and indoors culture is chiefly pursued. The Odontoglossum-house contains many fine plants, all of which are in robust health in spite of inimical surroundings. The Azalea-house disclosed plants especially prepared for early flowering, the buds having been set early in the summer, and the plants duly rested, thus rendering the forcing of them into bloom an easy matter. Heaths are not grown nearly so plentifully as they once were at Woodside, and they have, as elsewhere, had to make way for others—a regretable circumstance, these being among the most beautiful of cultivated plants. Erica Marnockiana, E. jasminiflora alba, and E. j. ventricosa, are in fine form, and we hope further reductions in the number of Ericas will not take place. Another house is set apart chiefly for cultivating the Dendrobium, of which a very choice selection was noted. Cattleyas were noted in good condition along one side of this house, including a quantity of C. labiata, which were doing well. Cymbidiums are well represented, and in fine health. Passing on through some stoves, Crotons, especially fine in colour and in health, Cypripediums and Vandas also in good form; and Cypripedium grande of extra merit was observed. In the next house entered were Lælias, Cœlogynes, Cypripediums, and Miltonia vexillaria in excellent form; fine Dendrobium chrysanthum, and Cattleya gigas were likewise noted. After passing through the Melon-house, where Tuberoses and Roses were growing, a filmy fernery, cool and moist, was entered. Here no special attention was given to shading the Ferns. Here are raised numerous Ferns grown from spores to meet the requirements of the place. In the Tomato-house Austin's Eclipse and Comet are the favourite varieties. Czar and Kirke's Plums in pots were remarked as giving excellent returns in the form of good crops. A pitful of Nerines made an attractive display with their crimson flowers. One thing we noted which baffles Mr. Hogg's skill and resources in the smoky locality—and that is, Rose cultivation in the open ground—the plants making a stunted and poor growth. The Camellia-house was filled with plants, having bright green foliage, and every shoot well furnished with flower-buds. A house nearly full of Asparagus plumosus, and Palms, show what has to be put under contribution for cutting for decorative purposes; and Gleichenias, Eucharis, and many other popular species are each to be seen in quantities.

We passed on to the ornamental conservatory, with woodwork of Teak and floor of mosaic. To this handsome structure there is egress from the house. Plant-furnishing is done lightly, grace being preferred to crowding flowers and foliage in masses; and such should be the case in every show-house.

From the conservatory is entered the rockery under glass, where a cool moist atmosphere is exchanged for that of the conservatory. The steps, rocky facings, and water surrounded by rocks, are most natural in design. From the rocks hang fine-foliaged Begonias, Selaginellas, Filmy Ferns, Tradescantias—indeed, any plants which can exist in health have a position in this interesting place. Renovations and alterations prevented us from seeing this unique place at its best.

The wild garden was next visited, where plants in great variety are grown amongst rocks, on mounds, and by the side of pools of water. Nymphæas are effective, also alpine plants, Daphnes, Foxgloves, and a variety of herbaceous plants. Ericas, Ferns, Spiræas, Veronicas, Cupressus, and many other species are suitably planted, the whole forming a delightful contrast to the formal glass-houses.

We left these gardens with one regret only, and that was the short time we could spend in such a place, teeming with horticultural interest. We had so much to thank Mr. Hogg for. *M. T.*

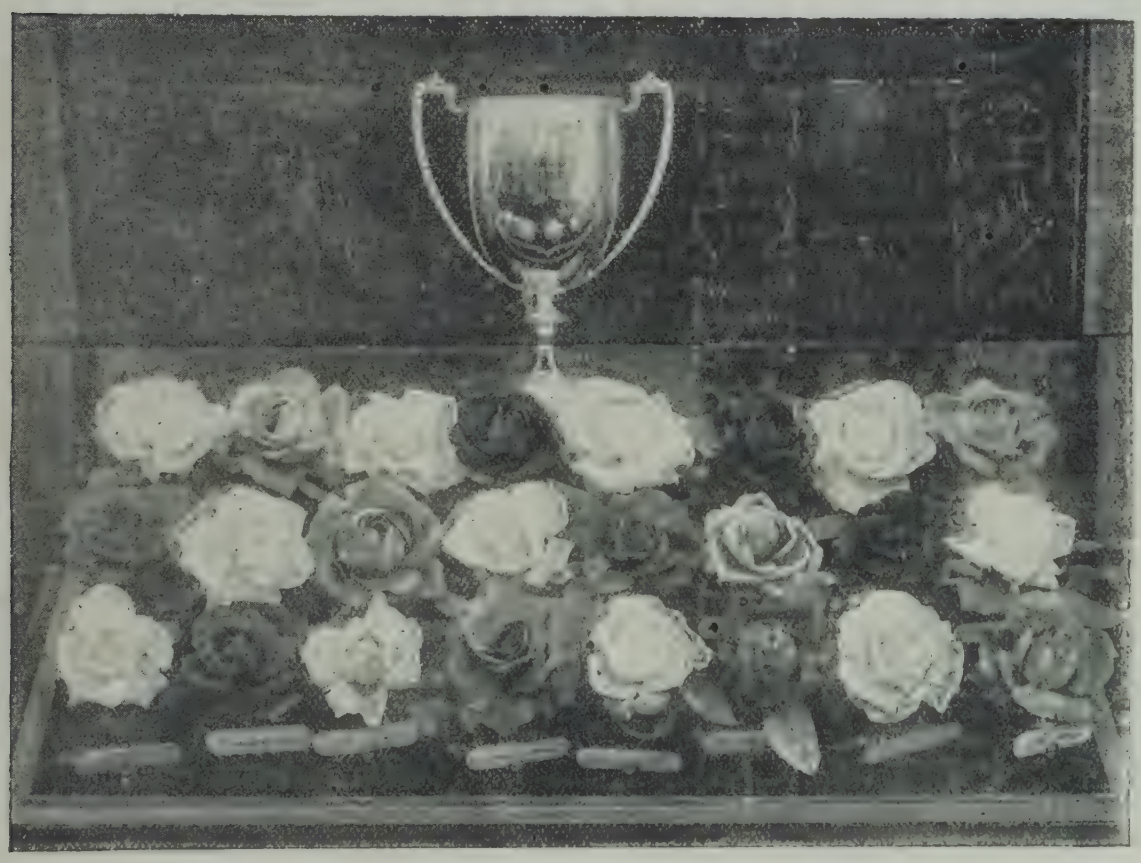


Fig. 96.—"A GOOD TWENTY-FOUR": EXHIBITED BY MESSRS. D. PRIOR AND SON, AT WOODBRIDGE, 1894. (SEE P. 749.)

(From Foster-Melliar's *Book of the Rose.*)

THE BOX AVENUE AT BECKFORD HALL GARDENS.

The Gloucestershire residence of Capt. Williams at Beckford is situated in the northern part of the county, about four miles from Tewkesbury, and the same distance from Teddington Cross. At this latter place there is an ancient direction-post, chiefly of stone, but with seven wooden arms, pointing to seven towns or villages. On one side is the following inscription:—

> Edmund Attwood of the Vine Tree
> At the first erected me.
> And freely he did this bestow,
> Strange travellers the way to show,
> Eight generations past and gone,
> Repaired by Edmund Attwood of Teddington.

In most gardens, especially those of ancient date, there is some special feature for which the place is celebrated. We had heard of the famous Box avenue at Beckford, and as we were in the vicinity of the gardens a few days ago, we availed ourselves of the privilege that lay within our reach. The Box avenue, or rather walk as it is called, is upwards of 300 feet long and 20 feet high, and is said to have been planted 800 years. It has certainly a most venerable appearance, and takes us back in imagination to the time when the monks walked beneath its shade, and visited the holy well in the centre of the garden, and which forms another important feature of the place. On the south side of the avenue each Box tree is cut into the form of a large barrel for about 6 feet high, afterwards they are allowed to assume their natural shape. Part of the kitchen garden was skirted with Box hedges about 2 feet high, which were cut perfectly square, and where the ground rose and steps had to be employed, the Box hedges running parallel with the steps, also rise in the form of steps, and presented a most singular appearance.

A new walled-in wing was being added to the kitchen garden, that was to be devoted chiefly to the cultivation of hardy fruits. A large part of the new wall with a south aspect was being planted with the best sorts of diagonal cordon Pears. Glancing at the labels we noticed such sorts as Durondeau, Marie Guise, Marie Louise d'Uccle, Nouvelle Fulvie, Bergamotte d'Esperen, Beurré Rance, Beurré d'Amanlis, Williams' Bon Chrétien, Louise Bonne of Jersey,

Beurré Clairgeau, Doyenné du Comice, Pitmaston Duchess, &c. The north wall was devoted to Morello Cherries, and other spaces to dessert Cherries and Plums. In the old kitchen-garden we noticed excellent crops of winter vegetables, and specially fine rows of Celery.

In one of the houses there was an extra fine batch of well-grown Chrysanthemums, including about 120 of the best sorts in commerce. Mr. Farmer evidently understands the cultivation of this favourite autumnal flower, and what we saw were brought to a state of high perfection. It is not necessary to give the sorts; suffice it to say, that the best new and old varieties formed the collection. The pleasure-grounds are extensive, and contained some glorious specimens of Coniferæ, while from various standpoints charming views of the surrounding hills could be obtained. In suitable positions Yew trees were cut into hedges and archways, which form a distinct feature on the ornamental grounds. All the flower-beds were furnished with spring-blooming plants, which will make a grand display during their season of bloom. Mr. Farmer had the work well in hand; every department bore evidence of skilful management, and our hasty call at the gardens at Beckford will long remain fresh on our memory. *Quintin Read.*

Colonial Notes.

WEST INDIES.

Grenada.—Mr. W. E. Broadway, lately Assistant-Superintendent of the Royal Botanical Gardens, Trinidad, has been appointed Superintendent of the Botanic Garden.

In the *Bulletin of the Botanic Garden* high praise is awarded to Mr. G. Whitfield Smith, the late Curator of the garden for the beauty, neatness, and compactness of the garden lately under his charge. It gives some idea of the difficulties colonial gardeners have to encounter to read of the pink and blue crabs which have to be contended with, to say nothing of white ants. The importance of local herbaria properly named is insisted on.

Trinidad.

We are glad to see that awards at the Chicago exhibition were made to the Trinidad Botanical Department for excellence in the manufacture of essential oil of Tangierine and Seville Oranges, of Nutmeg, Mace, Bay (Pimento acris), Lemon-grass, Cloves, and Lemon; also for the fine quality of the Sanseviera Hemp.

Sugar-cane Disease.

In some of the West India islands great destruction is caused by a fungus called Trichosphæria. Another disease called root-disease is due to a fungus called Colletotrichum. It is pointed out, however, by the Kew authorities, that it is probable the two fungi are really phases of one and the same. Mr. Dyer recommends the cutting out and burning of every diseased cane. Of course, no part of a diseased plant should be used for purposes of propagation.

Jamaica Botanical "Bulletin."

The *Bulletin* of the Botanical Department, Jamaica, for July, 1894, contains the following papers:—"Report on Cockpit Country;" "Notes on Rubber Plants, Sugar-cane Disease, Preserving Mangoes, The Cultivation of Vegetables, Utilisation of Bananas for Meal, Science and Agriculture," &c. The article on rubber plants contains a condensed account of the several trees yielding caoutchouc for commercial purposes, such as Hevea brasiliensis, Para rubber; Ficus elastica, Assam rubber; Forstonia floribunda, Jamaica rubber, not yet in commerce; and Colombia scrap rubber, the plant producing which is not specified.

Queensland.

The *Bulletin* of the Department of Agriculture for September, 1894, contains a descriptive list of new plants discovered in the colony, prepared by Mr. F. M. Bailey.

"Botany Abridged."

Under this title Mr. F. M. Bailey, the colonial botanist of Queensland, has published a little treatise, with the object of assisting school teachers to recognise and distinguish the more common or important plants of the colony.

The Week's Work.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

HINTS ON SEASONABLE OPERATIONS.—The time is at hand when most gardeners have large demands made upon them for all kinds of flowering and foliage plants for use in the dwelling. These plants get placed therein under conditions that are not conducive to their well-being; something, however, can be done to counteract these conditions by a timely preparation of the plants. The plants having been selected according to the various purposes for which they will be employed, those which are growing in warm houses should be removed to one slightly cooler for a few days, and then to one that is still cooler, syringing being meanwhile withheld. Foliage plants should be carefully sponged over with skimmed milk, so as to give the leaves a glossy appearance, and cause them to show up well under artificial light, washing it off when the plants return to the garden. In placing plants in recesses and corners, a careful choice should be made, and in draughty positions plants of small value should be used. A useful and hardy plant for such places, or where sunlight is limited in amount, is Aspidistra lurida and its variety, A. l. variegata. In point of immunity from injury under bad conditions, I would place Palms next in order, and of these the Kentias, viz., K. Belmoreana and K. Fosteriana, both of a graceful habit, and very little inferior in that respect to Cocos Weddeliana. Cyperus longus and C. alternifolius are plants that may be used without fear of loss in halls, &c. Grevillea robusta is a plant that makes a handsome table-plant, or a "dot" plant in a group of others. Araucaria excelsa is a useful subject at this season. Flowering plants in most gardens are represented by Cyclamens, Primula sinensis, Cinerarias, Richardias, Carnations, Begonias of the winter-flowering section, Azaleas, Lily of the Valley, Hyacinths, and Lilium longiflorum Harrisii; this last a very useful addition to plants that force easily into flower at this season. Before any plants are taken into the dwelling, the pots ought to be washed quite clean, the necessary tying and sticking attended to, and some fresh green moss neatly placed on the soil.

TUBEROUS-ROOTED BEGONIAS.—A pinch of seed may now be sown in shallow seed-pans, half-filled with crocks, over which some half-dried moss or some soil siftings may be placed, filling the pans with loam, leaf-soil, and peat, in equal parts, and adding a fair amount of sharp silver-sand. This compost, after a thorough mixing, must be passed through a sieve with a quarter-inch mesh, and on the top of the pan a thin layer of the soil which has been sifted in a still finer sieve should be placed. At this early date the seed should be sprinkled over with fine silver-sand, and the soil used being in a fairly moist state, no water needs to be afforded at the start. Stand in a propagating-case, and place on each pan a neat, closely-fitting piece of glass.

MIGNONETTE.—Those plants which will flower at the end of the month of March should be at the present date from 2 to 3 inches high. They may need shifting into 48's, and support afforded them by means of pieces of birch cut from worn-out brooms. Top-dress those in flower, using good loam and rotted stable-dung, and a handful of Thomson's Vine-manure for the purpose and admit abundance of air in mild weather.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

FIGS.—These can only be successfully fruited outdoors by protecting the embryo fruit upon which alone there is any hope of crop that will ripen in an ordinary season being obtained. This protection should not be afforded the trees too early in late autumn, for should mild weather like the present set in, the buds and embryo fruits will be induced to move with the probability of their being destroyed by hard frosts at a later period. All protecting materials should however be in readiness to put over the trees directly sharp frosts threaten. With the difference that the Fig requires protection in the winter, the methods adopted with Peaches on open walls are also very suitable for it; and where wide boards are placed under the coping for the protection of the bloom of wall trees in the spring, these should be put in place forthwith over the Fig trees; for the present it will suffice to place boughs of the Spruce Fir or other Conifer of similar flat growth over the Fig, sticking them behind the larger branches, or nailing the butt-ends to the wall. These boughs will last till the early spring in good condition, and may be supplemented then with fish-nets suspended from the boards and pegged down to the border. This method of protecting the embryo fruit of Figs is in every way preferable to the practice of bundling up the branches and wrapping them round with hay or straw bands.

THE BUDS OF PLUMS AND DAMSONS AND THE BULLFINCHES.—In gardens where bullfinches give trouble, means ought to be taken forthwith to make the buds of the above-named fruits secure from attack. Plum trees which are pruned, and the Damson trees of middle size, should be syringed with whitewash made of freshly-slaked lime, with some soot added to make it the more distasteful; red Currant and Gooseberry bushes being also dressed with the same. If the trees are too large to be readily syringed, the bullfinches must be trapped or shot. In this locality, large numbers are caught by having a good "call" bird in a cage as a decoy. The cage is placed near to a low bush, the branches of which are smeared with bird-lime, this being found a more expeditious way of catching them than waiting for them to go into a cage-trap. Planting Plums or Damsons close by a wood or belt of trees should, if possible, be avoided, the buds being taken wholesale in such places by the bullfinches and other birds.

TOP-DRESSING FRUIT-TREE BORDERS.—As fast as the work of pruning, nailing, and dressing of wall-fruit trees is finished, the dressing of the borders should be commenced, provided the weather is not unfavourable. When the border is about 6 feet wide, and it is reserved for the roots of the trees, a compost consisting of turfy loam, charred garden-refuse, and old mortar should be employed, the roots being kept thereby in the upper layer of soil. In this position they are acted upon by the sun and air to a greater degree than is possible when they lay deep in the soil moreover, manures reach them with greater certainty. This applies more particularly to Pears on the quince-stock, and to Plums and other trees, which can thus be induced to make their roots near the surface of the land. Wider borders which are cropped with vegetables, &c., should not be dressed with these substances in the same manner, but the dressing should be placed where the roots are, that is, at some distance from the surface. The uncropped part, say, 4 feet wide, after being hoed and raked, should be pricked over with a fork, and receive a coating of charred garden-refuse and old mortar. The fruit borders around the vegetable quarters should be carefully dug so as not to destroy any of the roots of the trees. In stiff land the roots may be encouraged to come to the surface by turning the soil up deeply, and leaving it in the rough state as dug, and by affording a good dressing of charred refuse, leaving all to become amalgamated and pulverised by the winter's frost and wind. If the land be light and sandy, then a top-dressing of stiff loam or soil of a clayey nature will benefit the trees.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

PEAS.—Where Peas were sown out-of-doors in late autumn, the plants will now be sufficiently advanced to allow of a little soil being drawn up on each side of the rows, further protection being afforded by sticking short stiff twigs of Yew or of Spruce Fir into the ground firmly, so that they are not blown about to the injury of the plants. A watch should be kept on the plants that they are not reduced in numbers or in stature by mice and slugs. The former must be trapped, and the latter kept at a distance by an occasional sprinkling of fresh-slaked lime down each side of the rows; and

should the slugs be very troublesome, small heaps of bran put here and there will attract them, and they may then be caught and destroyed.

PREPARATION OF LAND FOR EARLY CROPS.—A south border or other warm spot in the garden should now be prepared for sowing or planting small areas with early vegetables or tubers, &c. If the soil be heavy or retentive, plenty of the spent manure from Mushroom-beds, charred refuse, leaf-mould, or potting bench siftings should be dug into it, the surface being left roughly as dug, to be mellowed by frost and wind. Light soils, on the contrary, if in need of fertilisers, will be improved by the addition of heavy soil, clayey loam, marl, and rotten manure.

ASPARAGUS IN FORCING PITS AND FRAMES.—Owing to the mildness of the season, there is no difficulty in keeping up the proper degree of warmth, and the produce has come along readily. Do not let the heads remain any longer time in the frame than is really necessary, as they soon spoil; but pull them up, cutting off the butt ends, placing them in small bundles upright in water, and keeping in a cool dark place till wanted for table. Asparagus keeps fresh in this way for several days. If blanched heads are asked for, cover the crowns with a layer about 1 foot thick of light sandy material, the principal part of which is half-decayed leaves, and gather the produce when the heads appear above it [or cover with flower-pots having the hole at the bottom closed]. Place successional batches of crowns in heat at intervals of three weeks. If the soil of the beds is getting dry, apply water at a temperature of 90°, and give a little air afterwards to admit of the escape of vapour.

PARSNIPS AND JERUSALEM ARTICHOKES.—These roots are not improved by being lifted and stored for any length of time before using them, a very little drying depriving them of their best qualities; a portion of the crop in the ground may therefore be covered over with tree-leaves to a depth of 6 inches to prevent frost entering the soil. Some strawy litter placed on the top of the leaves will prevent these from blowing about and making the garden untidy. Where Parsnips become much cankered if left in the soil, it will be advisable to lift the entire crop at this season, selecting the sound roots and storing them in moist sand at the foot of a north wall, and putting aside the unsound ones for present use.

FRUITS UNDER GLASS.

By BAILEY WADDS, *Gardener, Birdsall Gardens, York.*

PEACHES AND NECTARINES.—Continuing the remarks on these fruits made by me in the Calendar of last week, I would recommend that a rather buoyant air be maintained during the flowering and setting time, and when a good set of fruit is obtained, syringing the trees daily with tepid water, and affording ample watering at the roots, will have the effect of seeing them through the stoning-period, at which stage the temperature of the houses should be 53° by night, with a genial growing warmth by day. Keep a look-out for aphis, making use of quassia-water and the syringe when it is noticed. Applications of quassia-water do no harm to the trees, whilst fumigation often injures the leaves. Succession-trees should be pruned, cleaned, trained, and everything in the houses put in readiness for a start when the proper time comes. To maintain a supply of fruits till out-of-doors fruits come into use, a house should be started every month from November onwards. For killing scale or mealy-bug on the trees, brush the latter with strong solution of soft-soap and rain-water, and then apply Lemon-oil or petroleum emulsion. The walls and trellis-work should be well washed with water, soft-soap, and petroleum, filling up with cement all holes that may afford lurking places for insects. Lay in the young wood, so that there is no crowding of the foliage, and so that the light can reach every part of the tree, or the fruit will be poor in colour and the wood weak. Apply dressings of loam and manure to the borders, and then water them copiously. Keep these trees as cool as possible.

PINE-APPLES.—Preparations may now be made for starting a batch of Queens for fruiting towards the end of May and later, selecting stout thick-set plants with a close rosette of heart leaves, which have been grown and rested as previously advised. When the bottom-heat is dependent on a bed of tanner's bark or tree leaves only, care must be taken in making it up to mix plenty of the old materials with the new, so as to obtain the requisite degree of heat, that is, 85°, without the risk of its getting too high. When the heat is obtained from hot-water pipes, its regulation is a matter of plenty of piping and the proper use of the valves. Before plunging the plants a few of the bottom leaves should be twisted off, the surface-soil pricked up, and some of it removed, top-dressing with good loam, pressing it firmly about the collars where the new roots will be emitted. Take care that sufficient space be left for affording water. Plunge the plants 2 to 2½ feet apart according to their size, and in doing so do not break or bend the leaves. After the plants are plunged, if any are known to be dry at the roots, afford these a good watering of weak guano-water at 85°. The bottom heat must be watched carefully if it is derived from tan or leaves, as the figure above given is high enough at starting; the state of the soil should be ascertained from time to time, and the drying of the bottom roots guarded against by affording thorough waterings when water is needed. If the bed gets too warm, lift the pots partially out of it for a time; which will let out the heat, and prevent loss of roots. The plants may be replunged when the heat declines. The temperature of the air by night should range from 60° to 65°, and by day 70° to 80°, with a little air afforded whenever possible, damping the floors but not the plants for the present.

SUCCESSION.—Fruiting plants which will not be started just yet, may still be rested, but not letting the soil get very dry, and keeping the temperature at 60° by night, and 10° higher with sun-heat and plenty of air. Plants with growing fruit should have a steady bottom heat of about 85°, and as much water at the roots as the plants require, as well as plenty of aërial moisture. Suckers may be potted and plunged in a mild bottom heat in a close pit, and kept there till the roots form, at which time water and air may be afforded them.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

THE GENUS PLATYCLINIS.—The several species belonging to this genus were once more commonly known under the name Dendrochilum, and they are pretty enough plants when in bloom. A plant of P. uncata standing in the intermediate-house at Burford Lodge is now in bloom. It has a resemblance to P. filiformis, but the thread-like racemes are shorter than in that species, and the flowers a trifle larger, and of a yellowish-green tint; while those of P. filiformis are of a uniform canary-yellow, and it is distinguished from that species by producing its flowers at the winter season, whereas P. filiformis usually flowers in June or July. Platyclinis uncata should be well supplied with water at the roots whilst in flower, and till the growth is completed for the season; it does well suspended in a light position in the intermediate-house the whole year round. At this season P. filiformis is at rest, and a light place in the intermediate-house, with the compost kept fairly moist, will suit its requirements for the present, but when growth re-commences, more warmth becomes necessary. The spring-flowering species, P. glumacea, is now starting into growth, and should be raised to a place near the roof of the East Indian-house. As soon as the young breaks are about 2 inches in length, they emit a number of new roots, which quickly enter the soil, and no time should then be lost in repotting those plants which require it. If repotting be not done at that time, it cannot be done till the flowers fade. From the present time onwards, this species should be liberally supplied with moisture at the root and overhead, the under sides of the leaves being also occasionally syringed to dislodge red-spider. P. Cobbiana must be allowed to remain in the intermediate-house till renewed activity take places, when it may be similarly treated to P. glumacea. The species above mentioned root freely in well-drained pots of peat and sphagnum-moss.

CALANTHES OF THE VESTITA SECTION have not retained their blooms nearly so long this season as usual, the very dense fogs having spoilt their beauty and freshness at an early part of the season. As Calanthes require a period of thorough rest, they should, immediately on the spikes being cut, be placed on a dry shelf, close to the roof of the warmest house, where the light will help to mature the growths. Water must be entirely withheld till after the repotting of the plants in the spring; and before removing them to their resting quarters, clear every pseudobulb from the white and brown scale insects which commonly infest them.

CHYSIS.—Such Orchids as Chysis aurea, C. bractescens, C. Chelsoni×, and C. Sedeni×, owing to the small amount of sunshine we received during the autumn, were much longer than usual in maturing their pseudobulbs, and even at this date some of them are not properly matured; but it will not be prudent to allow them to remain longer in the warm house with the great risk there is of their starting into premature growth, and forming no flowers. A safer quarter for them will be a house with a drier atmosphere; and while at rest therein they should be afforded very little water, just enough, in fact, to prevent shrivelling.

CATTLEYA LABIATA WARNERII.—Those plants on which fresh growths are now starting should be suspended close up to the roof at the warmer end of the Cattleya-house, or better still, in a light and airy position in the East Indian-house till growth be finished, returning the plants to the Cattleya-house to open their flowers. During the period of growth, water in sufficient quantities to keep the compost fairly moist should be afforded. The repotting will be better delayed till the flowers fade, as it is at that time that the plant makes the greatest number of roots.

PERISTERIA ELATA, an old, but still favourite species, the central parts of whose flower have some resemblance to a dove, succeeds in a stove temperature whilst growing, but now that the large pseudobulbs are mature, the drier Cattleya-house is the better place for the plant. This species requires a long rest, without which, however strong the pseudobulbs may be, flowering is problematical. The application of water during rest needs great care, and it is better to lean to the dry side than afford too much water.

THE FLOWER GARDEN.

By JOHN LAMBERT, *Gardener, Powis Castle, Welshpool.*

THE PLANTING OF EVERGREEN SHRUBS.—Advantage should be taken of open weather to push on with the planting of evergreens, more especially when the plants have not an abundance of roots or a good ball of earth. Although evergreens which have good balls of earth and roots may be transplanted with success in spring, such is not the case with poorly-rooted plants, which suffer greatly if drying cold weather follows the planting; whereas those which were transplanted in the autumn will have pushed out new roots by that time in sufficient numbers to afford the needful support. Newly-planted beds of shrubs should be well mulched with half-rotted stable-manure mixed with tree leaves.

ROSES.—Roses in beds should be mulched with farmyard-manure, not too much decayed, and if it be more in the nature of litter, if appearances need not be studied, it will be better for the plants. In cold or wet districts, and in heavy soils, Tea Rose bushes will be less injured by severe frost if the shoots are gathered up together, and a few bracken fronds or straw loosely fastened round them, earthing-up the stems slightly at the same time. Tender varieties of the Rose cultivated on walls may be covered up with mats and litter if very severe weather should occur, otherwise this mild season the less protection afforded the plants the better. Standard Tea Roses may be tied up in like manner to the bushes, inserting a few bracken fronds among the shoots, and shortening some of the longer of these.

CALCEOLARIAS.—Take advantage of the mild weather to remove the lights entirely from the frames; clear away all decaying matter and stir the surface. The cuttings of Calceolaria amplexicaulis, which were the earliest made, will now require to have the points pinched out to induce bushiness.

PANSIES AND VIOLAS.—The cuttings put in on outside borders should now have the ground cleared of tree-leaves and weeds, and a slight surfacing of sandy soil applied. As a protection against frost, place boards on edge round the beds, and a rough kind of trellis-work of bean-sticks over them, for the purpose of supporting the long litter or mats that may have to be put over them in hard weather.

GLYCERIN AS PLANT FOOD.—M. ASSFALL, of Erlangen, has shown that a solution of from two to five parts per thousand of water is sufficient to enable plants previously deprived of their starch by blanching to produce that substance when exposed to the light.

EDITORIAL NOTICES.

Advertisements should be sent to the PUBLISHER.

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Letters for Publication. — *All communications intended for publication, as well as specimens and plants for naming, should be addressed to the* **Editor, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°.1.

The Perfume of the Rose.

MR. FISH'S paper at the last meeting of the Horticultural Club on the perfume of the Rose, read at the last meeting, provoked a general discussion. In the course of his remarks, the lecturer insisted on the necessity that all new Roses, to be acceptable, must be endowed with fragrance. COLERIDGE, at Cologne, "counted two-and-seventy stenches, all well defined, and several stinks." Antithetically, we may state that Mr. FISH recognises an almost equal number and variety of fragrant perfumes in the Rose. The most deliciously-scented Roses according to him are La France, Goubault, Devoniensis, Maréchal Niel, Bessie Johnson, Madame Knorr, Charles Darwin, Gustave Piganneau, Horace Vernet, Jean Liabaud, Jean Soupert, Rev. J. B. Camm, Pierre Notting, Duchess of Marlborough, and Charles Lefebvre. Nearly all dark-coloured Roses are sweet, and some whites such as Augustine Guinoisseau, have a delicious fragrance. To Boule de Neige an odour as of new milk is attributed.

Among Tea Roses, Mr. FISH enumerated as remarkable for their fragrance, Adam, President, Devoniensis, Gloire de Dijon, Madame Welche, Mr. James Wilson, Souvenir de S. A. Prince (pure white), Princess of Wales, Safrano, &c.

Among the Noisettes, Aimée Vibert, Lamarque, Madame Carnot, Triomphe de Rennes, were alluded to; Moss Roses, the Austrian Briar, Harrisoni, the Provins, or Cabbage Roses; most of the China Roses, the Japanese species rugosa and polyantha, Anna Maria de Montravel, the white Banksian, the white Scotch, the Stanwell Perpetuals, Lord PENZANCE's hybrids from the Sweet Briar, and many others, came in for notice at Mr. FISH's hands. It is, however, not necessary to specify more illustrations, as, unfortunately, we have no means of defining the varied fragrance of which the Rose is capable, unless by comparison with others equally indescribable. Socrates has the odour of the Peach, others that of Violets, Pinks, Apples, Melons, Raspberries, Apricots, Hyacinths, Myrrh, Mignonette, Coriander, and even bugs!

Combining practical economy with his flights of imagination, Mr. FISH went on to enquire why we English people did not avail ourselves more largely of the opportunities for profit which the Rose offers us. He sketched the mode of growing Roses in Bulgaria, and the method of extracting perfume there and at Grasse, and he very naturally asked why we could not do likewise? Great Britain itself furnishes so many wild Roses that botanists have never been able to agree how many or how few varieties there really are. Some of them have the fragrance of Mignonette.

A factory near Leipsig for the extraction of perfume from Roses was described. About 85 acres are now given up in this neighbourhood to the cultivation of Roses for this purpose, Rosa centifolia and R. damascena being the varieties chiefly grown. What can be done in Saxony and Bulgaria can surely be done here, and hence the validity of Mr. FISH's contention.

Medicinal and other uses of the Rose were also alluded to, Mr. FISH in this matter acknowledging his indebtedness to Mr. SAWER'S treatise on the subject, to which we shall shortly have to refer at greater length.

Poetical allusions when the Rose is spoken of come unbidden into the mind, and Mr. FISH was characteristically unable to resist the temptation to indulge in them. He took for his text an expressive passage that may not be familiar to all of our readers, and with which we may therefore fitly close this note:

> "For green is to the eye, what to the ear
> Is harmony—and, to the smell, the Rose."

OUR ALMANACK. — Secretaries of Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1895, for insertion in the Almanack, to be published in our issue for January 5.

LILIUM GIGANTEUM AT FISHER'S HOTEL, PITLOCHRY, N.B. (See Supplementary Illustration.)—It is a charming scene that is depicted in our engraving on the opposite page, with its border of perennial plants and specimen of Thuya gigantea, with a fine vigorous plant of Lilium giganteum on the left, which, when in flower at the beginning of August last, measured 8½ feet in height, and possessed thirteen flowers of 11 inches in length. Mr. ROBERT PEARSON, the gardener at the hotel, to whose kindness we are indebted for the photograph from which the illustration was engraved, states that it was planted a few years ago along with some others, but no flowers have appeared previous to this year.

IMPERIAL INSTITUTE.—On Thursday afternoon, Dec. 13, Dr. SOMERVILLE, of the Durham College of Science, read a paper dealing with "Some Aspects of British Forestry." Professor SCHLICH, Ph.D, of Cooper's Hill, occupied the chair. The extension of sylviculture in this country was discussed chiefly as an agency for bringing profit to the landlord and benefit to the State. The absence of satisfactory returns from many of our existing woods was traced to excessive initial expenses, unscientific management, game, and the inferior quality and consequently low price of much of our home-grown timber. The poor quality of the timber was shown to be largely due to the way in which our plantations are managed, and especially to their being usually over-thinned, and too limited in extent. Reference to the Board of Trade statistics did not justify a common prediction that timber will become both scarce and dear in the near future. If, however, timber-exporting countries are cutting into their capital stock of trees, and are shipping more timber than is annually produced, a period of scarcity may arise with a suddenness of which the Board of Trade Returns need not be expected to give any indication. The desirability of the State purchasing land suitable for forestry as a means of providing employment in rural districts was strongly insisted upon. Sylvicultural operations, and the transport of timber to the nearest sawmill or railway station, necessitate the employment of approximately one forester or other workman to 50 acres of wood; while the conversion and utilisation of the timber employ an even larger amount of labour. It was pointed out that, at a low estimate, hill pastoral farms are attended to by one shepherd per thousand acres, so that forestry can find remunerative employment for at least twenty times as many labourers as pastoral farming.

NATIONAL ROSE SOCIETY. — The general meeting was held on the 13th at the Horticultural Club, Hotel Windsor, upwards of fifty members being present. As reported in our columns last week, the financial position is favourable, a balance of £72 11s. 9d. being shown. Members' subscriptions amounted to £374, while their present number is only two below the highest record, which, we believe, was in 1892. After the accounts were passed, Mr. E. B. LINDSELL and the Rev. A. FOSTER-MELLIAR were added to the list of Vice-Presidents; and Mr. A. SLAUGHTER, Steyning, with Mr. F. RIVERS, Sawbridgeworth, were appointed to their places upon the general committee. The Chairman (C. E. SHEA, Esq, Foot's Cray, Kent) had a difficult task in steering through the most interesting portions of the other business, the chief of which was the consideration of Regulation 13, with a view to altering it so as to read, "No person shall be allowed to compete as an amateur who sells Rose plants, Rose blooms or buds for budding." To this was added, "except new seedlings and sports." The most animated discussion followed, it being generally conceded that such practices had become far too general, and unless cognisance were taken of the matter, Regulation 13 was a dead letter. *Bonâ fide* trade growers or amateurs were asked for. It may seem, as not a few members expressed, a little hard upon those who cannot afford to let chances of partially meeting expenses slip by, but to sell blooms, buds, and surplus plants, and to ask for quotations from trade growers, is clearly to place themselves in the same position as nurserymen. Mr. C. E. CANT, Colchester, and Mr. G. MOUNT, Canterbury, confirmed the above practices. The last-named gentleman, in remarking that he had experience both as an amateur and a nurseryman, was eloquent in support of this alteration, which was adopted by a large majority. There was further discussion upon a second motion relating to the original regulation, Mr. E. B. LINDSELL and others asking that it should be made operative and binding, or repealed. There were no dissentients to this, but the majority felt very strongly that charges should be made out clearly and proved to the satisfaction of the committee before the offender was asked to resign or exculpate himself. On the other hand, a few wished more drastic measures, suggesting that any member might make a charge, and it should fall upon the accused to refute it. This side of the question did not find general favour; it was felt that no member would venture upon these in-and-out tactics after the full and warm manner in which the question had been discussed. An alteration was decided upon in regulation 7, which is of considerable importance: In future the plants must have been grown by and have been the property of the exhibitor for at least three months. This was not so much because of actual occurrences where both employer and gardener exhibited from the same plants, as the feeling that such an opportunity was open. Sir ALEXANDER ARBUTHNOT and others felt it would come hard upon affiliated societies where classes were distinctly made for both amateurs and gentlemen's gardeners. In the National Rose Society's exhibitions all must be members, but not so with affiliated societies. The motion was carried, presumably as a safeguard to the parent society. Chromatella and Cloth of Gold are to be retained, and Paul's Early Blush and Mrs. Harkness added to the list of synonymous Roses. A sub-committee was appointed under the style of a general purposes committee, to consider and report upon matters to the general committee, but to have no executive power whatever. It may be of interest to country members to know that the new catalogue fund not only cleared its expenses, but had a balance of £3 to hand over to the general fund of the society. The dates and places of shows



Lilium giganteum, Fisher's Hotel, Pitlochrie

during 1895 are Gloucester, June 27; Crystal Palace, July 6; Derby, July 17. It was also suggested that Reading be the place of meeting for the southern show in 1896, and Ulverstone for the northern show; this, we apprehend, will be subject to confirmation at the next general meeting. Notwithstanding the sharp frosts of late spring, it was pleasing to notice that the shows during 1893 were well up to the average, and the idea of a permanent southern show most popular. The revival and extension of this early meeting with the consequent extra expense, was felt to have paid its way.

Results of Crossing Cucurbits.—From certain experiments in the above direction it is concluded:—"1. That Pumpkins (Cucurbita pepo) and Squashes (Cucurbita maxima) will not hybridise. 2. That Pumpkins and Water Melons (Citrullus vulgaris) will not 'mix,' nor will Squashes and Melons 'mix.' 3. Cucumbers (Cucumis sativus), Sugar and Musk Melons (Cucumis melo) will not hybridise; nor will they 'mix' with Pumpkins. 4. The different forms of Cucurbita maxima will readily cross with each other, Mammoth Chili, Hubbard, New Prolific Marrow, American Turban, &c. 5. The forms of Cucurbita pepo, as the Long Warted, Nest-Egg Gourd, Vegetable Marrow, New Golden Bush, Bush Scalloped, Italian Striped, Perfect Gem, common Pumpkin, and Sweet Sugar, will readily cross with each other. 6. The hermaphrodite flowers of Musk Melon are self-impotent, and this is true also of some Squashes. 7. Certain varieties are prepotent, as shown in character of fruit, bine, and leaf. It is, however, often not well-defined, both parents transmitting equally." *"Results of Crossing Cucurbits," Bulletin No.* 23, 1893, *p.* 916—17, *Iowa Agricultural College Experiment Station, published* 1894.

Royal Gardeners' Orphan Fund, Concert at Altrincham.—The annual concert organised by the Altrincham Gardeners' Improvement Society in aid of the Royal Gardeners' Orphan Fund, was held at the Literary Institute, Altrincham, on Wednesday evening, the 5th inst. For such a worthy charitable object it was only to be expected that the public would signify their sympathy in a practical manner, and the result was that the large hall was packed to its utmost capacity. Several ladies and gentlemen well known in the musical world, and the fine band of the Altrincham Orchestral Society, kindly came to the assistance of the Committee, and their efforts met with hearty approval. From a musical point of view the concert was a grand success, and financially it exceeded all expectations, as after paying all expenses there was a balance of £50 10*s*, which sum has been forwarded to the Hon. Secretary, Mr. A. F. Barron. This is the third annual concert. Two years ago a sum of £20 was raised, last year £35, and this year the handsome sum named above. The committee worked hard to achieve this excellent result, and they are highly gratified with the success which has attended their endeavours. If other Gardeners' Improvement Societies organised entertainments on similar lines, the funds of this very deserving charity would be considerably enlarged.

Agricultural Statistics.—The Board of Agriculture has published a preliminary series of statistical tables showing the acreage under crops in 1893 and 1894, and other particulars of interest to cultivators. The total area under cultivation in 1894 in England is nearly 25 millions of acres (actually 24,880,717), about the same as in 1893. The area occupied by the principal cereal crops is about the same as in 1893, with the exception of Rye, the acreage of which was nearly doubled in 1894, viz, 81,239 acres, instead of 47,386, as in 1894. Peas, also, were more largely grown in 1894. The grand total for corn crops, including Peas and Beans, is given at 6·1 millions of acres (we omit the remaining decimals) in 1894, as against 5·9 millions in 1893. Green crops and hay crops occupied about the same area in both years. Small fruits in England occupied 62,457 acres in 1894, as compared with 1893, when 59,694 acres were thus utilised—an increase of 2763 acres. Similar details are given for Wales, Scotland, Great Britain, Ireland, and the United Kingdom as a whole, as also for each county separately. A general report will be issued after the close of the year.

Stock-taking: November.—Poetry is certainly not very nearly allied to trade and commerce; but a perusal of the past month's "Trade and Navigation Returns" certainly brings to memory the line, "Man never is, but always to be blest," for the "good time" is still to come, though, it must be confessed, there have been times when things were very much worse; and then, again, we have a good prospect. Though we have an increase of imports to the amount of £565,171, the decrease on the eleven months is just £7,105,067. True, considering the immense volume of the imports, this is not so very great a deficit; but the comparison ought to have shown an increase. There is the consolation, however, that the values of all imports, or nearly all, have largely decreased—so much the worse for the vendor. The following figures are extracted from the summary of imports for November:—

Imports.	1893.	1894.	Difference.
	£.	£.	£.
Total value of imports	35,801,961	35,236,790	—565,171
(A.) Articles of food and drink—duty free	11,836,973	11,531,293	—335,675
(B.) Articles of food and drink, dutiable	2,568,874	2,498,001	—70,873
Raw materials for textile manufactures	7,932,702	6,835,644	—1,097,058
Raw materials for sundry industries and manufactures	3,299,044	3,683,795	+384,751
(A.) Miscellaneous articles	1,640,460	1,491,384	—149,076
(B.)—Parcel Post ...	41,802	65,420	+24,618

The decrease in the value of tea imported, we may casually remark, is £108 000; and this fact may be used as a peg whereon to hang another—to wit, that we have been favoured by the Agent-General for Natal with the satisfactory information that the estimate for the next crop is 800,000 lb. For so very youthful an industry, these figures are very satisfactory, and considering the state of things in the East, especially the Tea-growing portion of it, there does not appear to be much fear of over-doing the industry in Natal. As for the imports of fruits, roots, and vegetables from abroad, we glean the following from the general mass of figures:—

Imports.	1893.	1894.	Difference.
Fruit, raw:—			
Apples ... ... bush.	602,210	1,179,595	+577,385
Cherries ... ... ,,	...	...	...
Plums ... ... ,,	2	1,538	+1,533
Pears ... ... ,,	43,170	59,331	+16,161
Grapes ... ... ,,	173,971	100,694	—73,277
Unenumerated ... ,,	36,051	58,768	+22,717
Onions ... ... ,,	419,275	597,601	+178,323
Potatos ... ... cwt.	49,295	151,005	+101,710
Vegetables, raw, unenumerated ... ... value	£ 52,298	£ 68,551	£ +16,253

These figures certainly do not decrease in value with the monthly record; but leaving them for the mastication of vendor and purchaser, we pass to the subject of—

Exports,

which show an increase in November over the same period last year amounting to £429,328, but the figures for the eleven months record a decrease amounting to £2,533,518. Had we had these last figures the other way round, it would have been a much more satisfactory record; as it is, the record for the month shows an improvement, much of which is due to the new American tariff, and here it may be recalled to mind that the President in his Message, on opening the parliamentary session, advises a larger concession to free trade—the free admission of coal and iron, and allowing all ships to be reckoned as American when bought by Americans and registered as American. The President hopes to encourage shipbuilding at home, and so keep freight profits in the hands of merchants and shippers. This latter is somewhat problematical, but the registering of ships built here means what may be termed "a big order." Furthermore, the prospects of trade with Italy seem more encouraging; and as the "P. and O." Company's dividends are looking up, we may conclude that trade in the East is improving.

Meeting of the Brussels Orchidéenne.—The most beautiful Orchid shown at the last meeting of the Orchidéenne, December 9, was Odontoglossum crispum antverpiense, from MM. Janssens & Vincent, of Antwerp (First-class Certificate of Merit, *à l'unanimité*); the flower is large, its divisions ivory-white, much spotted; the lip bears a large spot in the centre, the finely-cut edges are very much dotted. Cypripedium × Augusta (C. Spicerianum × C. Sallieri (?)), from M. Moens, has a splendid standard, bright red at the base, the mid-rib dark red, petals bright dark brown on the upper parts. C. × Fiveanum (C. Spicerianum × C. Harrisianum, from the same exhibitor, bore pale flowers; C. × Ivonnæ, from M. Linden, was of the C. × Leeanum class, and bore a fine well-shaped blossom. Maxillaria Lindeniæ and Brassia Finetiana, with flowers of a bright yellow, with clear brown spots, from M. Linden; Cypripedium × Leonæ, from M. le Dr. Capart, and C. × Lombaerdianum, from M. de Lombaerde, deserve mention as novelties. As good varieties, the following were remarkable:—Cypripedium × Harrisianum from M. Moens; C. × Harrisianum superbum and callosum, with a very large lip, and from M. Van Wambeke, Cattleya labiata Warocqueana; from M. de Lombaerde; Cypripedium × Leeanum Madouxianum from M. Madoux; Cattleya labiata Warocqueana and Cypripedium insigne var. from Dr. Van Cauwelaert. Three fine Orchids, remarkable for cultivation and bloom, were the following, from M. Van Wambeke, Lycaste costata, a splendid specimen, Oncidium cucullatum and Cattleya labiata Warocqueana.

Mr. Alfred Outram, who has represented Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, London, N., is severing his connection with that firm, after representing it for twenty-two years in Great Britain, America, and Canada. Mr. Outram has been an occasional correspondent of this journal. He will be at liberty to engage in a similar capacity with any firm desirous of being represented, and from his long experience and practical knowledge of the business, he is not likely to be long out of employ.

Shirley and Surrounding Districts Gardeners' and Amateurs' Mutual Improvement Association.—The monthly meeting was held at Shirley, Southampton, on the 17th inst., Mr. B. Ladhams presiding over a fair attendance of members. A paper was contributed by Mr. Jesse Jones, The Gardens, Terrace House, Southampton, on the "Cultivation of the Eucharis," illustrated by some capital photographs of a group and specimen taken from plants under his care. A hearty vote of thanks to Mr. Jones for his interesting paper concluded the meeting.

Messrs. B. S. Williams & Son.—This firm has opened a West-End establishment at 169, Piccadilly, for the purpose of extending their floral and decorative business. The premises are elegantly fitted, and brilliantly lit with electric light, so that the shop is an addition to the amenities of Piccadilly.

Peeblesshire Horticultural Association.—At the usual fortnightly meeting held on Tuesday evening, the 11th inst., a paper on "Bedding-out in Peeblesshire," was read by Mr. Jno. Cunnison, gardener, Kingsmuir Hall, who dealt with the subject in a practical manner, and dealt with plants and methods of treatment especially suitable for the county.

THE HORTICULTURAL COLLEGE, SWANLEY.—Mr. COLVILE BROWNE has resigned the office of Principal of this establishment.

CATTLEYA MAXIMA GIGANTEA.—We are not responsible for the apposition of these names. The original C. maxima was discovered by HARTWEG in 1841, but the special variety now to be mentioned was introduced to M. LINDEN's establishment, by WALLIS, in 1864. The plant, however, has gradually become rarer and rarer, so that it was till lately practically extinct. M LINDEN has recently re-introduced the species in its finest form, and in the *Orchidophile* speaks of pseudobulbs 40 centimètres in length, the flowers in clusters of eight or ten, and even twelve. As an autumn-flowering variety, it will be welcome, and a fit associate of the true Cattleya labiata.

ISLE OF WIGHT HORTICULTURAL IMPROVEMENT ASSOCIATION.—The monthly meeting of this association, Dr. GROVES J.P., B.A., of Newport, presiding, was held at Ventnor, Dec. 1, 1894, when a paper was read on "The Chrysanthemum," by Mr. C. ORCHARD, of Bembridge. There were fine blooms of all the sections of Chrysanthemums staged to illustrate the essay. After the paper was read, questions were asked and remarks made on the peculiarities of different varieties. The general failure of Golden Wedding throughout the country seemed to be an insoluble problem. A hearty vote of thanks was accorded the chairman, essayist, and those who had staged blooms and plants.

THE LATE DR. BENNET.—A monument to Dr. JAMES HENRY BENNET to whose efforts the reputation of Mentone as a health resort is largely due, was unveiled there on Thursday in presence of a large crowd of people, including the local authorities, the foreign consuls, and the principal medical men of the Riviera. It will be remembered that Dr. BENNET's conclusions were largely based on his observations on the growth of plants as affected by climate. These observations were first published in our columns, and afterwards incorporated in his well-known book *Winter and Spring on the shores of the Mediterranean.*

PETWORTH HORTICULTURAL SOCIETY.—On November 28 and 29 there was held at the Town Hall a successful show, the first autumn show the Society has held. The Chrysanthemums were, as a whole, past their best, but Mr. WELLS and Mr. LETCHFORD exhibited some grand cut blooms. Lord LECONFIELD's gardener contributed a handsome group of miscellaneous plants; as did also Miss MCRONALD, Chichester.

"THE FRUIT-GROWERS' YEAR-BOOK" (Cable Office, 30, Fleet Street, London).—This is a very useful little publication, containing, in addition to a calendar and practical directions for each month, essays on fruit culture, by Mr. B. WELLS, Mr. E. MOLYNEUX, on packing fruit for market, fruit-drying, jam-making, &c. An account of Mr. ROCHFORD's vineries at Turnford, near Cheshunt, where there are 25 acres under glass, is given; and similar short notes of the nurseries of Messrs. RIVERS and BUNYARD. A classified directory of fruit growers in each county of the United Kingdom will be very valuable for reference. One objectionable feature we may note is the intrusive manner in which the advertisements are mixed with the text. Indeed, the mercantile element obtrudes itself throughout the book in a way that is hardly calculated to inspire amateurs with confidence. The object of the compilers would be better attained if the advertisements, overt and covert, were kept in their proper places. The book should be in the hands of all growers for market.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione took place at their rooms in the Hotel Windsor, on Tuesday, the 11th inst., the chair was occupied by the Vice-President, Mr. HARRY J. VEITCH; amongst those present were Sir Alex. Arbuthnot, Messrs. Bunyard, Moss, James H. Veitch, D. T. Fish, Peter Veitch, Ironside, C. Pearson, and Harrison Weir. The discussion was on the odour of Roses, and was opened in an exhaustive paper by Mr. D. T. Fish. Many of the members present afterwards joined in the discussion, and a hearty vote of thanks was given to Mr. Fish for his paper.

CORNWALL IN DECEMBER.—Mr. HOWARD FOX obligingly communicates the following list of plants flowering at Rosehill, Falmouth, in the open air on December 16, 1894:—

Abutilon megapotamicum
" Boule de neige
" Crusader
" Prince of Wales
Acacia from Wynberg, 2-year-old, 8 feet high
Acanthus mollis
Actinotus
Andromeda formosa
Aralia Sieboldi (Fatsia japonica)
Azalea amœna
" Double White
Begonia semperflorens
Berberis Bealbei
Brugmansia sanguinea (profuse)
Choisya ternata
Cistus florentinus
" hirsutus
Coronilla glauca
" viminalis
Corydalis lutea
Cyclamen Atkinsi
Desfontainea spinosa, also in seed
Diplacus glutinosus
Erica carnea
Escallonias, white and red
Eugenia apiculata
E. ugni
Eupatorium, shrub, 7 feet high
Fragaria indica, also in fruit
Fuchsias, in vars.
Genistas, in vars., 12 feet high
Grevillea rosmarinifolia
Helianthus (new miniature)
Heliotrope
Hellebores, in vars.
Hydrangea quercifolia and other species
Iberis Pruiti
Japanese Anemones
Jasminum nudiflorum
Lantana
Leptospermum baccatum
Leycesteria formosa
Lobelias
Magnolia exoniensis
Marguerites
Marigold (Cape)
Mühlenbeckia complexa
Nicotiana affinis
Œnothera macrocarpa
Olearia Gunniana
Phlox Drummondi
Pittosporum Tobira
Polygala Dalmaisiana
Primula obconica, &c.
Salvia (red-flowered shrub)
Saxifraga crassifolia
Schizostylis coccinea
Skimmia japonica
" longifolia
Solanum jasminoides
Tropæolum canariense
Tussilago Farfara
Veronica anomala
" diosmæfolia
" glauca cœrulea major
" ligustifolia
" parviflora, &c.
Viburnum rugosum

Also Acacia dealbata, 20 feet high, in bud ready to burst; Benthamia fragifera, in fruit Madras Citron, in bud and fruit; Senecio petasites, in bud, 6 feet high.

THE PARENT LARCHES AT DUNKELD.—Some few years since, we published illustrations of these historic trees (see *Gardeners' Chronicle*, February 12, 1876, p. 200), and of some of about the same age at Linley, Shropshire. The Dunkeld Larches were planted in 1738, and the two remaining ones were measured, says *Nature*, in 1888, with the following result:—

	Ft.	In.
Height	102	4
Circumference:—		
3 feet from ground	17	2
5 " "	15	1
17 " "	12	10½
51 " "	8	8
68 " "	6	1

Our contemporary merely gives the measurements of one of the trees he mentions. Although the date given for the introduction of the Larch is 1738, the tree is mentioned by PARKINSON in 1629 (see *Conifer Report, Royal Horticultural Society*, p. 14).

It is interesting to see what was said about the Larch at that time, on which account we give the following extract from the *Paradisus*, p. 608:—"But in our Land being rare, and noursed up but with few, and those onely louers of rarities, it groweth both slowly, and becommeth not high . . . . . The blossomes are very beautiful and delectable, being of an excellent fine crimson colour, which standing among the greene leaues, allure the eyes of the beholders to regard it with the more desire: it also beareth in the naturall places (but not in our Land that I could heare), small soft cones or fruit, somewhat like vnto Cypresse nuts, when they are greene and close."

ELECTRIC LIGHT IN HORTICULTURE.—Some day, perhaps, when every other civilised nation has adopted it, our growers may think it worth their while to make enquiries about the use of the electric light in the culture of plants. The experiments of the late SIR W. SIEMENS were duly recorded and illustrated in these columns some years since, and they were so remarkable, and, so far as they went, so conclusive, that the success of the enterprise commercially even then seemed only a matter of time. In the meantime, our American brethren have stolen a march upon us, and may be trusted to attain "results of direct economic value" some time before we do. We have already alluded to the results in the case of Lettuce-culture, and recommend those interested in the subject to read the "Essay on Electricity and Plant Growing," by Professor BAILEY, Professor of Horticulture, Cornell University, Ithaca, New York, in the *Transactions of the Massachusetts Horticultural Society for the Year* 1894, p. 54.

MARKET PRICES IN THE METROPOLIS.—One of the most interesting features in the second part of the *Journal of the Board of Agriculture*, just published, is a series of tables, in which is set forth the monthly mean prices, wholesale, of fruit, at Covent Garden, Farringdon, Borough, Spitalfields, and Stratford Markets, derived from the pages of the *Gardeners' Chronicle* week by week. It is satisfactory to find our endeavours appreciated by a Governmental department.

CHRISTMAS TREES.—An essay before a recent meeting of a Forestry association deplores what it terms the "craze" for Christmas trees, by so much, the author insists, fostering a spirit destructive of the growing forests. To our mind says *Meehan's Monthly*, for November, that which gives human pleasure is not waste—and what pleasure does not float around the memories of the Christmas tree! Even from the timber-growing standpoint, little harm is done, as in the Atlantic States they are confined chiefly to red Spruce and Balsam Fir—not by any means of great import in timber calculations. Kinds that are valuable for timber rarely come in. It is to be regretted that the first inventor of the Christmas tree cannot be known, and a monument built to his memory. The idea originated in Germany. The legend is that the Christ-child, disguised as a vagabond, went to a cottage for shelter, and was not turned away. The forester made him happy. It was Christmas, and the wanderer took a sprig from a bunch of green on the mantel and planted it by the cottage door. For ever after as it grew, on Christmas day, it was loaded with gifts which it bore for the forester's family. Thus far in the realm of story lies buried the good deed of the inventor of the Christmas tree.

THE DIVINING ROD AND ITS USES.—Messrs. BAKER & SON, 25, Paternoster Square, London, have published an essay on this subject by Mr. E. VAUGHAN JENKINS, and Messrs. T. F. YOUNG & R. ROBERTSON. It is rather strange that the subject has not been investigated by our electricians and seismologists, and that galvanometers and other instruments which must be much more delicate in their indications than human "media" have not been turned to account to prove or disprove the allegations made. Though perverted and distorted almost beyond recognition, there is generally a grain of truth in popular belief, however superstitious. It is not only that some people are alleged to have this faculty, while the majority do not possess it, but the nature of the rod has to be taken into consideration. "A green Hazel rod full of sap" is preferred. "The Fern," meaning we suppose the bracken, is said to be very sensitive, and "the most active," used by the two writers above mentioned, "is the Douglas Fir." We are afraid there is not much to be got out of this assortment, but if any one wishes to know how it is done, let them read the present book, which whatever we may think of some of the stories in it, bears the impress of good faith on the part of the writers.

PRESENTATION TO MR. THOMAS LOCKIE.—This well-known and highly-esteemed gardener, who has left Oakley Court, Windsor, to take charge of the gardens at Doddington Hall, Huntingdon, succeeding the late ROBERT PETFIELD, was entertained at supper at the Swan Hotel, Clewer, by thirty of his friends, including many of the leading gardeners of Windsor and the surrounding district, Mr. HARRY TURNER, Slough, taking the chair. After supper and the reading by Mr. CHERRY of a sympathetic address,

Mr. [Turner, on behalf of the committee and subscribers, presented Mr. Lockie with a handsome gold watch and chain, and Mrs. Lockie with a diamond brooch. Mr. Lockie was twenty-two years gardener at Oakley Court.

Publications Received.—*The Journal of the Board of Agriculture* No. 2.—*Millet Bulletin of the Michigan State Agricultural College Experimental Station.*—*Revision of North American Cacti, &c.*, by John M. Coulter, United States Department of Agriculture, Division of Botany.—*Peach Yellows and Peach Rosette*, by Erwin Smith, United States Department of Agriculture.—*The Effects of Spraying with Fungicides on the Growth of Nursery Stock*, by T. Galloway, U.S. Department of Agriculture, Washington.



Fig. 97.—Cypripedium William Lloyd: flowers rose and crimson.

Amateurs' Column.

Peaches, etc.—I noted in the *Gardeners' Chronicle* recently, an article on Peach growing in Belgium, and how very successful it is, and that it brings £600 000 of foreign money to the pockets of the Belgian people. Beyond this, I saw a few days ago a friend of mine from California, and he told me how great breadths of land are being covered with Peach trees, and that some of the fruit they will probably bear will some day be over here bright and fresh, and no doubt it will; and then the French Peaches that also come, and I hear that hereabouts the wall Peaches have done fairly well, so we are not likely to be "wanting" Peaches, but for all that, I as an amateur like growing my own. Many years ago I planted a standard Peach tree, I think it was called Early York. It grew well and bore, and ripened much fruit, but they were small, yet the flavour was good. This being in my mind, I spoke to my friend Mr. Francis Rivers about having another trial. He kindly presented me with three pyramid trees, one Early Louise, one Early Beatrice, one Alexander. Well! every gardener knows of the disastrous spring frost we had here, this spoilt our Strawberry crop, our Apples, &c. At this time my Peach trees were in full bloom, so I gave up all idea of a crop, especially as the Gooseberries close by were browned and many fell off. But no! It was not so, both Early Beatrice and Louise set a very good crop, so much so, that I had twice to thin them, cutting off over two dozen from each. Being small trees I left about a dozen and a half on each, all which though not large, ripened on or about August 1, and were of good flavour. The Alexander came a little later with much larger highly-coloured fruit, there were fifteen, as the tree was not well set for bloom, they ripened thoroughly and were delicious. There is another variety that I must get, and that is Waterloo, I have seen standards of this loaded with bright red fruit, and good in flavour. Besides having the fruit, the blossom is pretty, and the foliage and the style and growth of the tree is graceful. Now what I am coming to is, Why do not more amateurs grow standard or pyramid Peach trees? there are plenty of warm nooks where they would do well, though mine are fully exposed to very rough winds, yet they have done well. Why buy foreign fruit, when we can so easily grow our own, and not only that, but have the pleasure of seeing them grow. I grew some good-looking Pears this year, but none of these had much flavour. The wet weather was too much for them. Catillac was very large. Durondeau was the best flavour, but the blue tits spoilt a large number, in fact, all on one pyramid. By far the handsomest Pears that I have seen this year, and the best flavoured, are some I bought at two different times, they were delicious and wonderfully juicy — they came from California. *Harrison Weir, Iddesleigh, Sevenoaks, Dec.* 11, 1894.

Cypripedium William Lloyd.

This richly-coloured Cypripedium (*see* fig. 97) is a hybrid obtained from a cross between C. bellatulum and C. Swanianum, and was shown before the last meeting of the Royal Horticultural Society by Mr. P. Weathers of Silverhall Nurseries, Isleworth, when it received an Award of Merit. In our report of that meeting, we described the flower as resembling C. Chas. Richman, in the dark rose and crimson colour which suffuses almost the whole of the surface.

The broad upper petal has feathered crimson-purple lines, and the substance of this beautiful flower generally is thick and wax-like.

Home Correspondence.

The Gardeners' Royal Benevolet In Titution.—It appears to me that many gardeners who desire to see impartiality upheld, will feel a debt of gratitude towards "Enquirer," whose letter appeared in your last issue. As sure as the elections come, so are the enclosed weighty epistles sent forth; no name or place of the sender is visible; surely it is not distributed owing to the names attached for catching votes or influencing other voters away from the most deserving. It is evidently not wise, and certainly not fair towards others whose opportunities have not been so favourable for obtaining such signatures. I have been closely connected with similar funds from their commencement, and even in committee I have never thought it right to advocate candidates either at the meetings [or otherwise, and for the same reasons I have never voted, feeling that the majority of outside voters would, after seriously considering each applicant's position officially set forth, do the deciding according to their honest convictions. I do think that trade influence should not appear, and that a correct basis should be adopted under such conditions. I am glad the subject has been approached, and sincerely hope both sides will be impartially discussed. *Henry Cannell, Swanley.* [The epistle referred to was an appeal for support of a particular candidate, backed by a statement that his petition was signed by the treasurer and five members of the committee. Ed.]

—— Gardeners have been frequently rated, because they, as a class, do not subscribe in greater numbers to the above excellent Institution, the claims of which should specially appeal to their generosity; but if the communication of "Enquirer," p. 729, is correct, I am afraid it will not enhance the prospects of their so doing. In the official list of candidates I have often noticed the recurrent phrase—"been a gardener all his life in the neighbourhood of so-and-so." Now, I myself have had several changes since I began my gardening career, and I know many more that have had a similar experience; some manage to drop into a berth where they can remain, and such fortunately seldom have recourse to the benefits of the Institution. Therefore it would be somewhat difficult to give a full description of each candidate's gardening career, but certainly the irony of fate is exemplified in "Enquirer's" note, another rendering of the eleventh hour labourer in the vineyard! Was the erstwhile shoemaker elected on the pension list? or will he be put up again? if so it would be only right and fair to candidates that have been gardeners all their life, to have full particulars given next time. Being a subscriber, I should feel very hurt if, in years to come, a turn of that treacherous wheel of fortune necessitated my name being placed on the list of candidates, —and then—oh, then! to find myself elbowed out by one of the same standing as mentioned by your correspondent. *Pathfinder.*

—— "Enquirer's" letter, page 729 is of a somewhat startling nature, and, assuming it to be a fair statement of the facts of the case, it certainly requires

the attention of all who are interested in the welfare of our good old Institution. Residing, as I do, at a considerable distance from London, I am not often brought into contact with those who more directly have the management of it, consequently I am not acquainted with the minor details of its working. Looking at the names of the Committee as published annually, we should expect that the persons named would surely not allow the claims of a person (however worthy he may be) who did not enter upon an horticultural life until forty, to be called a gardener in the sense that this Institution was and is intended to benefit. We subscribers at a distance have to rely on the remarks of the Committee that are published each year about the respective candidates. Hence the necessity of these remarks being based on facts. The age when each candidate enters his gardening career should always be stated. As one who has not only subscribed for fourteen years, but who has also done some little in other ways to further the interests of the Institution, I shall await with interest some explanation from the management as to the charge of "Enquirer." *H. J. Clayton, Grimston, Tadcaster.*

CHRISTMAS REQUIREMENTS.—At pages 689 and 690 of the *Gardeners' Chronicle*, a "Market Gardener" introduces a very interesting and varied assortment of plants, fruits, and flowers available for this season. But among the cut flowers I notice that no mention is made of two at least of our never-failing Christmas flowers, viz., Chrysanthemums and Poinsettias. The former of these has an importance of its own, and so, indeed, has the latter plant, from a decorative standpoint, though, of course, the coloured bracts that are so generally admired at this time have nothing to do with the true flowers. For church decoration, however, both plants are in great demand; indeed, are really indispensable at this time. For its decorative and market value, the Chrysanthemum cannot easily be superseded, and especially is this the fact when it is remembered that these flowers are forthcoming at Christmas-time in both yellow and white. The adaptability of their flowers to the ordinary sitting-room or public building, where artificial light is used, makes them quite indispensable at Christmas-time. The duration of the blossoms of some varieties is also very noteworthy. For decorative purposes at this season we have no white that can equal Lady Lawrence, the purity of its flowers being all that can be desired, while its lasting properties are great. This variety may be easily carried over into the new year, and still be fresh and good. Another excellent late white is Lady Canning, the flowers of which are very pure. In this case the plant is possessed of a dwarf bushy habit of growth, that will render it most welcome as a pot plant for furnishing. Whether this latter is going to be sufficiently free-flowering for the market-grower has yet to be decided. Yet another dwarf white variety, which must not altogether be overlooked, is Boule de Neige. It is an old variety, certainly, and not a first-class flower, but there is this about it, that it may be relied upon for Christmas work, which is an important point to nurserymen and florists, who supply cut flowers for decorations. Then among the yellows we have Mrs. Hogg and W. H. Lincoln, both excellent in their way, and also distinct. There is also Golden Gem, a flower the colour of which is variable, and the name too frequently a misnomer. The terminal blossoms are generally yellow, and often of a pleasing shade. Kate Mursell, the beautiful primrose sport from Lady Lawrence, is also a charming flower equally late in flowering as the original. These by no means exhaust the list of Chrysanthemums suitable for and obtainable at Christmas; and I should not omit to name Eucharis grandiflora, double-flowered zonal Pelargoniums, forced Lilac, with its delicious fragrance; and paper-white Narcissus were in great quantity on the principal markets of this country. *Another Market Gardener.*

MR. BLACKMORE AND FRUIT CULTURE.—It is difficult to discover a cause for the crusade that Mr. Blackmore has preached against fruit-growing; the 10 acres of land, which have not been profitable to him, can hardly constitute a basis to attack one of the industries of the nation. I am told that in Devonshire thousands of acres are occupied by worthless and worn-out trees, from which a very nasty drink, called cider, is manufactured; the fruit for this beverage is generally battered from the trees (poor old things), gathered up from the soil, and thrown into heaps, rotten and sound, and all nauseous. The superstition that these repulsive Apples can make good cider ought to be smashed, abolished, and trampled upon by the Devonshire worthy, Mr. Blackmore, and he will then do good service to his county, but the "boom" will not be very tremendous; the annual net profit of some of the brewery companies would probably buy up all the growing stock of fruit-trees in the United Kingdom, and the re-planting of one county would tax the resources of all the English fruit-tree growers (so much for the "boom"). Let the replanting, however, be done with the finest sorts of dessert and culinary Apples, the cider will then be worthy of a refined taste, fine Apples will make fine cider, and the so-called cider Apples return to the limbo of ignorance from which they were drawn. Under Mr. Blackmore's leading, Devonshire will again become a source from which a fine English drink will be a blessing in disguise to the whole country, wholesome, pleasant, and inspiriting, and which can be produced as cheaply as the horrible stuff which sometimes passes as cider. *T. Francis Rivers.*

FRUIT AND FICTION.—There must be something fascinating in Mr. Blackmore's letters treating of what he calls the "wretched delusion" of fruit-growing to ensure the insertion of such rhapsodies as he writes. He asked for one instance only of a successful fruit-grower. I gave him two, but he is unconverted. If such evidence would convince him I think I could engage to cite him two successes to every one of his failures. Failures and successes there are in every business—not only in fruit-growing, but in literature as well—yet, if Mr. Blackmore cites his own experience in literature, would he advise failing fruit-growers to become literary men? I think not—nor would it be wisdom to say, because there are literary failures that literature is a "wretched delusion"—yet one is as important as the other, and both must be developed, and both will receive attention in spite of all opposition, and both businesses will have its successful operators and failures. It is so with every business or profession. The crucial test to success in almost anything is the compulsion—most persons are compelled to do something to live and better their condition, and as a rule they are forced to stick to it or fail, and that means ruin. Hundred of cases might be cited. Look at Gilbey's firm—there is an instance. Rumour says that they were nearly spun up at the beginning, but to wind up meant ruin, so they stuck to business till success dawned upon them, and now look; and it is so with thousands more. Look at the great fruit-growers of to-day, to name them would be a task for the numbers are so great. Does this view show it to be a "wretched delusion." It is mere twaddle to say so, and an unjust reflection on respectable men. It is a pity this controversy on so great a subject should drop before it is well thrashed out, and no partiality should be shown in altering or cutting out expressions in the correspondence, but fairness should be exercised all round, and Mr. Blackmore forbidden to abuse men engaged in a great industry by such phrases as "fatal fad," "wretched delusion," and other such choice terms, for there are persons who take notice of such things, to the real injury of themselves and others. *B. Wells, F.R.H.S., The Fruit Nurseries, Crawley.*

THE SEASON.—As an instance of this mild season, I may state I found a full grown Strawberry in my garden here, nearly ripe, on Nov. 18, and one before that date, they are still blooming; to-day I find the buds on fruit-bushes and Raspberries are moving; Primroses in the woods are looking gay. I send twigs of two old shrubs I knew more than sixty years ago, not often seen now, Caronilla emerus, or Scorpion Senna, and Tamarisk, grown more by the south coast, blooming freely. I have seen beautiful hedges in gardens clipped or knifed to 3 feet or more, are very ornamental; a tree here is about 16 feet high, very useful to cut from as greenery. We have had several degrees of frost, on Dec. 4, 10°, thermometer 22° at 4 feet from the ground. *W. Divers, Heath Cottage, Linton, Maidstone.*

EUCHARIS.—Having seen your illustration of a pot of Eucharis grandiflora in a recent paper, I should like to say a few words respecting the very successful cultivation of the plant by Mr. Taylor at Belmont, Wimbledon: there are twenty-two pots of bulbs ranging from 8 to 12 inches in diameter, each of which recently carried from twelve to twenty-one spikes of flowers; they occupy the side of a low span-roofed house, and seem quite at home—they were thought worth photographing. *Admirer.*

DOUBLE LYCASTE SKINNERI.—A few weeks ago one of my plants of Lycaste Skinneri bore two flowers on a spike, which fact I communicated to the *Gardeners' Chronicle* (see issue for December 1, p. 675). Another plant in my collection is now showing two buds on one spike. In the case of both plants, the spikes simply bear two distinct flowers. Another occurrence of the same kind here in the autumn was that of a plant of Cattleya Bowringiana had fourteen flowers on one growth. *N. Blandford, Bitterne.*

FRUIT AT THE DRILL HALL.—The very fine collection of culinary Apples staged by Mr. G. Bunyard at the last Drill Hall meeting of the Royal Horticultural Society certainly attracted the attention of the visitors, but to show them on plates taught no one anything. I venture to suggest to Mr. Bunyard that it would be of greater service to an aspiring fruit-growing nation, were he to set an example at some future meeting to market growers of Apples how to tastefully and conveniently pack their fruit for sale in a way that will command the patronage of the grocer and the admiration of the public, in the same way that so much of imported fruits are submitted to public attention. The foreigner caters chiefly for the high-class shop-keeper and the great stores. Our home growers chiefly for the greengrocer and the costermonger. With such a fine lot of fruits as Mr. Bunyard has, and some other growers also, what capital object-lessons might be at the Drill Hall furnished! We want to see our Apples sized, neatly packed in very cheap boxes or crates, and in moderate quantities, rather than in bushel baskets. *A. D.*

WATER-TIGHT STOKEHOLES.—On page 701, Mr. Jenkins gives directions for making water-tight stokeholes. Bricks and cement used as he states, however, would be a heavy item of expenditure, and likely to deter many from undertaking such work. Water is a difficult element to keep in and keep out, and a guarantee of success would be risky after all his expensive process. I have maintained, and still do, that an iron tank is more effectual and economical than bricks and cement. The pipes, both flow and return, must of course be carried over the top of the tank. The bottom of the tank in front of the furnace, and where the shovelling is done, should have loose sheets of iron laid on to prevent wearing the bottom of it. But why have a sunk hole at all? Why not place the boiler on the ground level? I am well aware of the prevailing opinion that the whole of the pipes must be above the boiler, and have also a gradual rise the whole of their length, but this notion is erroneus, for the boiler will do its work as well if above the pipes as if set below, and a house 200 or 300 feet distant from it, though it may be a few feet lower, can be heated to any degree, according to the number of pipes put in. We have a structure in this establishment heated by a boiler that is 2 or 3 feet above its work; the boiler is set on the ground level, and the pipes below. Mr. Dillworth, of the late firm Metcalfe & Dillworth, Preston, has heated several ranges of houses in gardens near the coast, and in low-lying districts, without excavating a stokehole at all, and he recently informed me that difference of levels presented no obstacle to him. *W. P. R., Preston.*

NE PLUS ULTRA PEA.—This variety was distributed from here by Mr. Brownlees, whose family resided at this place for over sixty years, and not from Berkhamsted, as stated in the article on the "History of the Pea" in your last week's issue. *W. Eoden, Marlow's Nursery, Hemel Hempstead.*

THE BLACK CURRANT MITE. — Amongst the members of the old school of gardening it is likely that they, not having had the advantages of the present generation in becoming acquainted with the habits of plant-pests, and the appearance of fungus diseases, labour under the delusion that because they have not seen or heard of them, the whole must be a myth; this, at least, appears to be the case with one of your correspondents in relation to the Black Currant mite (Phytoptus ribis). I made the first discovery of this troublesome insect about twelve years ago, but at that time did not know where to find any information regarding it [you did not read your *Gardeners' Chronicle*, where it was fully described at that time!]. However, I was able to rid the garden of it by burning all the affected bushes. Since then it has been my good fortune to become acquainted with some of the writings of Miss E. A. Ormerod. I would strongly advise "A. D." and, in short, every gardener, to invest 5*s.* in the

Manual of Injurious Insects, and Methods of Prevention," by that author, as it contains much useful information about most of our worst insect foes. At p. 603, "A. D." makes bold to assert that the Black Currant-bud mite is only to be found on badly-grown plants. This much may be granted him, that weakly plants are sooner overrun than vigorous ones, simply because the latter afford a much more limited area for the insect to cover. The truth is, health has nothing whatever to do with the presence or absence of the mite, and this "A. D." will learn should it ever find its way to the Currants under his care (I presume he is a grower). Twelve months ago I had occasion to give a lecture in one of the villages on the estate of my employers, and as the mite had been one of the worst enemies of the cottage gardens, I was asked to make a specialty of this subject. I responded to the request, and strongly urged all those whose bushes produced abnormal buds (like the specimens I had), to dig up and burn them. This was done, and young plants supplied from the gardens under my care, free of cost, with the result that not a vestige of the mite can now be found. Facts are oftener stronger than fiction, and this, perhaps, "A. D." will admit when I tell him that all the cottagers on this estate have exceptional inducements to cultivate their gardens well, and that it was in the garden bearing the highest number of marks for cultural merit that the mite had made the most headway. Stunted growth and bad cultivation were not to be found within the enclosure, and is it not more rational to think that the Currant-bud mite would increase most on bushes in a robust state of health, with good fat buds for them to feed on, instead of on starved plants? Moreover, is it not when rabbits find abundance of food that they increase the fastest? *Phytoptus.*

LOBELIA CARDINALIS.—What a showy, useful free autumn-flowering plant is Lobelia cardinalis! Yet, strangely enough, it is not often met with now-a-days in private gardens. The spikes of scarlet flowers rising from 2 to 3 feet high out of tufts of long, narrow, bronzy foliage, are very telling in effect, either planted in single rows in shrubbery borders or in irregular masses some 3 to 4 feet from the walk in herbaceous borders, in which latter position they form a striking contrast to the plants with which they are associated, such as Michaelmas Daisies, of various shades of colour, Pyrethrum uliginosum, and Anemone japonica alba. And in a cut state the Lobelia cardinalis keeps fresh a long time, if put into water as soon as cut, and it is admirably adapted, in conjunction with long-flowering shoots of the above-mentioned plants, for filling large vases for the decoration of rooms. Recently I noticed a long row of Lobelia cardinalis in fine flower in a border close to the several ranges of glasshouses in the nurseries of Messrs. Keynes, Williams & Co., Salisbury. The plant has everything to recommend it, being a good grower in any garden soil of average fertility, and easily increased by division of the roots. *H. W. Ward.*

LARGE EXHIBITS AT THE DRILL-HALL MEETINGS.—The resolution passed unanimously at the ordinary meeting of the Fruit Committee of the Royal Horticultural Society held on October 23, inviting the Council to place restrictions on the number of dishes of fruits exhibited by any one firm or person at any one Drill-Hall meeting should, if adopted by the Council, be productive of some good results. Certain evils now result from the present system: First, we constantly see a large number of the most unmeritorious sorts exhibited, which would be better left at home; and further, even of known good sorts, many inferior samples are often staged for the purpose of making up big collections. Such exhibits have no interest, add nothing to the attractions of the meetings, and are not at all the sort of things the meetings are established to encourage. Secondly, these huge collections too often cramp and confine space for many other small but not less interesting exhibits. Thirdly, there is growing up a sort of running competition for notoriety as to the presenting the largest collections. Where is it to end? These are the reasons which prompted the Fruit Committee to take action, that body being driven to their wits' end to find suitable awards, the range being exceedingly limited. However, it has been pointed out that fifty dishes, assuming the restriction be adopted by the Council, might be interpreted as fifty baskets, which would mean a huge collection again. Still, limited to fifty sorts, there would be much gain. Yet I think the wisest course would be to take the bull by the horns and rigidly limit every exhibitor to a maximum of table space, leaving him to fill it as he may. That could be so determined as to cut down the huge collections of to-day to something like proper limits. I personally do not complain of any one or of all the exhibitors. The system complained of has grown up gradually. Its objectionable nature was specially impressed on the fruit committee, when making certain awards, because it was felt that space and numbers did give undue advantages. Of course, it is the trade houses that chiefly create the difficulty, and not private gardeners. It is so rare that these latter require unusual space, that what they have done calls for no comment, beyond saying that in some respects the collections of vegetables shown on October 23 were the most representative ever seen. Still, the very highest award having been made, such another collection will hardly be repeated. None the less, any restrictive regulation should have general application. Then it is hoped that the council will not mind helping the committee in the matter of awards, so far as to lay down a regulation as to awarding the highest, a gold medal, an award that is eagerly sought for, but which ought to be very hard to gain. It is sometimes rather invidious to distinguish as to the relative merits of unlimited collections, but once these are restricted to equal numbers or areas, then each one can be dealt with on its absolute merits. I have not much sympathy with those persons who want to make the Drill Hall meetings into shows. It is true that nothing can be more welcome than very meritorious objects, and if all the exhibits at those meetings were distinctly meritorious, there would be nothing to find fault with. But we have to see a good deal that is very common-place, and such things if they fill the tables, at least, add nothing to the dignity, interest, or attractiveness of the meetings. Whilst it may be said, what would the meetings be without the trade collections, it may be retorted what do the meetings gain from very much of this trade material? I do not know that the getting of a good advertisement is the chief aim and object of the meetings, and no doubt there are numerous exhibitors at the Drill Hall who care not a rap for an advertisement, but who do very much like to let their fellows see what good things they may have to show them; and that is a form of personal ambition that commands and merits our warmest respect. There is no part of the Royal Horticultural Society's work that commands more respect, not merely on the spot, but in the provinces, than the regular meetings, and the less they become mere trade shows, and the more meetings for the exhibition of all that is best and interesting in horticulture, the greater will it redound to the honour and glory of the society. *A Fellow.*



FIG. 98.—MISLETO OAK IN EASTNOR PARK. (SEE P. 745)
(From a sketch by the Rev. Professor Henslow.)

THE DEAR LITTLE SHAMROCK OF IRELAND.

"THERE'S a dear little plant that grows in our isle,
'Twas St. Patrick himself sure, that set it,
And the sun on his labour with pleasure did smile,
And the dews from his eyes oft did wet it.
It thrives through the bog, through the brake, through the mireland,
And he called it the dear little Shamrock of Ireland,
The sweet little Shamrock, the dear little Shamrock,
The sweet little, dear little, Shamrock of Ireland."

About four years since, as is well known in Cork, I changed my residence, Temple Hill, to new and most virgin soil that had been a sheep pasture for years, now known as Ard-Cairn. The labourers of the village near at hand know what a big job the undertaking was when started—in fact, to make a new place. There were seventy large unwieldly trees, 100 years old, or even more, to be got rid of; there was an immense amount of carting and ground levelling to be done, the filling up of hollows, &c. In doing this the men got down to a bed of brown shingle, and this when taking the pre-Adamite or never before disturbed soil to fill up a particular hollow. This is given by way of preface. The soil having been removed to the depth of 4 or 5 feet, was spread over about a rood of ground that was to all appearance perfectly sterile. The same year, in the autumn, I got it stirred up with digging-forks and pickaxes, and dressed with bone-meal and soot, as a sort of stimulant differing

greatly to what had ever before reached it. The following spring, upon this particular spot, up came a crop of tufts of lovely Shamrock of the most verdant green, and having a 17th-of-March-like appearance—so full of virgin purity, and yet out of such a sterile soil! I lifted a number and planted them out at a distance of 1 foot apart, and we had clumps in 1893 and 1894, 18 inches in diameter from a single plant. From this crop I have succeeded in saving a quantity of seed, and intend to offer it to the Irishmen in America through some trade journal. The seed is bright golden in colour, intermediate in size between that of common Trefoil and White or Dutch Clover.

The problem I want solved is this: Whence came the seed from which the original plants or germs sprang? What was it as "matter" while resting beneath this 4 feet of surface for thousands of years? And how has it kept its character? It is certainly the first lot of Shamrock-seed sowed in quantity on the soil of "ould Ireland." I am planting out 1 acre of young tufts for the seed-crop of 1895, upon the top of my Daffodils, when I expect to harvest a big quantity of seed. I may mention that the natural soil at Ard-Cairn is loam, resting on limestone, and that when making excavations at a lower depth, we have come across a deposit, here and there scatterings of iceberg, drifted or conveyed limestone boulders that with the slightest touch of the sledge-hammer fall to pieces, and when examined they are found to contain fossilised remains of eels, mussels, and cockle-shells in a perfect state. Such limestone boulders are not all of the same degree of hardness, some are much softer than what are found in the adjacent quarry of Beaumont. *W. Baylor Hartland, Ard-Cairn, Cork.*

FLORISTS' FLOWERS.

CARNATIONS.

THESE plants form an important feature now in most gardens, and although they can be grown well in a mixed border of herbaceous plants, it is better to have beds or masses of them planted by themselves, and they will produce a striking effect in the garden, and furnish quantities of cut flowers when in bloom. In poor soils, Carnations will grow and produce flowers about the end of July or early in August only, but in rich deep good loam a succession of blooms is produced until the frost cuts them off. Beds of seedlings, if well managed, produce the greater masses of bloom. Plants now in frames of the florists' varieties require to be looked over, and all decaying or dead leaves removed, the surface of the soil to be stirred at the same time with a pointed stick. Green-fly may be brushed off, but the most effectual method of dealing with the aphis tribe, green or black, either in houses or frames, is to fumigate with tobacco-smoke.

THE AURICULA.

In winter the Auricula is supposed to be in a quiescent condition, and I wish they were in these early days of December, but instead they continue to produce flower-trusses. The Auriculas are like their near allies, the Primroses: when all of them are flowering they are pretty enough, but when flowering so freely in autumn they will not produce such good bloom in the spring. After a wet season like that of 1894, one would have expected cold, foggy weather, but we had such beautiful weather on the first Monday of December that one did not wonder that the thrushes and Primroses thought that spring had come. What are we to do with our precocious plants? Keep them quite dry at the roots, say the old florists. This may do in severe frost, but up till now we have had little. The best we can do is to pull the lights off whenever the weather permits, and keep them tilted night and day, unless there is a dense fog. Remove all dead leaves, and if a spring bloom is the main consideration, pick the pips off also. Do not let the plants get dust-dry at the roots, but let them be well on the dry side before giving them water, and in applying the water do not wet the leaves. *J. Douglas.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

DECEMBER 11.—Present: Dr. M. T. Masters (in the chair); Dr. Bonavia, Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Rev. G. Henslow (Hon. Sec.).

Pines, &c.—Dr. Masters exhibited a series of cones, &c., received from Mr. Herrin, gardener at Dropmore, as follows:—Pinus Lambertiana, the Sugar-Pine, from California, the cones being 12 inches in length, of which the seeds are edible. Abies nobilis, remarkable for the golden-coloured reflexed bracts and the silvery foliage. Araucaria imbricata, first and second year's cones. The largest tree at Dropmore was raised (as also the one lately dead at Kew) from seed brought by Mr. Menzies from Chili. Cupressus Goveniana, remarkable for its elegant branching with decussating branchlets. C. macrocarpa, only growing at Monterey, on the coast of California. It succeeds well on our own coasts, but not inland.

Primula obconica, Cause of Eczema.—Dr. Bonavia described a case of a lady who was three times made seriously ill by handling this plant before it was discovered to be the cause. It appears to be harmless with most people, but is a serious source of trouble to some persons who touch it.

Nepenthes bicalcarata, in Flower.—Dr. Masters showed specimens of the flowers of this plant, which has not been known to blossom in this country before. The inflorescence is an umbel, and not an elongated raceme, as in other species. It was received from the Edinburgh Botanical Gardens.

Tritoma with Axillary Buds.—Dr. Masters showed drawings illustrating the unusual occurrence of flower-buds arising near the base of the stem in this plant. It was observed that other plants are occasionally seen to throw out supernumerary flower-buds, as Docks, Nettles, &c., from stems which usually wither and dry up in autumn.

DEVON AND EXETER HORTICULTURAL.

We learn from the report of the proceedings of this society, which appeared in the *Devon and Exeter Gazette* of December 8, 1894, that a statement was made at the recent annual meeting held at Exeter Guildhall on the 7th inst., under the chairmanship of A. O. Sillifant, Esq., sheriff of the county, which shows an unfavourable position of the finances. The credit balance at the commencement of the year amounted to a sum of £40 9*s.*, and at the finish of the year to £16 7*s.* 9*d.* The committee, in view of the serious state of the finances, urged the members to do all in their power to induce more persons to join the society.

Two exhibitions were held during the year, but at neither was the attendance good. The committee suggested that a Rose show should be held in June or July instead of the August show. It was decided that a Rose and general Show and a Winter Exhibition should be held.

EDINBURGH BOTANICAL SOCIETY.

DECEMBER 13.—The second meeting of the session was held by this Society at 5, St. Andrew Square, on the above date, when a good number of members were present. The programme of communications, contained some interesting items. In the absence of the President, Surgeon-Major H. H. Johnston, occupied the chair. The report for the year 1893 4, showed a very favourable result, considering the additional expenses incurred during the year, and it was unanimously accepted. Mr. R. Stewart Macdougall, B.Sc., was elected a resident Fellow of the Society. Upon the table was an interesting display of plants from the Royal Botanic Garden, illustrating variegation in a large number of orders of plants, which were much admired. Fruits of the remarkable Sebastiana, containing the larvæ of Carpocapsa saltitans from Mexico, were exhibited by Mrs. Sprague.

The newly-elected Fellow, R. Stewart Macdougall, B.Sc., gave, with lantern illustrations, an interesting paper upon Lathyrus sativus, treating of its properties, with a comparative review of some other leguminous fodder-plants, a vote of thanks being heartily accorded the lecturer for his paper. Some well-dried specimens were exhibited of the flora of Ile d'Aigrettes and Les Bénitiers, Mauritius, by Surgeon-Major H. H. Johnston, who also read a report on these islands. Prof. Bayley Balfour, F.R.S., spoke of the importance of recording the flora of these islands, and a vote of thanks was awarded to the reader. The meteorological report from the garden, by Mr. A. D. Richardson, showed a small rainfall during November, as well as an extremely mild average temperature. Notes of a series of experiments of stem-ringing of broad-leaved trees, were read by Mr. Richardson; and Mr. R. Lindsay, Curator, gave a report of vegetation in the garden, very few species being noted as flowering during the last month; Aponogeton distachyon flowered freely in the pond; and Luculia gratissima, L. Pinceana, and Melastoma malabathricum, were exhibited from the glasshouses, by Mr. R. L. Harrow.

HARD-WOODED GREENHOUSE PLANTS.

(*Continued from p. 722.*)

ACACIAS.—The culture of the Acacia resolves itself into two heads, viz., that of plants grown in pots and those planted out in greenhouse or conservatory borders. In either case an excellent return in flower can be had, but the greater quantity, of course, under the latter method. There are varieties which are better suited to pot-culture than others, and of these again there is a considerable diversity of habit. If planted out in lofty conservatories, either as pillar, wall, or roof-plants, the effect when in flower, is really magnificent; the flowers being produced invariably during the early spring when outside flowers are still scarce. There are many gardens where the planting-out system is adopted with excellent results. Syon House and Buxted Park are two instances in private establishments; and at the Royal Gardens, Kew, it is even more extensively adopted in the Australian or temperate-house. When grown in this way, they require to be pruned to keep them within bounds, and this operation should be attended to immediately they are out of flower. An extensive border is not needed or desirable, otherwise the increase in growth would be excessive for all but the largest of houses. The stronger growers, as A. dealbata and A. armata, should have a loamy soil in which to grow, whilst such as A. Riceana and others, need more peat. The last-named is a suitable one for rafters or roofs, whilst A. armata is capital for erect training to pillars or columns, and A. dealbata for covering walls. Of varieties suitable for culture in pots, A. armata, A. Drummondi, A. cordata, A. lineata, A. rotundifolia, and A. verticillata are a select half-dozen, and of these the two first-named are probably the most useful. Less pruning is needed when grown in pots, but keep the plants compact and dwarf, or a deal of time must be spent in tying. If potted thoroughly well in good soil, they will continue in health for two years or even longer, in the case of large plants. Peat and yellow loam, of good fibrous character in both instances, and in nearly equal proportions, will well suit plants of a fairly good size. For small plants it is better to use a greater proportion of peat and sand in both cases. Firm potting is indispensable, for without it the plants eventually become loose around the stem, and impoverished also. These Acacias being amongst the hardiest of greenhouse plants, it is possible, in sheltered and fairly favourable localities, to stand them out-of-doors by the end of May, gradually inuring them to the full sunshine, so that the growth may be completed speedily, and the wood well matured. From thence onwards to the end of September, they will be perfectly safe, and they should then be housed in a light and well-ventilated structure. The potting should be done either when first starting into growth after flowering, or soon after they are housed. During hot weather they will need frequent syringings to prevent red-spider, which, if in any way troublesome, should be destroyed by syringing with sulphur-water. White-scale is another and oftentimes a very troublesome insect-pest to the Acacia, considerable perseverance being required to exterminate it. The best remedy will be a well-proven insecticide at nearly or quite the prescribed strength, used as a dip or for syringing which should be followed by a syringing with water

at about 100° F. In regard to insects, the same remark applies to the planted-out examples. I have not thus far alluded to Acacia lophantha, which is best known, perhaps, as an ornamental plant in sub-tropical gardening, being better raised from seed, the germination of which is exceedingly variable, and needing an extremely moist soil and a brisk heat. This species makes a good decorative pot plant of medium size, and planted out will grow even in lofty houses almost too vigorously. I have seen it in one garden ripen its seeds annually, but if I remember rightly, the plant was in a pot and rooted through into the border, a partial check being thus given. The variety of Acacia, which is so largely imported in a cut state, presumably from the south of France (the Riviera, Nice, &c.), is A. dealbata, or a closely-allied species. It is somewhat surprising how well these long panicles of bloom will last in a fresh condition. I note in an old catalogue, dated 1878, just referred to, that thirty-one varieties or species are enumerated, whilst nearly sixty are given and described in *Dictionary of Gardening*. For all practical purposes, however, I deem those already named to be as good a selection as can be made for garden culture. They are all essentially decorative plants of the first rank, and are well worthy far more attention than they have of late received. *J. Hudson.*

VARIORUM.

Roe Deer and Conifers in Moravia—The winter is not of unusual severity—perhaps 25° below freezing-point, Fahrenheit, with an occasional dip of 10° or 12° below zero, and this lasts for some months without a break. All outside in the garden is frozen hard, and vegetation is asleep, the snow piled up a yard or more high at the sides of the paths. Touch the iron handle of a hothouse door with the bare hand, and the skin at once adheres, and your only chance is to at once let go, with some slight loss of epidermis. The cigar or pipe will not "draw," the moisture has frozen between your lips and the burning end, and it goes out. A look round among the specimens of Thuia, Cupressus, Spruces, and Silvers, reveals the fact that the roe-deer have been in numbers, and severely cropped the points of the shoots to appease their hunger. It is annoying, but what can you do? The fences are banked up with snow, drifted in places like a slanting wall, and this frozen hard enough to carry a man of 10 stone, and here the deer have got over whilst you and your men, with the exception of the hot-water boiler attendants have slept. There are two or three coniferous plants which the roe have not spoiled—Cupressus Nootkaensis and the Yews; the first has a nauseous odour and probably flavour, and instinct tells the deer the latter is dangerous if eaten. Alas! for Cupressus Lawsoniana, it is a great favourite with them, and has suffered accordingly. Red Virginian Cedar (Juniperus virginiana) has immunity from attack by roe-deer when aged, but, like Pinus Strobus, the squirrels delight to nibble the tips, and the snow is covered with them. Thuia sibirica (Warreana) is not much hurt; they do not quite like the flavour, and a nice hedge of it is all right so far. There are only two ways of preventing further mischief, and one is to protect with wire-netting, only the difficulty consists in getting stakes into the iron-bound soil, wherewith to support the netting; the other is to lay on the snow, or, better still, in the forks of the deciduous trees, small bundles of toothsome hay; but beware of touching this with your hands, or as little of it will be eaten as of the Cupressus Nootkaensis. If you have been thoughtful, the Mistleto which grows so abundantly on the Maples by the river will have been cut off with saw and axe, and left under the trees where it fell, a few trees at a time being denuded—not all; you must husband your food stores, for it is perhaps three months still before the snow melts, and the deer need no further help. If the deer have not barked any of your trees, be thankful; the pruning of the tips of branches will cause a more bushy growth than is altogether desirable, and the long sweep of the lower branches is curtailed for a time; but a lesson has been learned that shall bear fruit another winter. *An English Gardener Abroad.*

JUMPING BEANS.

The so-called "Jumping Beans" which have, for the past few weeks occupied a place in the daily press, and which are none other than the "jumping seeds" of some thirty-six years ago, have been carefully described and illustrated in the *Chemist and Druggist* for December 8. The writer of the article in question draws attention to the fact that in 1858, Westwood published an account of the seeds, and described the little creature that causes the motion under the name of Carpocapsa saltitans in the *Transactions of the Entomological Society of London*, and in *Gardeners' Chronicle*, November 12, 1859.

Though the plant which produces the seeds has recently been referred to Sebastiania Palmeri, Müller is stated by the writer in the *Chemist and Druggist* to have ascertained that several species, notably S. Palmeri, S. Pavoniana, and S. Pringlei, have a similar motion arising from the same cause, namely, that of the jumping or springing of the larvæ contained in the seedless carpels. "The jumping Beans are mostly collected near the town of Alamos; their Spanish name is Brincadores. At the time when the fruit begins to form, a moth, the

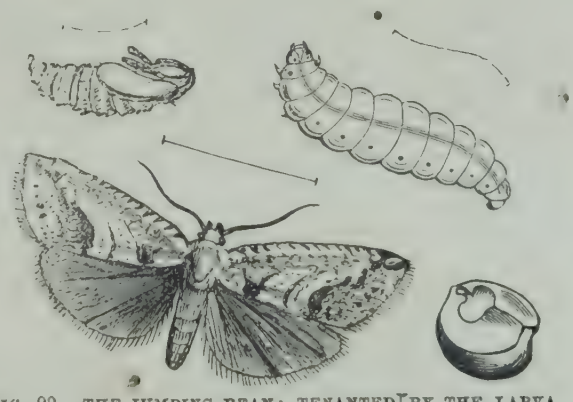


Fig. 99.—The jumping bean: tenanted by the larva of carpocapsa saltitans.

Carpocapsa saltitans, deposits its eggs in the immature whorl. The caterpillar which causes the movement of the fruits is a bright yellow creature, with reddish head, from 8 to 11 millimètres long, and provided with eight pairs of legs. . . . It is closely allied to the Apple-grub of our orchards (Carpocapsa pomonella). Similar dancing grubs have been found in Collugnaya brasiliensis, which was originally believed to be the mother plant of the Jumping Bean; in the fruit of the Tamarisk, which has been found to harbour the larvæ of a small beetle (Nanodes tamaricis), of which the saltatory movements were described in Mathias de Lobel's *Herbal* of 1576; and in certain varieties of Oak-galls, notably those of Quercus macrocarpa and Q. alba."

Our contemporary tells us that the jumping seeds owe their present popularity to an enterprising American firm of advertising experts who have created quite a Bean boom during the past two months. And next, that the movement of the seeds has suggested to a Yankee the invention of a new game. "He divided a circle into segments, numbered the latter, then placing a Bean on the circle, the game commenced, and the betting. It can only be a winter game, for the Beans begin to jump in September and stop in May," at which period the moth emerges from the carpel by a small circular hole which he cuts at one end.

ASHRIDGE.

It would be difficult to say what month in the year the conservatory can be made to look brightest, but I think anyone visiting Ashridge (the seat of Earl Brownlow) would agree that the display at this season would not be easy to surpass (I wish it were possible to produce a similar effect at our autumn Chrysanthemum shows, it would be a relief from the round, formal group we are accustomed to). What strikes one here as a pretty feature is the natural way in which the climbers are allowed to hang over the Palms, Strelitzias, Dracænas, &c.; amongst these are arranged (in groups) Poinsettias, grand plants, with glossy-green foliage down to the pots; alternate with these are groups of well-grown Chrysanthemums (in distinct colours), Orchids, Arums Amaryllis, the latter a very pretty salmon colour (I believe it was introduced by His Lordship from Jamaica some years ago); these with Double Primulas, Roman Hyacinths, and Maidenhair Fern, make a good finish. Mr. Lowe, the head gardener, and his assistants, are to be congratulated upon the natural and artistic effects. It is pleasing to find that the other structures are well stocked. We noticed amongst the Orchids a very choice collection of Cypripediums, C. Chamberlainianum, C. Spicerianum, and C. Harrisianum, holding their own well amongst the others. All the orthodox table and furnishing-plants are well grown here; also a good stock of late Chrysanthemums, which will carry them well into the new year. *J. F.*

NURSERY NOTES.

MESSRS. S. SPOONER & SONS, HOUNSLOW.

A general nursery stock may be seen here, but fruit trees are the specialty of the firm. Plums are grown in numbers, 50,000 of them having been budded this season, the budding being preferred to grafting, as the latter method entails most labour. A loamy soil with a good clay bottom is admirably adapted to their growth, and we noted maiden trees having made a growth of 7, 8, and even 10 feet of well-ripened wood. The collection includes all the best varieties grown for market and other purposes, but the premier place is given to Victoria as the most useful for general purposes. Monarch is also grown in quantity, it is a very large, rather late, and truly good variety, of robust growth, and a free bearer. The fruit does not crack in a wet time, and the tree succeeds as a pyramid, cordon, or standard. An important addition also to late Plums was Grand Duke, which bears freely, and is one of the best for cooking. A very valuable market Plum, early, hardy, and a certain bearer, is Rivers' Early Prolific; it is good for dessert, and when cooked is one of the best flavoured. Another of Messrs. Rivers' introductions—The Czar—a sturdy and upright grower, is as early as New Orleans, and a good and constant cropper; it fruits in clusters, and does not crack. Another great market variety is Gisborne's, somewhat resembling Pershore; it is a stout grower, and an abundant bearer.

Increased attention and space is being paid to the culture of the best Apples and Pears. That excellent Apple, Bismarck, whose worth is fast becoming generally recognised, is a great favourite here; four rows of two and three-year-old trees have produced this season some ten large-sized highly-coloured fruits on each tree. Speaking of highly-coloured fruits, Carlisle Castle is specially noteworthy in this respect; it is of medium size, and may be used either for kitchen or table, and for exhibition. Other high-coloured sorts included Gascoigne's Scarlet, probably the handsomest Apple grown, and worthy of garden culture on account of its agreeable flavour. An excellent and handsome yellow-fruited Apple is Grenadier; it is a regular cropper, and is valuable either for market or villa gardens. Wealthy is a pretty Apple, and of first quality; the flesh is white and tender—an American variety of great excellence. A very prolific market kind, and beautiful under garden culture, is Colonel Vaughan; the fruit is moderate in size, red-flushed and streaked. Lady Sudeley, handsome, and somewhat large for a dessert sort, requires careful handling when picked, as the fruits soon show any little disfigurement like that very handsomely-striped Apple Duchess of

Oldenburgh. Duchess's Favourite is a good market sort; the fruits are somewhat small, but are of a glowing red colour. One of the best Apples known is Early Julien, and the fruits, which are of a primrose colour, may be cooked when quite small. Worcester Pearmain is a great favourite for market. The firm have raised a new kitchen Apple called the Baron. It is a seedling from the well-known Wellington, and has medium-sized fruits; it also keeps as well as Wellington, and is a free bearer. Cox's Orange Pippin has been the shortest cropper this season. Councillor, sometimes known as Yorkshire Beauty and Red Hawthornden, is a handsome yellow, red flushed Apple, and bears fruits on the points of the shoots, requiring, therefore, only partial pruning; it is a good market sort, and is much esteemed as a garden tree on the Paradise. We noticed good quantities of Apples, Gold Medal, Bramley Seedling, Lord Suffield, Stirling Castle, Dr. Harvey, Domino, Hoary Morning, Ecklinville Seedling, Yellow Ingestre, Lord Grosvenor, Warner's King, Keswick Codlin (which seems to succeed in all soils and situations), Peasgood's Nonsuch, Golden Spire, Pott's Seedling, Gravenstein, not a handsome-looking fruit, but of remarkably rich flavour, especially when fresh from the tree; and others.

To refer briefly to Pears—a very useful market sort is Fertility, with medium-sized fruits, and a good bearer. Pitmaston Duchess, and that profitable market sort, Hessle; Duchesse d'Angoulême, Souvenir du Congrès, Conseiller de la Cour, Doyenné du Comice, Williams' Bon Chrétien, the very prolific Gratioli of Jersey, Glout Morceau, Marie Louise, Gansel's Bergamot, Swan's Egg, a very old but good variety, fruits medium-sized, Beurré Diel, B. Giffard, B. d'Amanlis, B. Capiaumont, and Louise of Jersey, were noticed, and many others. A good stock of Cherries, standard, pyramid, and dwarf-trained, may be seen; and of Peaches and Nectarines in leading varieties. Roses are present in large quantity, including the best varieties. *J. B.*

TRADE NOTICE.

A FIRE broke out on Wednesday night, the 19th inst., at Mr. W. Duncan Tucker's Horticultural Building Works at Tottenham. The timber stacks on the west side of Lawrence Road were destroyed, but those on the east side were untouched. The fire will not, therefore, interfere with the conduct of the business in any way.

MARKETS.

COVENT GARDEN, December 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PICES.

	s. d.	s. d.
Arums, per doz. bl.	6 0	8 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz sprays ...	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	3 6	4 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Cooking, p. sieve	3 0	4 0
— Dessert, ½-sieve	2 6	3 0
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	1 6	3 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, per lb. ...	0 9	0 10
Cauliflowers, per dozen	1 0	1 6
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb. ...	0 6	
Onions, per bush. ...	1 6	2 0
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

POTATOS.

There has been, during the week, a general run on first-class Potatos at an advance of 5*s.* to 7*s.* 6*d.* per ton. The best samples off Dark soils have also commanded quick sales and better prices than last week. *J. B. Thomas.*

SEEDS.

LONDON: *December* 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's market exhibited an idle holiday character. Trefoil, Alsyke, and Red keep steady. White Clover seed, on the other hand, is exceptionally depressed. There is nothing doing in Rye-grasses. The new Kœnigsberg Tares just arrived prove acceptable, both in quality and price. For White and Scarlet Runners full prices are asked. The Canary-seed market shows great strength. Hemp seed offers on tempting terms. In neither Mustard nor Rape seed is there any change. Linseed is slightly easier.

FRUITS AND VEGETABLES.

BOROUGH: *December* 18.—Quotations:—Cabbages, 2*s.* to 2*s.* 6*d.*; Savoys, 2*s.* 6*d.* per tally; Brussels Sprouts, 9*d.* to 1*s.* 6*d.* per half sieve; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Greens, 1*s.* to 1*s.* 6*d.*; Turnips, 1*s.* 6*d.* to 2*s.*; Carrots, 1*s.* 9*d.* to 2*s.*; Parsley, 1*s.* 6*d.* per dozen bunches; Parsnips, 2*s.* to 2*s.* 6*d.* per bag; Horseradish, 1*s.* 1*d.* to 1*s.* 3*d.* per bundle; Celery, 4*s.* to 8*s.* per dozen bundles; Onions, English, 2*s.* to 3*s.* 9*d.* per cwt.; do., foreign do., 1*s.* 9*d.* to 2*s.* 3*d.* per bag; Apples, 3*s.* to 9*s.* per bushel; do., Canadian, 12*s.* to 18*s.* per barrel; other sorts, 8*s.* to 10*s.* do.; Pears, 2*s.* to 4*s.* 6*d.* per bushel, and 2*s.* to 4*s.* per case.

STRATFORD: *December* 18.—The supply to this market during the past week has been excellent, and with a large attendance of buyers, a brisk trade was done at the undermentioned prices:—Cabbages, 1*s.* to 2*s.* per tally; Savoys, 1*s.* 6*d.* to 3*s.* per tally; Cauliflowers, 1*s.* to 2*s.* per dozen; do., 5*s.* to 8*s.* per tally; Celery, 6*d.* to 9*d.* per roll; Horseradish, 1*s.* to 1*s.* 3*d.* per bundle; Brussels Sprouts, 6*d.* to 1*s.* per half-sieve; Holly, 6*d.* to 2*s.* per bundle; Miselto, 8*s.* to 10*s.* per crate; Evergreen, 6*d.* to 10*d.* per bundle; Turnips, 1*s.* 9*d.* to 2*s.* 3*d.* per dozen bunches; do., 30*s.* to 40*s.* per ton; Carrots, household, 22*s.* 6*d.* to 30*s.* do.; do., cattle-feeding, 20*s.* to 25*s.* do.; Parsnips, 6*d.* to 10*d.* per score; Mangels, 14*s.* to 18*s.* per ton; Swedes, 12*s.* to 18*s.* do.; Onions, English, 55*s.* to 70*s.* do.; do., Dutch, 1*s.* 9*d.* to 2*s.* 3*d.* per bag; Apples, English, 2*s.* to 6*s.* per bushel do., American, 14*s.* to 20*s.* per barrel; do., Belgian, 9*s.* 6*d.* to 10*s.* 6*d.* per case.

FARRINGDON: *December* 20.—Quotations:—Sprouts, 1*s.* 6*d.* per bushel; Parsnips, 40*s.* per ton; Beetroot, 1*s.* 6*d.* per bushel; Carrots, 25*s.* to 35*s.* per ton; Turnips, 30*s.* to 40*s.* do.; Onions, English, 70*s.* do.; Chestnuts, 15*s.* per bag Pine-apples, 3*s.* 6*d* to 4*s.* 6*d.* each; Tomatos, 4*s.* 6*d.* per box; Pears 8*s.* to 10*s.* per case; Apples, Canadian, 11*s.* to 15*s.* per barrel; Grapes, English, 9*d.* to 1*s.* 3*d.* per lb.

POTATOS.

BOROUGH: *December* 18.—Prices ranged from 60*s.* to 110*s.* per ton.

STRATFORD: *December* 18.—Quotations:—Magnums, dark-soil, 60*s.* to 65*s.*; do., light-soil, 62*s.* to 70*s.*; Bruce, 65*s.* to 80*s.*; Imperators, 65*s.* to 80*s.*; Main Crop Kidneys, 70*s.* to 85*s.*; Beauty of Hebron, 70*s.* to 80*s.*; Scotch Magnums, 65*s.* to 75*s.*; do., Bruce, 65*s.* to 75*s.*; Scotch Main Crop Kidneys, 80*s.* to 90*s.* per ton.

FARRINGDON: *December* 20.—Quotations:—Maincrop, 90*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bruces, 70*s.* to 80*s.*; Magnums, 65*s.* to 70*s.*; Imperators, 75*s.* to 80*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 75*s.* to 120*s.*; do., inferior, 45*s.* to 120*s.*; hay, best, 6 *s.* to 105*s.*; do., inferior, 36*s.* to 80*s.*; mixture, 98*s.* to 105*s.*; and straw, 23*s.* to 36*s.* per load.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending December 15, and for the corresponding period last year:—1894: Wheat, 20*s.* 10*d.*; Barley, 21*s.* 5*d.*; Oats, 14*s.* 3*d.* 1893: Wheat, 26*s.* 9*d.*; Barley, 28*s.* 10*d.*; Oats, 18*s.* 3*d.*

CATTLE.

CHRISTMAS MARKET.—On Monday last there was a splendid show of beasts and sheep on offer, the beasts showing a grand array of the usual breeds—Scotch, Devons, Herefords, Welsh, and mixed breeds. Early maturity was a prominent feature; but the demand was slack, and prices not encouraging—in many instances £3 to £4 per beast being taken to encourage business. There were grand pens of Downs and other favourite classes of sheep, all fetching good prices—some, we believe, in excess of former years. Prices were helped by reason of the shorter supply than put up last Christmas all round; breeders and feeders well deserved the high meed of praise awarded to them; and, although beasts suffered in price, it must be borne in remembrance that the cost of feed during the past year was much less than in 1893.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending December 15.	Temperature. Accumulated. Above 42°, for the Week.	Below 42°, for the Week.	Above 42°, difference from Mean since January 1, 1894.	Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1894.	Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	32	10	+ 367	— 89	8 +	220	49·3	6	31
1	6 +	29	17	— 59	+ 16	0 aver	193	32·7	7	33
2	6 +	25	5	+ 62	— 110	0 aver	199	24·9	12	30
3	6 +	25	9	+ 88	— 152	3 +	194	26·1	14	34
4	6 +	25	6	+ 70	— 156	4 +	186	26·4	8	30
5	6 +	28	2	+ 149	— 178	3 +	188	31·3	16	34
6	7 +	32	1	+ 96	— 104	4 +	206	47·0	9	31
7	7 +	33	0	+ 236	— 168	3 +	200	34·2	6	31
8	6 +	43	0	+ 141	— 102	4 +	202	43·0	16	36
9	6 +	35	7	+ 467	— 45	4 +	222	36·3	6	29
10	6 +	43	0	+ 87	— 94	4 +	202	41·6	13	31
*	4 +	51	0	+ 325	— 26	1 +	210	37·4	16	42

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N. 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 15, is furnished from the Meteorological Office:—

"The *weather* during this period was mild and very unsettled over the Kingdom as a whole. Rain fell almost daily in the western and northern districts, and some rather heavy falls were experienced in the south and south-east towards the end of the period.

"The *temperature* was much above the mean, the excess ranging from 4° in the 'Channel Islands,' to 6° in nearly all other districts, and to 7° in 'Scotland, W.,' and 'England, N.W.' The highest of the maxima were recorded during the middle or latter part of the week, when they ranged from 62° in 'England, S.W.,' and 60° in 'Scotland, W.,' to 54° in the 'Midland Counties,' and to 53° in 'England, E.' The lowest of the minima were registered on the 9th, and varied from 23° in 'Scotland, E,' and 26° in the 'Midland Counties,' and 'England, S.,' to 30° in 'England, N.W.,' and 'Ireland, S.,' and to 35° in the 'Channel Islands.'

"The *rainfall* just equalled the mean in 'Scotland, E.' and 'England, N.E.,' but exceeded it elsewhere, the excess in most cases being considerable, and especially in 'Scotland, N.'

"The *bright sunshine* shows a deficit in all districts. The percentage of the possible duration ranged from 16 in 'England, S. and S.W.,' and in the 'Channel Islands,' and from 13 in 'Ireland, S.,' to 6 in 'Scotland, N.,' 'England, N.W.' and 'Ireland, N.'"

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

PINUS AYACAHUITE.—We have received the following communication from W. T. Thiselton-Dyer, Esq., C.M.G., &c., director of the Botanic Gardens, Kew: "We are badly off for this interesting species at Kew. I am anxious to get young plants for our Pinetum, but am unable to find any but grafted ones in the trade. It is possible that some nurseryman may have seedlings to dispose of, in which case I should be obliged if he would communicate with me."

LAWN-SWEEPER AND COLLECTOR.—A correspondent, "E. W. P.," would be greatly obliged by some of our readers kindly informing him where a machine capable of sweeping and collecting may be obtained.

GRAFTING.—M. LUCIEN DANIEL (*Revue Générale de Botanique*, 6, 1894) has been making a thorough study of herbaceous grafting. He has not only studied the subject from the morphological and physiological point of view, but now suggests a series of principles for the practical application of herbaceous grafting. He finds it possible to vary the flavour of legumes by grafting on a plant having a different flavour; to retard the flowering of Crucifers (and so to avoid hybridisation by insects, &c., when it is desired to keep varieties pure); and to create new varieties by grafting after seed formation. He has not been able to graft etiolated herbaceous plants. *Botanical Gazette.*

Answers to Correspondents

*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ANALYSES OF EDIBLE ROOTS AND OF VEGETABLES: *A. L.* The *Handbook to the Food Collection*, Bethnal Green Museum, will afford some information, but a thorough knowledge of this subject would require several years' practice in a laboratory. There are few accessible books treating of these analyses.

FREESIAS: *Constant Reader.* If the bulbs were of flowering age they may fail to flower from being prematurely ripened, or from too early application of water after potting them. We cannot say with certainty. Under the right treatment, pursued from now onwards, the bulbs should flower another year.

MOULD ON CHRYSANTHEMUM LEAVES: *W. Stanbury.* The white mould, Oidium chrysanthemi, see *Gardeners' Chronicle*, November 29, 1884, fig. 118. The grey mould not found, but from the description it may be a Penicillium, and not a parasite; hence, not injurious, but developed upon dead spots. *M. C. C.*

NAMES OF PLANTS: *F. G. Walton.* 1, Rhipsalis salicornioides; 2, Mammillaria; 3, Haworthia cymbiformis; 4, Cereus; 5, Haworthia radula; 6, Gasteria disticha. *W. W.*—*A. J. A. B.* Your specimens are both forms of Acokanthera spectabilis.—*J. C. S.* 1, no fungus present; 2, Peziza (Lachnella) nivea; 3, missing; 4, Stereum hirsutum, Fr.; 4, again, Marasmius androsaceus, Fr.; 5, Tremella frondosa, or sarcoides—no fruit; 6, grumous matter, nothing to be made out of it. Perhaps one of No. 4 should be No. 3. *M. C. Cooke.*—*J. C. S.* 1. Peziza repanda, Fr.; 2, Hypoxylon multiforme, Fr.; 3, Corticium Lycii, P.; 4, not a yellow Peziza, as stated, but an immature Hymenochœte; 5, Diatrype disciformis, Fr. *M. C. Cooke.*—*J. Monro.* 1, Urceolina pendula; 2. Pteris serrulata; 3, Pteris serrulata cristata; 4, Phrynium variegatum (Maranta); 5, Pteris longifolia; 6, Pteris Bausei.—*T. S.* 1, Aspidium falcatum (Cyrtomium); 2, Leycesteria formosa; 3, Anthericum variegatum.—*H. T.* Cypripedium insigne, Dendrobium nobile. The cross you mention is little removed from C. Harrisianum.—*Cooper.* 2, Elæagnus pungens.—*Ignoramus.* We cannot undertake to name plants from their leaves only. Is it a climber, or what? you give no information, and send a wretched scrap, which may be an Asparagus.—*J. H. B.* Crotons: 1, variegatus; 2, angustifolius; 3, Queen Victoria; 4, Hammondii; 5, Countess; 6, Macarthuri.—*W. T., Hea Moor.* Ilex latifolia.

PLAN OF PUBLIC PARK: *R. T. H. P.* The figure which you enquire about was a photograph of the drawing of the plan, greatly reduced. If you will kindly send your plan, we will consider its suitability for reproduction.

VIOLET LEAVES BROWNED AND DISFIGURED AT THE EDGES: *A. B. C.* Probably the effect of saltblast. We do not find either insects or fungi.

WASTE FISH FROM A SHOP AND ROAD-SCRAPINGS: *Constant Reader.* Rather than dig this in among the Roses just as it comes from the shop, when it might do harm to the roots, it would be better practice to let it decay, and then make use of it. Mix the refuse fish with soil, make a heap of it when mixed, and cover with 6 inches of soil, so as to keep in the ammonia as much as possible. The road-scrapings will do good if the soil is a poor clay, in making it more pervious to moisture; but they should be incorporated intimately with the staple to a depth of 2 feet; merely digging them amongst the Roses without trenching the land will not benefit the plants much. This might be done now, the Roses being laid-in till February, and lightly protected during hard frosts with Fern or straw. Do not place the 8-inch layer of leaves on the Rose beds; it would do more harm than good.

COMMUNICATIONS RECEIVED.—D. T. F.—H. D.—J. S. Grimston.—H. W.—G. H.—A. O.—T. F.—E. E. S.—H. de Varigny, Paris (yes).—J. F. McL.—Warnham Court.—M. Durand, Brussels.—M. E. A.—C. H. P.—A. F. M.—H. E., Ryde.—W. T.—F. Sander, Bruges.—Lord A —G. G.—C. H. P.—A. H. K.—H. F.—C. B.—Ch. D. B.—W. T.—W. E. G.—D. H.—G. A. B.—R. T. H. P.—D. McD.—H. R.—Colville Brown.—R. B. L.—T. L.—J. W.—H. A, B.—H. J. H.—Q. R —T. T.—H. M.—J. L.—R. D.—E. H. J.—R. L. H.—B. W.—A. C.—J. J. W.—A. D.—J. G. P.—R. O. W.

PHOTOGRAPHS RECEIVED WITH THANKS.—G. P.—H. D. Sydney.—Cowthorpe.—G. D.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

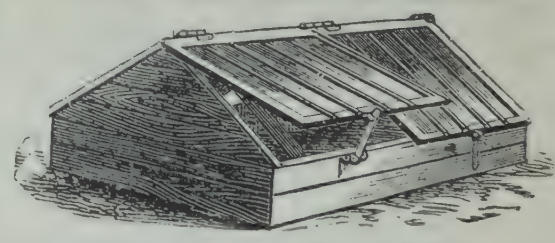
Increased to the extent of 80 per cent., and that it is increasing weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

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6 feet „ 5 feet „	CARRIAGE	2	15	0
12 feet „ 5 feet „		4	15	0
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NOTICE TO ADVERTISERS.

THE

GARDENERS' CHRONICLE

FOR

JANUARY 5, 1895,

WILL

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A

SHEET ALMANAC.

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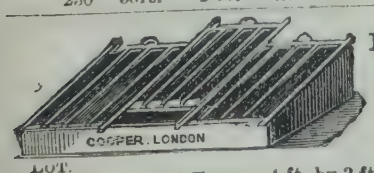
LOT	Length.	Width.	Usual Price.	Sale Price.
1 to 3	7ft.	5ft.	£2 10 0	£2 0 0
4 to 6	8ft.	5ft.	3 0 0	2 5 0
7 to 10	9ft.	6ft.	3 10 0	2 10 0
11 to 15	10ft.	7ft.	4 10 0	3 10 0
16 to 22	12ft.	8ft.	5 10 0	3 15 0
23 to 29	15ft.	10ft.	7 15 0	5 10 0
30 to 41	20ft.	10ft.	10 15 0	7 10 0
42 to 48	25ft.	10ft.	15 5 0	10 0 0
49 to 51	50ft.	10ft.	27 0 0	20 0 0
52 to 54	100ft.	10ft.	45 0 0	25 0 0

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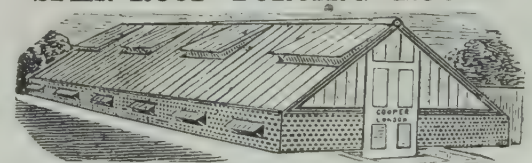
LOT	Span-roof. Long.	Wide.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
55 to 56	7ft.	5ft.	£3 16 0	£3 5 0
57 to 71	8ft.	5ft.	3 10 0	2 15 0
72 to 76	9ft.	6ft.	4 0 0	3 0 0
77 to 108	10ft.	7ft.	5 0 0	4 0 0
109 to 121	12ft.	8ft.	6 0 0	4 10 0
122 to 149	15ft.	10ft.	8 10 0	6 10 0
150 to 170	20ft.	10ft.	12 0 0	9 0 0
171 to 176	25ft.	10ft.	17 0 0	12 0 0
177 to 184	50ft.	10ft.	30 0 0	23 0 0
185 to 189	100ft.	10ft.	50 0 0	30 0 0
190 to 197	30ft.	10ft.	20 0 0	14 0 0
	Lean-to			
198 to 201	7ft.	5ft.	2 8 0	2 0 0
202 to 211	9ft.	6ft.	3 10 0	2 15 0
212 to 221	12ft.	8ft.	5 10 0	4 0 0
222 to 225	15ft.	10ft.	8 0 0	5 15 0
226 to 228	20ft.	10ft.	11 10 0	8 10 0
229	25ft.	10ft.	16 10 0	12 0 0
230	50ft.	10ft.	28 0 0	20 0 0



MELON and CUCUMBER FRAMES.

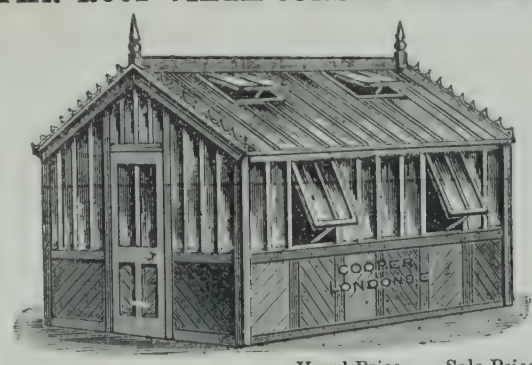
LOT.		Usual Price.	Sale Price.
536 to 586—1 Light Frame,	4 ft. by 3 ft.	£0 18 0	£0 14 0
587 to 597—2 " "	6 ft. by 4 ft.	1 12 0	1 2 0
598 to 605—1 " "	6 ft. by 4 ft.	1 10 0	1 0 0
606 to 608—2 " "	8 ft. by 6 ft.	2 14 0	1 18 0
609—3 " "	12 ft. by 6 ft.	3 15 0	2 5 0

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LOT.	Span-roof.	Usual Price.	Sale Price.
231 to 235	20 by 9	£9 0 0	£6 0 0
236 to 242	20 by 12	11 0 0	8 0 0
243 to 246	20 by 14	14 0 0	11 0 0
247 to 250	40 by 9	17 0 0	12 0 0
251 to 255	40 by 12	21 0 0	16 0 0
256 to 257	40 by 14	25 0 0	20 0 0
258 to 260	100 by 9	40 0 0	25 0 0
261 to 300	100 by 12	48 0 0	31 0 0
301 to 342	100 by 14	55 0 0	40 0 0
	Lean-to.		
343 to 347	20 by 9	7 10 0	5 0 0
348 to 349	20 by 12	9 10 0	6 10 0
350	20 by 14	12 10 0	9 10 0
351	40 by 9	14 0 0	11 0 0
352 to 353	40 by 12	18 0 0	13 0 0
354	40 by 14	21 10 0	16 0 0
355	100 by 9	33 0 0	23 0 0
356	100 by 12	40 0 0	26 0 0
357 to 360	100 by 14	47 0 0	32 0 0
361 to 499	Ventilating-Boxes for Side Walls	0 4 9	0 2 3

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LOT.	Long.	Wide.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
500 to 505	9ft.	6ft.	£7 10 0	£5 10 0
506 to 514	12ft.	8ft.	10 0 0	7 0 0
515 to 521	15ft.	8ft.	12 0 0	8 10 0
522 to 528	20ft.	9ft.	16 16 0	12 0 0
529 to 534	25ft.	9ft.	21 0 0	15 0 0

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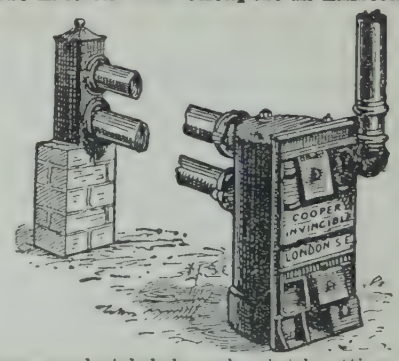
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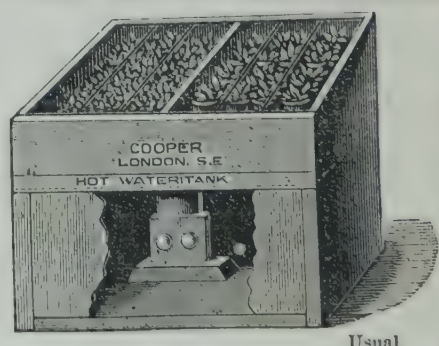
LOT.	Sale Price.	Usual Price.
2070 to 2250	£1 15 0	£2 15 0

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LOT.	Usual Price.	Sale Price.
2299 to 2318—1 ft. 8 in. by 1 ft. 6 in.	£1 5s.	16s.
2319 to 2337—2 ft. 6 in. by 1 ft. 10 in.	£1 10s.	20s.
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LOT	Sale price.	Usual price.
1807 to 1987—No. 0	£0 15	£1 0
1988 to 1999—No. 1	1 0	1 10
2000 to 2021—No. 2	1 10	2 5
2022 to 2043—No. 3	2 0	3 5
2044 to 2057—No. 4	2 5	3 10
2058 to 2069—No. 5	2 10	4 0

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THE GARDENERS' CHRONICLE

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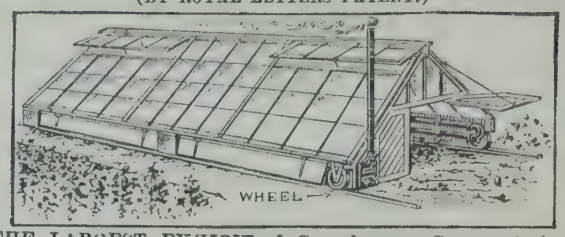
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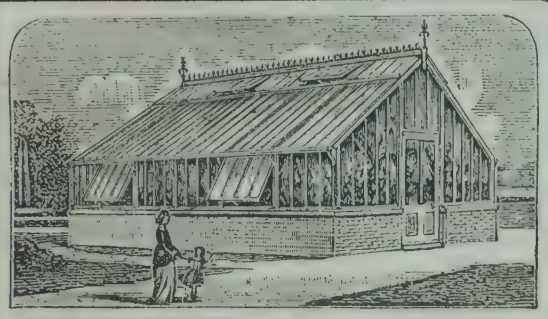
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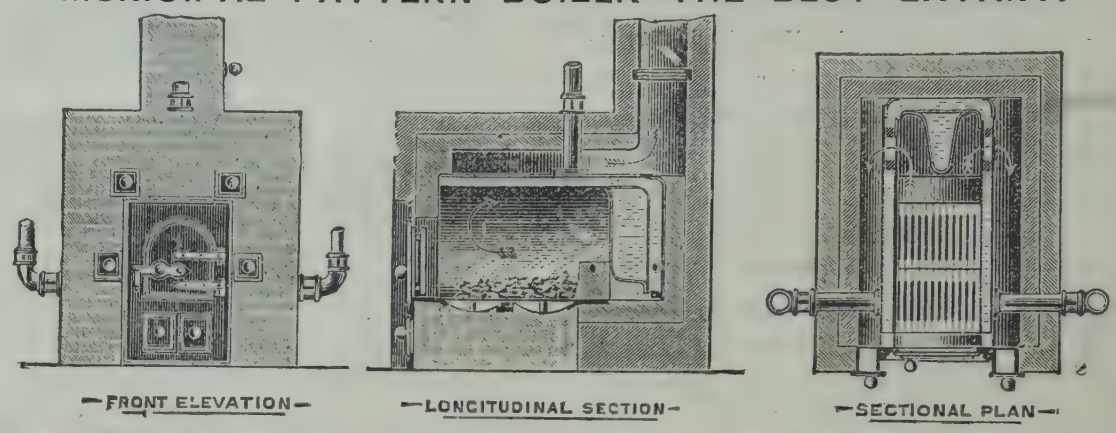
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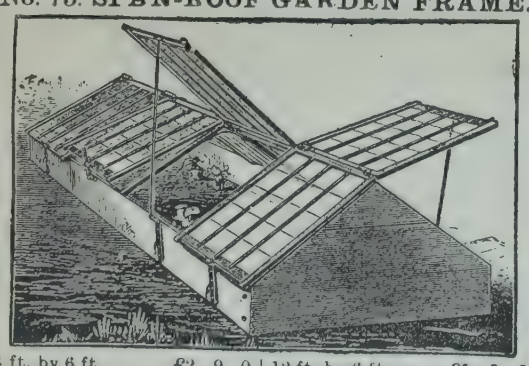
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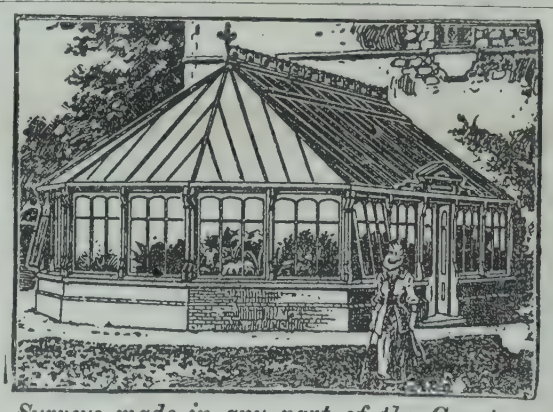
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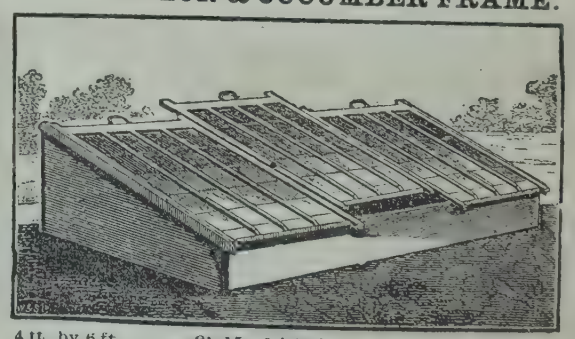
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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

CANNELL'S SEED CATALOGUE for 1895 will be sent free to all intending customers. Those who have not had our Kentish Seeds would save considerably, and have crops yielding immensely over ordinary seeds. Photos of five champion growers, with particulars. This issue will be found the most important to Gardeners ever published.
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To the Trade.
WATKINS AND SIMPSON have posted their WHOLESALE SEED CATALOGUE for 1895 to all their Customers. If not received, another copy will be sent on application.
Seed Warehouse, 13, Exeter Street, Strand, London, W.C.

DICKSONS, CHESTER, GARDEN SEED CATALOGUE, No. 446, for 1895, is now ready, and may be had post-free on application. Contains Lists of all the best and choicest Vegetable and Flower Seeds, Seed Potatos, &c.
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APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

TUESDAY, JAN. 1 { Dutch Bulbs, at Protheroe & Morris Rooms.

WEDNESDAY, JAN. 2 { Enormous Consignment of Japanese Lilies, Herbaceous Plants, Begonias, Roses, &c., also Palm Seeds, at Protheroe & Morris' Rooms.

FRIDAY, JAN. 4 { Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°.8.

SALES BY AUCTION.

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A Choice Selection of well-grown English Standard and Dwarf ROSES, to name, from reliable growers, including many of the newest and best sorts.

A Collection of Dwarf-Trained and Pyramid Fruit TREES, comprising APPLES, PEARS, PLUMS, PEACHES, CHERRIES, NECTARINES.

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MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, January 2, at half past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Last Sale of Dutch Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on TUESDAY NEXT, January 1, at 12 o'Clock, about 700 lots of DUTCH BULBS, comprising HYACINTHS, TULIPS, CROCUS, NARCISSUS, and OTHER BULBS, from Holland.

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6,880 ,, SPECIOSUM ALBUM
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In order to meet the requirements of large buyers, the Lilium auratum will be offered in lots of 50, 100, and 500. Also English-grown LILIES, Herbaceous PLANTS, Hardy Border BULBS and PLANTS, SPIRÆAS, 80 lots of STOVE and GREENHOUSE FERNS and PLANTS, Double and Single BEGONIAS, and 200 Dwarf ROSES.

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Friday Next.

ORCHIDS FROM MESSRS. F. SANDER AND CO.

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THE
Gardeners' Chronicle.

SATURDAY, DECEMBER 29, 1894.

THE DAFFODIL "SIR WATKIN."

THE giant Daffodil Sir Watkin came upon us all as a surprise in 1884—just ten years ago. Its history has always been veiled in obscurity, and although Mr. Pickstone gave an interesting account of its discovery at the time, it was always supposed that there was some secret which he had not revealed. Whenever he was pressed for further information, he used to say that some day he would tell all he knew about it. He has now very kindly furnished me with an autobiographical sketch of his early life, in so far as it led up to the discovery of the Sir Watkin Daffodil, so we have now the full explanation from his own pen. I give the narrative in his own words.

"I was born at Whitefield in 1823. John Horsfield, son of William, was one of my playfellows, and I was often privileged to go into Horsefield's garden in Warren Lane, Besses o' th' Barn. I knew John Horsefield very well. William and I went to the same dame-school at Besses o' th Barn. Most of the cottages at that time were occupied by handloom-weavers. It was the common occupation of the poor in the district, and, commencing to work at seven years of age, which was then usual with working people's children, I too became a handloom-weaver. In 1840, however, I got work in a Manchester warehouse, and served an apprenticeship to the business. My father had been manager for many years for a local manufacturer at Whitefield, who gave up business in 1843. I was then twenty years of age; my wages were 12*s*. 6*d*. a week. My father was very distressed at losing his situation, and especially depressed that with his well-known ability in the manufacture of coloured goods, none of the local firms sent for him to work for them. His wages in so important a job had never exceeded 27*s*. a week, and a present of £5 at Christmas. Although only a youth I wrote him a letter, advising him to begin manufacturing for himself. He had saved very little out of his small wages, and did not see how it could be managed. I told him it would come from somewhere, and so it did. Starting in a part of the cottage in which we lived, success was soon assured. The concern grew by leaps and bounds. Hard work with great economy made itself felt, and at the end of two years we had saved £1250, and repaid all the borrowed money with interest." [We need not follow Mr. Pickstone's commercial history further. He prospered in business, and in 1866 made arrangements by which he ceased to be an active partner.]

"It was during the period of comparative inactivity, from 1866 to 1872, that mining proclivities took me into Wales. I hired a cottage in a remote and very picturesque part of Merionethshire, in near

proximity to Arran Mowddy, one of the higher mountains, and immed ately beneath Crowach Crag, which rises nearly 1000 feet perpendicularly. It was under the shadow of this great rock, on a tributary of the River Dovey that I met with the great Welsh Daffodil, now known to florists all the world over as Sir Watkin. Some of my bulbs came from the garden of a ruined cottage connected with a mine that had been given up. This mine was on land that had belonged to the Wynns of Wynnstay, thus connecting its early history with Sir Watkin's family. I nourished this foundling Daffodil for years, but simply as a Daffodil. When I removed to Hampstead near London, I took the bulbs with me. It was a very fine, pretty, sweet-smelling Narcissus, and that was all it was to me. It might have been in all the florists collections, for anything I knew. In 1873 I bought a place in the corner of Denbighshire near to Caerwys. I took my Daffodils with me from London, and planted them in the garden and woods at Maesmynam Hall, and there they grew, those that found themselves in suitable situations grew famously, those in bad ground fell back.

"About the year 1880 there chanced to come that way, looking out for something he could pick up, one of the well-known caterers for Shudehill Market, Manchester. The Hall being within sight of the railway from Chester to Denbigh, this man seeing the profusion of flowers, left the train at Bodfern, and walked to Maesmynam. I happened to be away from home that day. On my return, my boys told me that a man had been, and wanted to buy all my Daffodil flowers, and he would call again. I told them they might sell them, and divide the money. They sold them for £2. Thousands of them were soon after taken away, and were sold both in Liverpool and Manchester. The man refused even to be bribed to say where he got them from.

"The following year, on one of my visits to Whitefield, I put into my coat one of my very fine Daffodil flowers. On leaving the station at Whitefield I met one of the sons of Horsefield, who was a postman there. He was attracted by my Daffodil, and stopped me to see what it was. It was a stranger to him, he said, and it was very nice indeed. I thought as it was a strange flower to a son of the raiser of the Horsefield Daffodil, I had best try what the best florists knew about it. I therefore sent out boxes of blooms to several experts, amongst them to Joseph Allen of Whitefield, referred to in Mr. Brockbank's article on John Horsefield in the *Gardeners' Chronicle*, October 20. A box went to Peter Barr of Covent Garden, and to each of the Dicksons of Chester. I also took blooms with me on my visits to Manchester, and sold them to the florists. It happened that some of the blooms thus sent out found their way to the Daffodil Conference of 1884, and as the flower proved to be an unnamed child, a stranger amongst the great florists, it was there and then baptised 'James Dickson.'

"At this juncture several amateurs and some business florists turned up at Maesmynam to find out something about this new wonder. James Dickson & Sons were the first to call. They made overtures to buy my bulbs. I sold them 1000, and agreed to give them the first offer of what I had. They, of course wanted to know all about its birthplace and pedigree, as did afterwards Peter Barr and others. Among my numerous visitors (April 12, 1884) came Mr. Brockbank, of Manchester, who had written to me previously, and now came by invitation specially to see my Daffodil. After a good look at my blooms, to his great delight, he said to me, "Do you know, Mr. Pickstone, that your Daffodil has been before the Daffodil Conference in London (April 1), and is now on the register of the Horticultural Society as the 'James Dickson?'" I said, of course, that I knew nothing of it. He suggested that they might have called it the 'William Pickstone,' and that at any rate I ought to have the naming of it. I said that mine was too obscure a name for so beautiful and so sweet a flower. He then suggested that it should be called 'Sir Watkin;' and as Sir Watkin Williams Wynn is the uncrowned King of Wales, and had farms near the place of its birth, I readily accepted the suggestion, and at once communicated with Lady Wynne. Sir Watkin was at that time lying ill in London, I therefore waited that afternoon on Mrs. Williams of Cefn, to whom I took a box of the flowers. They were sent to London the same evening, and in two days I had the consent of Sir Watkin and Lady Wynn, who with great willingness became sponsors to the unnamed Welsh baby. James Dickson & Sons bought my bulbs at my own price, a condition of sale being that it was to be introduced to the bulb-buying world as Sir Watkin. I gave Mr. Brockbank on the spot a bagful of the bulbs. Naturally I held all information for years from all inquirers, but I promised Mr. Brockbank that I would some day tell him something of its history, so far as I knew it; and now, at his request, I willingly hand these particulars to that gentleman. Of one thing I am certain, that Mr. Brockbank showed me, years ago, in a big old folio (Hale's *Eden*) of his, a print of this same Daffodil, but not by any means so large as those I was able to show him growing at Maesmynam Hall when he visited me there."

To those familiar with the literature of the subject it will be seen that there is nothing really new in the above narration. The history of the Daffodil had already been arrived at. The first article from my pen appeared in the *Gardeners' Chronicle*, April 26, 1884, and in it was figured a likeness of the James Dickson Daffodil, sent by the Rev. C. Wolley Dod, and which is now here reproduced (fig. 100).

In the *Garden*, October 25, 1884, there was published an article of mine on Sir Watkin, tracing it back to Hale's *Eden* of 1737, where there is a full-sized drawing given, which is also here reproduced for comparison with Mr. Wolley Dod's drawing (fig. 101).

There can, I think, be no doubt as to the identity of the two flowers.

In Hale's *Eden*, p. 484, A.D. 1756, and also in Hill's *Garden of Eden*, 1773, same page, is the engraving of the Nonpareil Daffodil, with the following description:—

The Nonpareil Daffodil.

"We have described to the gardener many valuable Daffodils, but there yet remain two or three others, which by proper management are capable of being kept to this late season; and thence acquire a new value. The present species is one. It was early distinguished by the writers on plants; and obtained, from its great size and fine colouring, very honourable names, the Incomparable, the Nonpareil, and the Excellent Daffodil.

The Latin authors have called it Narcissus maximus, and Omnium maximus, the greatest Daffodil; and C. Bauhine, Narcissus latifolius pallidus calyce amplo: broad-leaved pale Daffodil, with a great cup.

Linnæus, who has reduced under a very few heads the several Daffodils, allows this elegant flower no more than the distinction of a variety; he refers it to the common or bastard Daffodil, which he names Narcissus spatha uniflora, Nectarii limbo rotato, campanulato erecto, patulo equale: one-flowered Daffodil, with the verge of the Nectarium rotated and bell-shaped, erect, open, and equal."

This accounts for the name "Incomparabilis," which is now used for the whole tribe of chalice or star-flowered Narcissi. It would seem as if they had degenerated from the great original, which obtained its name from its great size.

This Daffodil can, however, be traced still further back, and to a source from which Dr. Hill got his original, although he used a new illustration of life-size.

In Gerarde's *Herbal*, 1636, p. 135 (1), the Nonpareil Daffodil is figured, also called N. omnium maximus:—(1) "The first of these, which for largenesse is called Nonpareille, hath long, broad leaves and roots like the other Daffodils. The floure consists of six very large leaves, of a pale yellow colour, with a very large cup, but not very long. This cup is yellower than the encompassing leaves, narrower also at the bottom than at the top, and unevenly cut about the edges. This is called N. omnium maximus, or Nonpareille; the figure well expresseth the floure but that it is somewhat too little."

Mr. Pickstone told us originally that when he first became acquainted with this Daffodil in the valley of the Dovey it was to be seen in many of the old gardens, only he thought his a finer form than occurred generally thereabouts. He found it growing in large clumps, in the cottage gardens where he became acquainted with it, and it grew also in the Plas Gardens (Sir E. Buckley's), and in many of the old farmhouse gardens, and was finest when found growing on the mountain gravelly soil. He always understood that it had grown in that valley for 100 years before he saw it, and it grows there now, although the bulb dealers have very nearly exterminated it, as they did the Tenby Daffodil when it became famous some years ago. "Sir Watkin" is therefore, the old original "Incomparabilis." Strange indeed that it should have been altogether forgotten and overlooked for 250 years at least, although its portrait was in the old herbals, and its name continued in gardeners' books; and stranger still, that Dicksons should have become the purchasers of this novelty when all the time it abounded within a few miles of their Newtown nurseries, quite unknown to them, and where it had flourished for at least 100 years. *W. Brockbank, Brockhurst, Didsbury.*

Orchid Notes and Gleanings.

CYPRIPEDIUM × LEEANUM GIGANTEUM.

Cypripedium × Leeanum has always been a favourite, and there is great variety in the different forms of it which have been raised independently in gardens. The largest variety which has yet appeared is C. × Leeanum giganteum sent out by Messrs. Heath & Son of Cheltenham, and which, when well grown, it seems impossible to excel by intercrossing C. Spicerianum, and any of the forms of C. insigne, at present known. It is at present in flower in the collection of H. T. Pitt, Esq., Rosslyn, Stamford Hill, the flowers being the largest and finest we have as yet observed. The Cypripediums are remarkably well grown at Rosslyn, which accounts for the unusual beauty of their flowers, for Mr. Pitt says he never yet has purchased one in flower which he could not show in better form after he had had it a year or so.

Oncidium tigrinum.

This plant, one of the showiest and most useful of Orchids for the cool-house, will be found in bloom at the present time, its fine sprays of yellow-lipped fragrant flowers being observed in most collections. The best flowers we have seen this year come from the gardens of R. Brooman White, Esq., Arddarroch, Dumbartonshire. Mr. Roberts, the gardener at that place, remarks in the note accompanying the flowers, that a fine show of Oncidium tigrinum can be seen there, and one of the specimens in bloom is the best he has ever seen, as would be remarked in the blooms sent, which measured fully 2 inches across the lip. There are thirty-two flowers on the spike, and these lasting a very long time in perfection, render the species of much value at this season. Moreover, the plant takes up but a small amount of space. *J. O'B.*

M. Peeter's Orchids.

At Brussels we visited lately a large house entirely devoted to hundreds of Cattleya labiata in bloom. Among the specimens we noted two very distinct varieties—C. labiata Peetersi, Rolfe, and an unnamed variety. The former was noticeable for the unusually dark colouring of the whole of the flower, the tint was a beautiful purplish-red, the mid-rib broad and rosy-white, which makes it exceedingly effective; the lip is broad, still darker purple than the petals, which are velvety, very firm in texture, so that the flower appears as though cut out of velvet. The other variety is certainly an unusual one, and quite unique. All the divisions of the flowers are lilacy-rose, much streaked with purplish-rose, after the fashion of certain varieties of Azaleas,

notably A. indica Antigone. The appearance of the flowers is most attractive and unlike that of any other known form. *Ch. D. B.*

Catasetum imperiale.

We recently admired this fine new Catasetum at



Fig. 100.—sir watkin daffodil: perianth canary-yellow; gamboge-orange cup. (see p. 774)

L'Horticulture Internationale (M. Linden), and it is far superior to all other members of this genus as at present known. The raceme, sturdy and wavy, bears twelve flowers and buds, remarkably large and of unusual colouring. The two upper petals are cream-white, like mother-of-pearl, with dots and spots of madder-colour, mixed with purple. The lip, broadly spreading, is unequalled in any other species; it is all dark madder, tinged with purple, save at the edges, where there is a narrow bordering of pure white, which widens considerably at the base; in the centre of the lip a funnel-shaped depression comes after a white space, and is surrounded by numerous unusually dark papillæ; all this portion is bounded by two bands, wherein purple predominates. The sepals are pure white, the column also white, bears a long slender horn, and the base is dotted with madder mixed with purple. *Ch. D. B.*

Orchids, &c., in New South Wales.

Enclosed you will find photos (two) of Dendrobium Bensoniæ, Cactus, and interior of cool-house; or, as we term it here, "bush-house." The Dendrobium Bensoniæ is sent at the suggestion of my gardener, who says that he never saw as fine a plant in England. The flowering-growths are those it made with me during the past season. It had altogether about 140 flowers, mostly in triplets. This plant took the 1st prize for single Orchids at our recent Horticultural Exhibition. The other Orchids to be seen on the same plate are Cattleya Mossiæ, Cymbidium albuciflorum and Cypripedium barbatum and caudatum. The tails of the latter are 27 inches in length. The small one, in the left-hand lower corner, is D. D'Albertisii.

The Melon-Cactus had twenty-flowers on it when the photograph was taken last season. It is in flower again just now, with about thirty flowers, and a considerable number of buds to break.

The interior of bush-house is somewhat unique. Originally, it was covered with brushwood for Fern-growing; I have since, however, covered it with glass, as I found this was necessary for growing cool Orchids. The southern side (which is the same as the northern side with you, and from which most of our cold winds come) is a brick wall, rusticated with lumps of what are known as "terra-cotta lumber," against which there is a sloping bank of about 2 feet in height at the back, and 6 inches in front, bordered also by lumps of the terra-cotta lumber. In this bank are planted various cool Ferns, Begonias and ornamental plants; on the lower pieces of terra-cotta lumber on the wall, dwarf-growing Ferns; and on the upper pieces, Orchids, chiefly of Australian varieties, and which promise to do well. I should have said that the other part of the house, as will be seen from the photo, is lattice-work, which, owing to its being rather open, is covered with Willesden scrim.

I am not aware that terra-cotta lumber has been used for Orchid growing in your part of the world; if not, I strongly commend it to the attention of Orchid growers for drainage purposes, more particularly in pans and baskets, but also on the lumps by itself. I may describe it as being a clay pumice. It holds a large quantity of water in the pores in a nice, sweet condition, much in the same way as charcoal does. As doubtless you are aware, it is made by mixing unctuous clay with about an equal proportion of sawdust or vegetable fibre, which in the burning leaves its ash and the material very porous. I use it almost entirely in the place of broken crocks for drainage. The roots of Orchids that do not require much sustenance just seem to revel in it.

[The material which is called "ballast" in most parts of England is in use in some gardens here for the purpose indicated. Its great weight when moist is the chief objection.—Ed.]

Just now I have in flower a Dendrobium of the undulatum group, from the Solomon Islands, the stem and leaf of which are almost indistinguishable from the type, but the flower is very distinct. The sepals (twisted) are very much like D. Johannis, but of a dark chocolate brown. The throat and labellum, of a cream white, are very much marked with dark lines of the same colour as the sepals. Four plates on the lip are very much raised, flower about the same size as D. Johannis, of the same group. It is now in the hands of one of our own esteemed local botanists (Mr. Baker, of the Technological Museum) for description.

We are at a considerable disadvantage here for want of works of reference, as we can find very little affording us any information with regard to the flora of the Solomon Islands. [There is not much to be had beyond Dr. Guppy's book.] I have several other Orchids from this part of the world, which have not flowered with me yet, amongst others, a Phalænopsis. I have also about fifteen to twenty different varieties

of Orchids from New Guinea. The pieces, unfortunately, are generally very small. One in particular, which I am almost afraid I will lose, is very distinct as an Orchid. The collection from which I received most of them was almost entirely destroyed by sea-water. This latter plant has a stem something like a very thin Vanda, not so thick as a pencil, about 12 inches long, the leaves, like short Vanda leaves, about 2 inches or 3 inches long, but thin. There was also another plant, of the Vanda or Saccolabium order.

I noticed a description recently in your paper of D. Macgregori, and suspect that I have this one amongst the collection. An Orchid that has been quite a failure with me, also all my friends, is Odontoglossum grande. Other Odontoglossums are doing well. I have tried to grow it in the bush-house referred to above, but it seems, immediately after receipt, to begin to dwindle, and does not make any fresh growth. The temperature in this house ranges in winter from 40° to 65°; and in summer, usually at night, about 60°, but sometimes 70°, and in the day time from 80° to 90°. Any advice that you can give me towards growing this Orchid will be esteemed a favour. Since writing the above I have received a flower of a New Guinea Orchid that, except it is cream-white on sepals and petals, is as nearly as possible the counterpart of the Solomon Islands Dendrobe referred to above. The lip and throat are marked in the same way, but not so strongly, and the plates on the lip are also very like. I may be able to send dried specimens. I cannot say what the plant (stems, &c.) of the New Guinea Orchid is like, as the flowers come from a correspondent in northern Queensland. *H. D., Sydney.*

BACTERIA AND INSECT PESTS.

In view of the rapid advance made in the study of micro-organisms, it is not surprising to find that bacteriology has already been requisitioned as an aid to the forester in checking certain forms of insect attack, against which all other remedies have hitherto been ineffectual. Continental coniferous forests are periodically liable to defoliation by the caterpillars of certain moths, just as our own Oak woods are frequently eaten bare and barren by the larvæ of the Oak-leaf roller-moth (Tortrix viridana). In the former case, however, the result of a severe visitation of this kind often attains the magnitude of a calamity, for the peculiarities of the Pine tribe, in regard to leaf and bud distribution and development, render a second or abnormal flush of leaves (such as occurs in the case of the Oak and other hard woods) practically impossible. Consequently, an attack by the caterpillars of such dreaded foes as the Black Arches moth (Liparis monacha), or the Pine-spinner moth (Geometra pini), may bring in its train the total destruction of forests over extensive tracts of country, compared with which our own insect visitations sink into insignificance. Until recently, the only practical means of checking, or attempting to check, the progress of these plagues have been the tedious and comparatively costly methods of placing a ring of specially-prepared "caterpillar-lime" round the stems of the trees to prevent the re-ascent of the caterpillars to the crowns, or by collecting the hybernating larvæ in and under the fallen leaves. In the Administrative District of Potsdam alone, no less than £6800 were spent in 1892 in tarring trees in the State forests, in order to counteract the attacks of the Black Arches caterpillars, and in other districts similar measures had to be adopted to preserve the forest growth.

The discovery in 1891, by Dr. Hoffman, of the bacillus of a disease which is invariably observed amongst the larvæ of L. monacha towards the end of their larval stage, has enabled the artificial introduction of this disease to the caterpillar swarms to be effected, and from the results hitherto obtained it is hoped that a timely inoculation with the bacilli of the disease may appreciably check the ravages of the pests, and prevent serious damage being done to the infested forest. The bacilli are cultivated in suitable media, such as Koch's culture gelatine, fresh flesh, cooked Potatos, &c. The healthy caterpillars are then infected by hanging out pieces of the flesh or masses of dead caterpillars which have succumbed to the disease, laying down a compound consisting of squashed caterpillar mixed with inoculated broth in trenches, or through direct inoculation of living caterpillars. The last-mentioned method is effected by pricking the last abdominal segment of the subject with an ordinary needle previously dipped in a fluid culture. Young caterpillars which are in the act of ascending the trees are selected for the operation, and these carry the infection to those in the crowns. The affected larvæ at first become dull and listless, and finally shrivel up, while the contents of the body are turned into a dirty-brown watery fluid. With a power of 600 to 700 diameters, the bacillus appears as a rod about 1 mm. in length. The disease is said to be highly infectious, and it is thought can be transmitted to a second generation by means of the moths and their eggs.

Whether this particular disease is confined to a single host or not has not yet been ascertained; but in course of time it is possible that other insect-pests may be found to possess parasitic bacterial diseases, which can be utilised with as beneficial results as in the case described above. The important part which parasites play in the life-history of certain insects has long been known. Insect species which appear in overwhelming numbers in one season are often extremely rare in the following one. In some instances, climatic conditions account for these suddenly appearing swarms, but climate alone cannot account for those cases in which the numbers of the pest gradually culminate, and then almost totally disappear. With these, further research by the scientist will probably reveal something that may be turned to practical account, and of service to all who are now troubled with visitations of gregarious forms of insect life, which probably at times receive little sympathy, even from an anti-vivisectionist. *A. C. Forbes.*

THE BULB GARDEN.

IRIS KÆMPFERI (LÆVIGATA).

There is a gorgeous characteristic splendour in these wondrous Japanese Iris. Strangely fantastic in form, and inimitable in their quaint beauty and the peculiar combination of colour often seen in their flowers, they occupy quite an unique position, not only in the lovely genus to which they belong, but also among hardy perennials as a whole. It has been well said of them that "they make a splendid finale for the Iris section, and their great, flat, broad, open petals are simply astonishing." Long after the other groups have given us their wealth of blossom, this section is a fitting finale to the rest of the species. The season of 1894 has been, on the whole, a favourable one for this section. Moderately cool weather, with occasional showers, is just what they delight in. To do them justice, however, in our gardens, we must not depend on the season. The greatest essential in their successful cultivation is moisture, and without this they make but a poor display. To ensure that the roots shall be within reach of water, they should be grown in beds by themselves, and preferably in beds where the surface is below the ordinary level. They are then easily deluged with water in their growing season, which is most important. Where opportunity offers, they should be treated as sub-aquatics, and they will revel in such a position. With abundant supplies of moisture, and even if the soil be at saturation point, and a liberal depth of rich vegetable soil in which the roots may ramble, they give little trouble, and will furnish an indescribably sumptuous display in the fullest sunlight with their huge blossoms floating in the breeze. No garden should be without them, though a special bed is needed for their reception; the cost of making is simple, and water is easily conveyed to them in many ways. A depth of about 18 inches of soil in equal parts of good-holding loam, leaf-soil, and peat should be prepared, and about one-sixth part of well-decomposed manure may be added. Old beds of these may with advantage be mulched heavily each autumn with the same material, allowing the old leafage to remain intact during the winter. New plantations should be taken in hand with as little delay as possible, planting them firmly but not too deeply. To plant these Iris in an unsuitable position is just to miss one of the greatest floral treats of the year. With annual mulchings of manure and continuous supplies of water from the end of March to the end of August, they yield a rich and unrivalled harvest of bloom. Somewhat impatient of frequent division, they should be left alone for several years to become well established. There are numerous varieties, and a wide range of colour, the latter including whites, rose, blue, purple, violet, maroon, scarlet, crimson, and others, while the elaborate markings are beyond description. *J.*

FOREIGN CORRESPONDENCE.

TERRESTRIAL ORCHIDS OF THE MARITIME ALPS.

It is seldom that one finds in a collection of terrestrial Orchids in England the alpine species well represented, which is undoubtedly attributable to the treatment they receive not being suitable to their requirements.

There are some which will succeed under ordinary conditions of an English climate, but also there are those which, to grow successfully, must have a period of rest. The varieties of Serapias, when seen growing in their native element, are for beauty unsurpassed by any of the more tropical terrestrial species which find a place in a glass-house; and yet I am sure they may be cultivated without a great deal of care as successfully as any others, and amply repay the cultivator for his pains. Having collected them, and studied the conditions under which they thrive in the Alps, I conclude that it is impossible to grow them without giving them at least four months of rest by withholding the watering for that period, or, if planted in a rockery, to give them the dryest possible place. These are the conditions under which they grow. The Serapias and Ophrys (each of which there are several species, especially the latter) are found growing in shady little nooks where sufficient moisture may be obtained during their growing season, which is from November to May. They may also often be found growing in the full sun, but they are never so happy as when growing in the shade.

I have also remarked that the finest plants, especially the Ophrys, are to be found growing in fungus formed by the decayed leaves which fell from the trees or undergrowth in which they grow. Epipactis latifolia, when growing together in quantity, is very effective, with its spikes of flower sometimes 18 inches in height. This species delights in growing in dry places. Its season of activity is very short, as it does not appear above ground before March, and as soon as it has flowered, it dies down again. Its tubers are generally deep in the ground, and often to be found on the solid rock.

Orchis, of which there are many species, are nearly all lovers of moisture. Orchis globosa I once found growing in quantity with Lilium chalcedonicum, and in a spot where little or no moisture could be obtained during the season of drought.

Where a collection of terrestrial Orchids is grown, it is impossible to keep them together in one group, and for the drought-loving species I have enumerated I should suggest the driest place to be found, planting them amongst limestone, and during rainy seasons protecting them by placing a hand-light over them. One point is evident, that in England they cannot be kept too dry both during the summer and winter months. *Riviera.*

THE CULTIVATION OF THE SUGAR-BEET IN PERSIA.

According to a recently-issued Government report from Persia, it is proposed to cultivate the Beetroot on a large scale for the manufacture of sugar, the whole to be under Belgian auspices. The matter of soil, climate, labour, and other details appear to have been thoroughly gone into with favourable results. Up to the present, it is stated that the Beet has been cultivated in Persia only for farm purposes, or as a vegetable for the market. It is usually of the red type, shaped like a Turnip; but varieties of the white and yellow forms are sometimes found. According to the Persian method of Beet culture, the earth is first stirred up to a depth of 30 or 35 centimètres with a primitive plough, but this only effects a banking-up of the soil, and does not turn it over as in Europe. The seed is then sown by hand. After sowing, the ground is irrigated every day till the seed springs up. When it is well above-ground, the irrigation is effected every ten days, and is continued to within fifteen or twenty days of the maturing of the crop, which is then taken out of the ground, either with the plough or the spade. As soon as the first crop is sown, the second is prepared as before. The sowing generally takes place about March 21, but in favourable years a little earlier, and the crop is harvested at the end of June. This latter crop is the more valuable, and gives a heavier proportion of saccharine matter.

The Persians preserve the vegetable in silos as in Europe, or in underground caves specially arranged for the purpose. In 1893 experimental growing was essayed of the variety of Beet requisite for the sugar industry, from which it appears that the Beet produced contained an equal if not superior richness of saccharine matter to that obtained in Europe. An analysis made at the end of July, 1893, gave the proportion of sugar as 13·6 per cent. for the July crop, and 14·6 per cent. for the September crop. A further report dated Brussels, February 11, 1894, gave the following result of an analysis made at the laboratory of the Tirlemont Raffinerie:—Weight of Beet, 430 grammes; saccharine matter, 15·20 per 100 grammes. A note attached to this report states that these results are remarkable. It is proved that the Persian Beet exceeds in richness the average Beet of Belgium, which does not give more than 13 per cent. of saccharine matter. Further, allowing a loss of 1 per cent. of sugar during the voyage of the Persian Beet, the original richness would be about 16 per cent., and its value in Belgium about 40 francs per ton at least.

Various estimates have been made of the weight of Beet per hectare, but latterly a more exact figure has been arrived at, after the experimental culture conducted near Kerisec. Experts now report that 30,000 kilos. may be taken as a moderate computation. At this rate it will require 700 hectares to produce the 20,000,000 kilos. required for the sugar factory annually. As the sugar Beet has never been cultivated by the people till now, no satisfactory valuation can be made, but basing their calculation on the price of other agricultural products, the experts give it as their opinion that the Beet could be delivered at the factory at 18 fr. per 1000 kilos. including a fair profit to the cultivator.

The writer of the report from which these facts are gathered proceeds to give the results of a visit to plantations of Beet in the neighbourhood of Kerisec, and compares the Persian system of cultivation with that of the Belgian. Items of expenditure and profit are also considered, and the report concludes with the following prophecy as to the future of the Sugar-Beet in Persia:—Success may depend on the amount of capital behind the company. It is probable that works may have to be carried on with little or no profit, or even positive loss, for the first year. If the company can afford to do this, and show its ability of keeping the industry afloat, I believe there may be large profits to be garnered in the future, for my calculations are based in every instance on the most pessimistic calculations of others. I feel persuaded, therefore, that with the support of the Shah and his Government the sugar industry will pay.



Fig. 101.—Sir Watkin Daffodil: as figured in Hale's "Eden." (see p. 774.)

BOOK NOTICE.

Rhodologia: A Discourse on Roses and the Odour of the Rose. By I. Ch. Sawer, F.L.S., author of "Odorographia." (Brighton: W. J. Smith, 43, North Street, 1894.)

As might be supposed from the title of the little book before us, and from Mr. Sawer's previous work, *Odorographia*, his latest issue deals chiefly with Roses as perfume-yielding plants, and embodies a good deal of the matter which appeared in the first volume of *Odorographia*. The reason for bringing this material together interspersed with other and more recent matter, and for publishing it in its present form as a separate book, is stated by the author in his preface to be that of interesting "persons located in some of our colonies where the climate, &c., is suitable to the development of the Rose. The Rose industry is capable of great extension, and the demand for the products of this flower is increasing."

After referring to the popularity of the Rose amongst all classes as a cultivated flower, the author says, "Notwithstanding this great enthusiasm, it seems that both cultivators and admirers of this flower concentrate their whole attention on the development of colour, form, and size, and pay little heed to the great variety of perfumes generated in the beautiful petals. These different odours (although, of course, blended with that of rose), are distinctly recognisable, and are in some cases very marked. The sense of smell can be trained to the appreciation of perfumes, especially in young persons, as easily as the palate can be trained for business purposes, to the tasting of the flavours of wines, Tea, or Coffee. Of course a taster, sampler, or valuer of such beverages, must naturally be possessed of a finely-developed nervous susceptibility to the slight variations occurring in every sample which comes under his notice. Such natural perfection of susceptibility is not common, although many possess the gift without being quite aware of it, they may not be in the Tea trade or the wine trade, or any trade at all; and so the gift is not trained or even appreciated. To those who are not constantly occupied in the culture of the Rose, it may seem that one Rose is very much the same as another, and excepting a few variations in colour and habit of growth, there is very little difference distinguishable. Probably many persons would never believe that there are not only Roses perfectly devoid of odour, but there are

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some which stink. There are experienced gardeners who can name many varieties of Rose in the dark; this means that the perfume of Roses is varied, and that no two varieties possess the same odour. What is called pure odour of Rose is unique, undefinable, incomparable. It is, in fact, a type, and no imitation can approach it. It may be best represented by the Rosa centifolia and R. damascena." This paragraph is a sample of how Mr. Sawer writes, and though we may not agree with him in all his points, it illustrates his enthusiasm in the subject which he has taken up. Following upon this, he proceeds to describe the odours of different varieties and species of the genus Rosa, referring one to the odour of Melon, another to the Peach, another to the Violet, another to the Mignonette, and so on, and many interesting notes are given in this connection as, for instance, that the flowers of R. gallica, which are used officinally, are but feebly odorous when freshly gathered, but the perfume develops gradually in the process of desiccation, while that of the Damask Rose is almost destroyed by drying. That the perfume trade should have to depend almost entirely upon the Bulgarian Rose plantations for the supply of attar or otto of Rose does seem somewhat anomalous in these days of extended culture of useful plants, and one of the results of Mr. Sawer's essay may perhaps be the introduction of the favourite flower for the purposes of distillation into some other countries possessing soil and climate suited to the development of the precious oil, for precious it is when we consider the comparatively small yield and the very high price, for it is estimated that 2,000 Rose blooms are required to yield one drachm of otto, the market value of which may vary from 25*s.* to 30*s.* per ounce. Some idea of the extent of the Rose culture in Bulgaria may be gained from the fact that the average annual yield of ottos ranges from 55,000 to 58,000 ounces, and to produce this the flowers are gathered in the early morning before they expand, and rapidly submitted to the distilling process. Though Rose-growing for perfumery purposes has been established in Germany and France, and though a well-known authority on perfumes has for years past advocated the establishment of Rose and other flower farms in Fiji, Queensland, and Swan River, there are still opportunities for further development in this direction.

PLANT PORTRAITS.

Angræcum Fournierianum, Kränzlin, in *Gardeners' Chronicle*, 1894, vol. i., p. 808; vol. ii., p. 43. *Revue Horticole*, December 16.

Brodiæa Howelli lilacina. *Garden*, Dec. 15.

Catasetum macrocarpum var. Lindeni, O'Brien. "Splendid dark yellow colouring, with a purple spot covering nearly the whole interior surface of the lip," see *Gardeners' Chronicle*, 1894, ii., p. 306. *Lindenia*, 192.

Cattleya "Cupid."—A form of C. Mendeli, with light rose-coloured segments and a white lip, with a yellow throat; margin frilled, and tinged with pale violet. *Lindenia*, t. 190.

Cattleya guttata var. tigrina.—Flowers very large for the species; segments brownish-yellow, thickly spotted, front lobe of lip deep rose. *Lindenia*, t. 191.

Cattleya Mossiæ var. Treyerana, L. Lind.—Segments rose, lip rosy-purple streaked with gold, and with a narrow-frilled edge of white. *Lindenia*, t. 188.

Celery, de Candolle, *Bulletin d'Arboriculture, &c.* December.

Cypripedium Charlesworthii, see *Gardeners' Chronicle*, 1893, ii., p. 437, c. ic. × ft. *Lindenia*, t. 193.

Cypripedium Denisianum ×, L. Lind.—A hybrid of the Morganiæ class, raised between C. selligerum and C. superbiens. See *Gardeners' Chronicle*, 1894, August 14, p. 118; *Lindenia*, t. 187.

Cypripedium J. Gurney Fowler.—A cross from C. Godefroyæ by C. barbatum.

Dipladenia carissima. — *Illustration Horticole*, December, 1894, p. 362.

Eryngium alpinum, *Garden*, December 22.

Geonoma decora.—A handsome Brazillian Palm, pinnate-leaved and spineless; introduced by MM. Linden from Brazil. *Illustration Horticole*, Dec., pl. 23.

Miltonia bleuana nobilior, *Orchid Review*, December.

Mormodes Cogniauxi, L. Lind., in *Journal des Orchids*, v. 125 (1894). A fine species, with brownish segments, and a rose-coloured lip. *Lindenia*, t. 194.

Odontoglossum crispum Ferrierense.—*Illustration Horticole*, December, p. 369.

Odontoglossum Pescatorei var. Prince of Orange.—Segments orange-yellow, with purplish-brown blotches; lip white, tinted with yellow, and with a large brown blotch. *Lindenia*, t. 189.

Pear Précoce de Trevoux (Early Trevoux Pear), a Pear raised by M. Treyve of Trevoux. An early Pear of Merit. *Bulletin d'Arboriculture, &c.* December.

TREES AND SHRUBS.

THE SCARLET OAK.

The brilliant autumnal colour assumed by the large leaves of this handsome American Oak (Quercus coccinea) renders it of great value in ornamental planting. The colour of the leaves is not confined to the mature growth, for the peculiar bronzy-red of the young growth is nearly as beautiful as the autumn hues. The second growths are also very conspicuous by their rich shades of red and bronze. The contour of the tree is pleasing, and has therefore much to recommend it to the planter; and it is neat, yet destitute of stiffness. We have it planted here amongst Birch, Horse Chestnuts, and Aspens, whose leaves usually die off of a deep golden hue, and the colours of the scarlet Oak make beautiful contrasts with these. Last autumn the other trees did not possess such fine tints as usual, but the Oak was beautiful as ever. The seedling forms of Quercus coccinea vary greatly in the intensity of the leaf colouring, some turning to a reddish-brown before falling off.

A well-grown and well-placed specimen of the best variety is a very desirable object when planted so as not to be encroached on by other trees, and when backed up by clumps of Holly, Yew, or Pines. It is a suitable tree for planting at the borders of hardwood plantations, especially such as skirt the roads and drives, whence it may be readily seen. I have seen this Oak planted in damp, low-lying positions, but the trees were not a success, their side branches dying off in course of time, tufts of foliage forming on the top only. *A. Evans, Lythe Hill.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

MEXICAN LÆLIAS.—Those plants whose flower-buds were not injured by the recent fogs, are now making a fair display, but the spikes are less numerous than last year, the chief causes for this being first, the majority of the plants were disturbed by repotting, an operation they do not, as a rule, speedily recover from; secondly, deficiency of the sunlight and heat this year, so very essential to grow Lælias at their best. Of this Mexican species may be named L. anceps, L. a. Barkeriana, L. a. Protheroeana, L. a. Dawsonii, L. a. alba, L. a. Leeana, L. a. Stella, and others. Mention should be made of the beautiful L. autumnalis and its almost pure white form, L. a. alba; the pretty small-growing L. albida and L. furfuracea. The latter species enumerated come from higher elevations than L. anceps, and require a few degrees less heat whilst making growths; this is also true of L. majalus, a variety which produces its lovely flowers from the half-formed bulb early in the month of May. When these plants have done flowering, water must be almost withheld, but the pseudobulbs should be kept quite plump. The temperature should be kept at 55° by night, and the air of the house comparatively dry; fresh air in quantity compatible with the weather should always be afforded. Lælia rubescens, better known as L. acuminata or L. peduncularis, is a dwarf, compact-growing species, that is best cultivated in shallow pans or baskets of teak, suspended when the plants are growing, where a maximum amount of light is obtainable, a good position being one that is close to an upper ventilator in the warmest house. This species being now at rest, the cooler atmosphere of the Mexican division is preferable for them. The time to repot Lælias is when they commence to show new roots, but unless repotting is very necessary, owing to decay of materials or of the basket, the plants had better remain undisturbed. Healthy specimens, which have sufficient space in which to grow, should not be interfered with except for the reasons stated.

VANDA AMESIANA.—According to the conditions under which this plant is cultivated, it will be in bloom at the present time—or soon will be. To prevent the spotting of the flowers, which is a common mishap, the Mexican-house, with its drier air, should be chosen as its home, and if it be kept without water at the root, the flowers—which are, by the way, very fragrant—will last a long time in good condition. The same kind of treatment will suit Broughtonia sanguinea, a species not often seen in bloom, but a very effective plant when well done. Suspended from the roof of the Mexican-house are some Epidendrum atropurpureum (macrochilum) and the white variety, which are showing their flower-spikes. They need very careful watering at this season, or the flower-stems will turn black and the flower-buds will drop off. This is a useful and beautiful species, particularly the white variety, lasting long in perfection, and the flowers are fragrant. Plants of Dendrobium Falconeri and its variety giganteum, distinguished by its longer and stouter pseudobulbs and flowers nearly as large again as the type, should not be subjected to much dryness at the roots, or the growths will become generally weaker each successive year. A rest with great dryness produces abundance of bloom for one or two seasons, but with the effect mentioned. The plants should be kept in the Cattleya-house through the winter months, during which time the pseudobulbs should not be kept so dry that shrivelling takes place.

FRUITS UNDER GLASS.

By Bailey Wadds, *Gardener, Birdsall Gardens, York.*

THE FIGS.—In the early-house of Figs in tubs and pots everything should now be ready for starting the trees. The soil, which in most cases will be dry, should be saturated with tepid water before the pots are plunged in the hotbed. The latter should be capable of affording a steady bottom-heat of 75°; the temperature of the house being at the commencement 55° to 60° by night, and 10° to 15° higher by day, the higher figure when the sun shines warmly. Lightly syringe the plants once daily with warm water. If bottom-heat is not afforded by means of hot-water-pipes, a bed of Oak or Beech leaves and stable-dung may be used. Great attention must be given to the watering in the early stages, water being applied only when it is really required.

APRICOTS.—Trees in glass sheds or houses should now be pruned, trained, and generally put in readiness for starting. In replanting old trees, or planting new ones, no time should now be lost; as the mild winter hitherto experienced will induce these early flowering trees to burst early into blossom. Old trees which may be infested with scale should be syringed thoroughly twice over with petroleum in solution, as previously recommended, doing this whilst the buds are quite dormant.

ORCHARD-HOUSES.—Clean, train, pot, and top-dress all trees, and let the drainage of all plants in pots be made good, this being a chief point in the pot-culture of fruit trees. When arranging the pots place each tree on two bricks or thick tiles, so that the drainage-holes may not be choked with earth. Trees planted against the wall should be loosened from their supports, and tied in bundles, so that they may not be broken, whilst cleaning is being done; the walls should then be whitewashed, and the holes in them filled up. It may here be remarked that walls are the most serviceable for fruit-houses which are cemented over, being easily cleaned, and harbouring no insects injurious to plants.

MELONS AND CUCUMBERS.—Hotbeds may now be prepared with equal quantities of tree-leaves and stable manure, mixed together, thrown into a heap for a week, then turned sides into the middle, and again shaken out and put into a heap to further ferment before using it, the whole operation lasting ten days or so. When the stuff is sweetened somewhat, a bed or beds may be made up, in height 6 feet at the back, and 4 feet 6 inches at the front, and about 2 feet wider and longer than the frame which will be placed upon it, beating and treading the materials during the making. Put on the frame and lights, leave some apertures to let out the steam, and if the weather is cold protect the sides and ends of the bed with litter. A sheltered situation, facing

the south, should be chosen for the bed. When making ready, place inside the frame a sufficient quantity of cocoa-fibre to plunge the pots in. When the bed has settled down, and free from rank vapours, and the temperature at about 70°, the seeds may be sown in 4 or 6 inch pots, in sandy loam or leaf-soil in about equal parts, covering the seeds with half an inch of fine soil, and the pots with a piece of glass, shading with a piece of brown paper till the seedlings are up, and giving no water till then. Great care will be needed in airing the frame and managing the bottom-heat, which should not be much over 80°. Cover well at night, uncovering early. As soon as the seedlings are large enough to handle, pot them off into 60's in warm soil; do not water them until they have made a few true leaves, and are rooting strongly. Another way is to sow seeds low down in the pots, and earth them up as the plants grow in height. Cucumbers need shade from bright sunshine, and to be kept sturdy.

TOMATOS may be raised in the same frame by sowing the seeds in 6 inch pots of sandy soil, covering them with a quarter of an inch of fine soil, watering and covering the pots with a piece of glass and one of paper till the plants appear; then keep them as near the glass as possible, and pot-off into 4-inch pots when large enough; and when rooted into the new soil, give them a light place in a warm airy house.

STRAWBERRIES. — Plants coming into bloom should have a light house and a temperature of 55° by night, 65° by day, with a little air left on all night. Afford ample supplies of water, and brush them over twice daily to fertilise the blooms, afterwards thinning the fruits. For a succession a batch of fresh plants may be brought in for forcing at intervals of three weeks.

EARLY VINES coming into bloom should have a brisk temperature of 65° to 70° by night, 75° to 80° by day, with a good circulation of air, and not too much moisture in the air. During these dark days it is good practice to fertilise all varieties, taking pollen where it is most abundant for setting shy varieties, and be careful in ventilating the vineries.

THE HARDY FRUIT GARDEN.

By T. Turton, *Gardener, Maiden Erlegh, Reading.*

COB AND FILBERT NUTS.—The catkins on Nut-bushes being unusually forward, the bushes should now receive what pruning is necessary, and the amount will depend upon the degree of attention the bushes have received in previous seasons. If pruning has been properly done annually, the branches will be somewhat regular, and the operator's attention will be needed in removing sucker-growths, thinning-out weak spray, and any crossing branches. Bushes giving most trouble from suckers are those which have been raised from seed. Cuttings of short-jointed growths of the current season, 18 inches to 2 feet long, strike freely. All the eyes, except three or four at the top, should be cleanly taken out. The cuttings may be put out in rows 18 inches asunder, and 1 foot apart in the row; any cool border will suit them. If nuts are to be grown extensively—and some growers have proved them to be a remunerative crop—the major portion should be Kent or Webb's Prize Cob, between which there is but little if any difference. The Cosford is a free bearer and a desirable nut, but the bushes grow tall, and require to have the branches lopped back occasionally to keep them in reasonable limits. Bushes on stems about 4 feet high, and planted from 15 to 18 feet apart on grass, make short-jointed growth, and the nuts consequent on full exposure to the sun and air, ripen and keep better than they do when the bushes are crowded together, as is most usual. Old bushes, apparently worn out, can be greatly benefited by a good top-dressing. Should the staple be of a clayey and too retentive nature, apply a top-dressing of charred garden-refuse, sandy loam, or well-decayed leaf-soil. But if the opposite be the case, then a heavy top-dressing of clayey loam, or even pure clay, if afforded now, to be well pulverised by the frosts, will aid in resuscitating the bushes.

BLACKBERRIES.—Where these are trained to a wire-trellis, the old bearing growths should be removed, and the young growths trained in thinly. The cut-leaved variety (Rubus laciniatus) is considerably more trailing in habit than the American and other varieties. Should these be planted too closely together, have the plants thinned out to a distance of about 12 feet apart, and they will be more manageable, and there will be less necessity for shortening back to any great extent the long fruiting growths. The introduction of Wilson Junior and other American varieties a few years since gave a great impetus to the cultivation of Blackberries. Such a season as that of 1893 met the requirements of this variety in whatever position it was planted, and hence the more satisfactory crops of it generally this season, but unless a dry and very sunny position can be given them, the cultivation of Wilson Junior, fine berry though it is, should be of a limited extent, and dependence placed upon the cut-leaved variety for supplying fruit for the kitchen. When the canes are trained to a trellis, the fruit can be the better protected from birds; but in places where birds are not numerous, the most natural and profitable way to grow them in quantity is over a rustic archway spanning the garden walk; stout Oak-posts can be used for the sides, and ¾-inch round iron for the arch, with rods of Oak, Hazel, or other enduring wood, laid lengthwise along the arch to carry the growths. Such an arch will last for some years, and when necessary it can be rebuilt piecemeal. If the brambles are cut down from the part to be renovated, they will make bearing growths again the following season.

THE FLOWER GARDEN.

By John Lambert, *Gardener, Powis Castle, Welshpool.*

TULIPS. — The Tulips planted early in the autumn will, in some gardens this season, be pushing through the soil, showing an abnormally early growth. To prevent injury to the plants from hard frost, which we are sure to have, the beds should be surfaced with some finely-sifted leaf-mould and sand, well-mixed together, or failing leaf-mould, the more expensive cocoa-nut fibre refuse may be used.

THE HERBACEOUS BORDER.—Now that most of the perennial plants are cut down, a dressing of decayed loam and short stable-dung in equal quantities, which should have been prepared and thoroughly mixed, should be spread over the soil. Old-established borders are especially benefited by such dressings, owing to their commonly impoverished condition. Having spread the dressing, carefully prick it in with a fork; but this is an operation that had better be left until the spring, and the new growth of the plants indicates their whereabouts to the workmen. The dressing, moreover, if left on the border affords a great protection to tender plants and bulbs; and in wet, cold soils, protection of some description is always a necessity.

BOX-EDGINGS.—Where Box is largely used as an edging-plant, it is prudent to grow a supply of it in the reserve-garden, so as to be able to repair the edgings when needed. If the soil of the edging is poor and sandy, it should either be removed, or sufficient good soil mixed with it before proceeding to plant. It is of great importance in planting Box that the soil be made very firm and level, and the lines cut quite true, whether they are straight or otherwise, and never to cut the tops of the Box-plants before they have got a good hold of the soil; in fact, no Box should be cut when there is the least fear of frost occurring before growth is made anew.

CLEMATIS.—All varieties of the Jackmannii or viticella type may be cut down to about 10 inches or so from the ground at this season, and a good mulching of farmyard-manure afforded them, cow-dung being one of the best for the purpose. This dressing may be applied quite 6 inches in thickness. Those belonging to the lanuginosa type should be moderately pruned, and those of the patens and Florida types left alone at present.

THE KITCHEN GARDEN.

By Arthur Coombes, *Gardener, Himley Hall, Dudley.*

ENDIVE AND CHICORY. — The usable Lettuces having become scarce in most gardens, Endive and Chicory will be more prized. Both require to be artificially blanched by placing them in darkness, the former by tying the leaves together when dry, lifting the plants and planting them in boxes, which, if put in the Mushroom-house, will come on quickly. The broad-leaved Batavian Endive is the best to grow at this season, and takes the place of the Lettuce more satisfactorily than the moss and other finer-leaved varieties. Chicory may be planted in pots and boxes in moist soil, and brought forward in the darkness and warmth of a Mushroom-cellar, taking care that it does not lack water, or the leaves will be tough.

FORCING FRAMES.—Admit air sparingly, avoiding draughts, and closing early in the afternoon. See that a proper degree of warmth is maintained, the French Bean requiring a minimum of 60° to do well.

ROOT STORES.—In bad weather the men may be employed to examine the roots in the various stores, removing all decaying ones, and the sprouts, which the mildness of the season has caused to be put forth.

MUSHROOMS.—Out-of-doors ridges may be made, and failing other soil that of the kitchen garden, if afforded a sprinkling of bone-meal, gives satisfactory results, still, fresh loam is the best for covering the beds. Beds which are getting dry should have warm water applied to them, a fresh covering of litter being put on to keep up the right temperature, and preserve the moisture. Ridges in bearing should also have fresh litter, especially if that which has been in use is much broken up or mouldy. Where the spawn may be running in places on the outside of the soil, remove it by rubbing with the palm of the hand, and cover up the ridge with entirely fresh dry litter sufficient in depth to raise the temperature of the surface of the bed. New beds may be made as required in Mushroom-houses and cellars, the temperature being kept at 60° steadily, and the air moderately moist. Spawn beds when, after a rise, the warmth has declined to 98°.

GENERAL REMARKS.—On frosty mornings manure may be carted or wheeled on to vacant ground, spreading it or leaving it in heaps to be spread when wanted. Heaps of garden refuse may now be turned over and thrown together in a compact flat-topped heap; all thick sticks, and Cabbage-stalks not readily decaying, should be burnt later on. The heaps of older date may be wheeled upon vacant ground, which will be trenched, or bastard trenched. When the ground is in working order, press forward digging and trenching operations, leaving the surface rough.

PLANTS UNDER GLASS.

By J. F. McLeod, *Gardener, Dover House, Roehampton, S.W.*

CARNATION SOUVENIR DE LA MALMAISON. — At this date the flower-spikes of the earliest-rooted layers should be visible, and it is a matter of some importance that green-fly does not get a foothold on the plants, as the least injury done on the present tender state of the buds will destroy all chance of getting perfect flowers. As a stimulus to growth, very weak soot-water may be afforded once a week alternately, with clear cowdung-water. Older plants which may now be exhibiting their flower-buds, or approaching the flowering stage, should be similarly treated, save that the strength of manures may be increased with safety, the plants being better rooted. The damping of the paths, benches, &c., may still be kept up, except in rainy or foggy weather, and the ventilation of the house or pit must be well attended to, air being afforded more or less in quantity at all times, except during severe frosts. Air being so necessary to the Carnation to prevent an undue lowering of the warmth, some slight heat may be allowed in the pipes at all times. If the young stock of plants was placed in 60-pots, and they have not received a shift, the present is a suitable time for repotting them.

STAGE (SHOW) PELARGONIUMS. — Pinch the points off and regulate the stronger shoots, and as they advance sling the branches with matting to the central stick, and if sufficiently well rooted apply a teaspoonful of Thomson's manure once a fortnight, sprinkling it over the surface of the soil; admit air in quantity when there is no frost or fog, and afford then a slight heat in the hot-water pipes. The underside of the foliage may be syringed in the early part of the day, applying the spray somewhat sharply.

ALLAMANDAS.—A few of the well-matured plants may be shaken out and repotted into larger sized pots, if it is desired to increase the size of the plants, using the kind of compost recommended in a previous calendar for plants of this class. Afford them water as soon as placed in the stove, but affording no more till root-action become visible in the swelling of the buds. Allamanda Hendersonii is the more easily-grown variety, and is for that reason more generally cultivated. A. nobilis has beautiful blossoms, but it is of weak constitution; and A. Schotii is a very useful variety.

GLORIOSA SUPERBA.—A few potfuls of this lovely subject may now be made up, using the same kind of soil as the previously named plants require, no water being applied. Plunge the pots to half their depth in a warm bed in the stove, and the moisture of the house will suffice to push the tubers into growth. Place one or more sticks to each pot when the growths make their appearance, fastening these to them very carefully when they are long enough, remembering that a broken growth will do no more good this season.

1894. THE year of grace, 1894, whose history, so far as matters horticultural are concerned, we have now to trace, has been a very busy one. There has been no very striking event, no epoch-making discovery, no startling introduction, but a continuous record of steady persevering work. Signs of progress may readily be discerned, the most hopeful among which are the recognition of the necessity for increased knowledge as well as mere skill, and the consequent gradual spread of technical education. The interest in such matters as Hybridisation may be alleged as another sign of progress, whilst the establishment of a School of Cultural Science at Cambridge is an event of good augury. Commercially the year has been better than its predecessor, and whilst agriculture is depressed beyond measure, horticulture in its various branches is flourishing. True, a pessimistic note as to the prospects of commercial fruit-growing has been, as oft before, sounded by Mr. R. D. BLACKMORE. To know that gentleman is to esteem and respect him to a degree that he would hardly care to have publicly expressed. But our admiration for the man and his attainments must not blind us to the fact that, although opportunity has been afforded for others to substantiate his views, yet no one, except our old friend Mr. HARRISON WEIR, has yet done so. We do not for a moment question his ability as a grower, nor doubt the information he has conveyed to us in support of his assertion—information that cannot be made public. But on the other hand, we cannot but see that up to the present Mr. BLACKMORE'S experience is somewhat exceptional. Not only nurserymen who have fruit trees to sell, but market-growers who look to derive an income from their produce, tell us a different tale. They are not enthusiastic, these gentlemen, and they are not enamoured of the way business is conducted in Covent Garden, but their statements are all the more worthy of confidence, in consequence. Some are, from their experience, advocating market gardening and fruit culture as a profession for the sons of gentlemen. It seems that under fairly propitious circumstances a satisfactory, if not a large return, can be made from capital and labour judiciously expended in this business. Can as much be said for farming now-a-days?

The subject just alluded to has formed one of the most prominent subjects for discussion this year, and hence we put it in the forefront of our review. To do so is rather like putting the cart before the horse, for perhaps we ought to have begun with the weather. Nothing eludes our memory sooner than the state of the weather, but no cultivator is ever likely to forget the dry, roasting season of 1893. Its effect on such vegetation as could resist excessive drought was remarkable. "Well-ripened wood" led growers to expect abundant flower and fruit as a consequence. The early part of the year was for a short time exceptionally cold. This state of things did not last long, but was succeeded by mild weather. It seemed as if the promise of the ripened wood was to be fulfilled. And to some extent it was. The fruit trees and flowering shrubs were sheeted with exquisite bloom. The spring was from two to four weeks in advance of the average, and all seemed well; but in the fourth week in May came a frost—indeed, a "killing frost." Such low temperatures as were experienced in nearly all districts of these islands have scarcely ever been recorded at this season of the year. The trees were in the full flush of active vitality. The havoc was proportionate. Dismal was the outlook. Strange to say, the fruit crop, as a whole, proved not to be so deficient as was expected. Apples, indeed, have been scarce, but Pears were in profusion. After May we have had but an indifferent season—fitful sunshine, a moderate amount of heat, a plentiful supply of rain. The promise is not so good as it was this time last year, but who can say that the fruition may not be better?

A popular clamour about the management of Epping Forest led to the appointment of an influential and representative committee of experts. Their report showed, as usual, that clamour such as shows itself in the columns of general newspapers from the *Times* downwards, when dealing with special subjects was as ignorant as it was "popular." The Corporation did wisely to settle the matter as they did, and with the general terms of the report submitted to them no practical man will disagree. The increase of the beauty, interest, and educational value of the forest by the judicious introduction in appropriate localities of trees and shrubs not native to Essex is, however, a point in which we think the committee was too tender and too heedful of the ignorant clamour aforesaid. Epping Forest is quite extensive enough to have hundreds of acres left relatively wild, and hundreds more devoted to the purpose of a national arboretum, which, for the satisfaction of the newspaper scribes, we may explain is not a dressed garden.

Of the novelties and interesting introductions of the year we shall speak at length in our succeeding numbers, but here we may remark that the shows and exhibitions at which these novelties for the most part make their appearance have been unusually numerous. The series of shows in connection with the great exhibition at Antwerp have been well conducted, and have afforded our exhibitors an example alike of good taste in arrangement and patriotic disinterestedness.

At home the Temple Show was larger than ever, and the quality of the exhibits excellent, but as regards the arrangement, the least said, the better. The weather on the occasion was deplorable, but the results were financially satisfactory. The great fruit show at the Crystal Palace, organised by the Royal Horticultural Society, was very successful—so much so, that we hope the Society will continue to put itself, as it ought to do, at the head of all these larger and more important exhibitions. The Conference on fruit-growing in connection with this exhibition was very appropriate, and the interest of the people was manifested by the way in which the room was packed with auditors, on the second day a still larger room being necessitated. The ordinary committee meetings of the society in the Drill Hall have been well attended, and the exhibits, if anything, too numerous.

At Chiswick one general meeting, and one only, was held, and that was devoted to trees and shrubs. A magnificent collection of illustrative specimens was got together, but the weather was as unfavourable as it was possible to be, and the management of the Conference was such as might have given rise to the impression that the authorities were not particularly desirous that these meetings at Chiswick should be successful. The mention of Chiswick recalls the fact that the garden now presents a very different appearance from what it did in the old South Kensington days. Two old houses still remain as if to show what has been, and they form a marked contrast to the rest of the establishment. Old houses have been repaired, new ones built, long lines of dilapidated pits restored, and a general state of good keeping ensured. The trials of flowers, fruit, and vegetables have been continued, and the judges and committees have shown their usual critical acumen and disinterestedness. We can hardly over-estimate the value to horticulture of these trials, which no private efforts can adequately replace.

More, a great deal more, requires to be done in purely scientific and experimental horticulture, but this demands money, and more especially men, for the purpose. Most horticulturists are already overburdened with work of one sort or another, and so are the officials of the society. It is a dream of the future that eventually we may have at Chiswick, under competent scientific direction, a station for research and experiment in the higher branches of horticulture, comparable with the dozens that exist in the United States and in some of the countries of Europe. It could be worked with the present system of trials, and incorporated with a practical system of technical education. When will our dream be realised?

Before leaving the Royal Horticultural Society, mention must be made of the Lindley Library. The history of this nearly fundless establishment is now well known. Hitherto the advantages it offers have been comparatively made little use of. One reason for this is the absence of any proper catalogue—especially of a subject catalogue; and hence one of the first objects of the Trustees is to provide for the formation and publication of such a list. The subscriptions received up to the present time are not nearly adequate for the purpose; but we doubt not that, as greater publicity is given to the matter, not only funds will flow in, but also donations of horticultural books, so as to render the library, what it ought to be, the most complete of its kind.

The mention of books reminds us that in addition to a host of elementary treatises on horticultural and botanical subjects, many of greater importance have been published within the year. The foremost in value is, of course, the *Kew Index*, comprising the names of all flowering plants from the time of LINNÆUS to 1885. Of this colossal undertaking we have spoken at length, it only remains to say that there is every probability that the work will be completed by midsummer of 1895. Professor VINES has published the first part of his *Text-book of Botany*, intended for advanced students. Dr. SCOTT has published an *Introduction to Structural Botany* for the use of less advanced pupils, and which is an admirable production. The popularity and interest in Orchids and their culture has received striking illustration in the publication of several bulky volumes devoted to them. Mr. BOYLE has entwined them in fiction, in the *Orchid Seekers in Borneo*, and enticed amateurs by the narration of his success as a cultivator, as published in his *About Orchids*, a chat.

Mr. BURBERRY has published a useful little book for amateurs. Count de KERCHOVE has issued a delightful introduction to the knowledge, the structure, and peculiarities of Orchids (*Le Livre des Orchidées*), but for cultural purposes he would have done better to have adhered to established usage in the matter of nomenclature.

M. LUCIEN LINDEN has laid before the public a treatise, *Les Orchidées Exotiques*, in which the reader gets the benefit of the vast knowledge and experience of MM. LINDEN, père et fils. Messrs. VEITCH have brought to a conclusion their most valuable and authoritative *Manual of Orchidaceous Plants*, the success of which will, we hope, be sufficiently great to justify a new edition, with the subject-matter rearranged, and

with all important new matter incorporated. Messrs. Williams & Son have given us another edition of their *Orchid Growers' Manual*, which is specially useful for gardeners.

In other departments of horticultural literature we may mention Prof. Sargent's magnificent form. The translation of Prof. Kerner's *Natural History of Plants*, issued under the editorship of Prof. F. Oliver, is progressing regularly. It contains a fuller account of the life-history of plants than any work we know of, but it is a big book, and few of not be infringed upon. A glance at the index to our half-yearly volumes will show a full list of the books of the year, as well as of the new plants and the principal figures issued.

The retrospect of the obituary column is always a sad affair, but it is tempered by the



Fig. 102.—Oncidium ornithorhyncum albiflorum: flowers white. (see p. 782)

Silva of North America, which is progressing satisfactorily, and is a veritable encyclopædia of the subject on which it treats, illustrated in the most conscientious manner. The translation of Hartig's *Diseases of Trees* will be serviceable to foresters, but requires to be extended in its scope. The new edition of Brown's *Forester* is practically a new book, and in its present guise will do more to justify its reputation than did its original

us engaged in active work can find time to read consecutively, so that we trust a full synopsis of contents will be given to facilitate reference. The *Book of Choice Ferns* is completed. We have not yet seen it, but experts report very favourably of it in our columns. We might, and perhaps ought, to mention many more books, horticultural and botanical, but our space is limited, and the patience of the reader must

fact that those who have gone before have done their duty here, and that they have, by their example—if by no other means—rendered it easier for their successors to do the same. Duchartre, the eminent French botanist, described as the soul of the National Horticultural Society of France, died full of years, but at work to the last. His clearness of statement, and logical presentment of facts, were eminently

French, and rendered his *Elemens de Botanique* a delightful book to read. His contributions to horticultural literature were incessant, as the *Journal* of the Society shows.

Germany has lost one of the ablest and keenest botanical exponents in the person of Professor Pringsheim, but, so far as we know, he did not devote attention to horticultural subjects. It was otherwise with Spruce, the eminent English traveller and botanist. In spite of long suffering and broken health, he collected in North Brazil an immense number of plants, and contributed especially to the successful introduction of the Cinchona into India. His researches among the Hepaticæ place him, in the opinion of specialists, among the foremost in that branch of knowledge. Thomas Lobb was a famous collector employed by Messrs. Veitch, and not the least successful of the many explorers sent out by that enterprising firm. A list of the plants introduced by T. Lobb, is given in the *Gardeners' Chronicle*, p. 636, May 19 last. Dr. Bancroft, of Brisbane, an occasional correspondent of ours, was much interested in cultural affairs, and published various notes concerning them.

Among practical gardeners, we have to mourn the loss of the accomplished William Ingram, of John Rust of Eridge, of Gower, lately attached to the staff of the *Garden;* of Truelove, an old Kew employé; of W. H. Williams, of Salisbury, the head of the famous firm of Keynes, Williams, & Co., a loss the sadder because so premature. From among our own frequent correspondents we have lost C. Carmichael, and Henry Evershed, whose brightly-written articles were so much appreciated by our readers.

We might extend the list. We might dilate at greater length on the events of the year, but there is no necessity to repeat what has already been said in our half-yearly volumes. It will suffice if we have succeeded in conveying a general impression of the work done during the year now at its end.

The Gardeners' Royal Benevolent Institution.

We have received the following letter from the Treasurer with reference to some recent correspondence:—"In your issue of this week I notice a letter from Mr. Henry Cannell, with a footnote added by yourself, in which reference is made to the Treasurer [and certain members of the committee] of the Institution, allowing his name to appear on the circular of one of the candidates for election next month, and in which votes are solicited. Until I read this communication, I was not aware that my name was being used by anyone, and it is being done without my knowledge or sanction. I have seen no circular with my name on it, and I am consequently still quite in the dark as to who the offender may be. I am very sorry that Mr. Cannell should have 'nursed his grievance,' instead of having done me the kindness to communicate with me immediately after the receipt of the circular in question, and which would have enabled me to put a stop at once to what I consider a very objectionable proceeding. I hold that, in my official capacity, it is not right that my name should be used in favour of any one or more of the candidates; and whenever I have been asked to allow it to appear on any card or circular, I have always refused.

"As regards the present system of voting, to which, I understand, Mr. Cannell takes objection, I am no more in love with it than he is; but any alteration now, so far as I can see, would be very difficult. The Committee is only continuing to carry out the same system which has always existed, and it has no power to make any alteration, which can only be made at a general meeting of the subscribers, either annual or special. The latter could be held at any time; and if Mr. Cannell will elaborate an improved scheme for the election of pensioners, and be prepared to bring it forward for consideration, I feel certain that he may rely upon the cordial assistance of the Committee in carrying it, and certainly the active support of myself as the Treasurer. *Harry J. Veitch, Royal Exotic Nursery, Chelsea, December 22.*"

Our Almanack. — Secretaries of Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1895, for insertion in the Almanack, to be published in our issue for January 5.

Oncidium ornithorhyncum albiflorum.—Fig. 103, p. 781, represents a finely-grown specimen of this lovely Orchid, which was grown in the gardens of R. I. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, and we are indebted to Mr. Chapman, the gardener, for obligingly sending us a photograph of it. The white-flowered form of Oncidium ornithorhyncum first appeared in the collection of the late John Day, Esq., at Tottenham, in 1873 (see *Gardeners' Chronicle*, 1873, p. 503), having been imported with the species from Guatemala. It has always been a rare and valuable plant, and as late as April last a small plant was bought by one of the largest horticultural firms at Messrs. Protheroe & Morris' Rooms for 28 guineas, and a plant had previously been sold for 50 guineas. Usually it is not so free-flowering as the ordinary species, but when it can be induced to succeed, it is one of the finest Oncidiums in cultivation. It does best in an intermediate-house, with a temperature of from 55° to 60° in winter, and 60° to 65° in summer. The pots should be well drained, and filled rather more than two-thirds with clean, broken crocks, using afterwards good peat and sphagnum-moss in equal proportions, which should be pressed with moderate firmness about the roots. The plant requires a liberal supply of water at all times, and a fairly moist atmosphere. Mr. Chapman experienced some difficulty in inducing the flowers to open last year, owing to the fogs, and to prevent a similar trouble this season the plant was removed into the Cattleya-house in August, when the spikes were about 6 inches long, and by this means the flowers opened before the November fogs set in. The plant figured had seventeen flower-spikes, and upwards of 1700 individual flowers.

The Veitch Memorial Fund.—We are informed that at a meeting of the Trustees held on the 19th inst., it was resolved that medals should be offered at the following exhibitions in 1895:—Worksop, York (Gala), Glasgow (West of Scotland Horticulural), and Edinburgh (Royal Caledonian) and that three honorary medals should be offered to the following distinguished horticulturists, James Bateman, the father of Orchid culture; F. W. Moore, the Director of the Royal Botanic Garden, Glasnevin; and to the eminent hybridist, M. Victor Lemoine, of Nancy. The trustees also unanimously voted a sum of ten guineas to the fund which is being raised for the benefit of the Lindley Library, and the preparation of a catalogue of its contents. We are requested to state that all communications respecting the Veitch Memorial Medals and Prizes should be addressed to the Secretary, Mr. A. H. Kent, 7, Doria Road, Fulham, S.W., and not to the firm at Chelsea.

The Proposed National Vegetable Exhibition.—"Will you kindly permit me," says Mr. A. Dean, "to inform readers of the *Gardeners' Chronicle* interested in the above object, that matters are now assuming a somewhat definite shape. The promoters found the Crystal Palace barred against them because of the space needed by the African exhibition of the ensuing season. They then interviewed the authorities of the Royal Aquarium, Westminster, a very central place, and practically the only available one in London for a large show, with so much success that, subject to future agreements by the general committee, the show will be held there on three days of the second week in September next. A schedule of a very representative kind, covering both Potatos and vegetables generally, has been prepared, and slips are being issued to the seed trade and others in the hope that they will so far help the promoters by offering the prizes in many of the classes as to insure the financial success of the show. Naturally for a National exhibition, special trade classes are undesirable, and therefore it has been resolved to have a schedule of classes that is representative and national. Cards of invitation to all those sixty persons or firms who consented to become members of the general committee, are being sent out to attend a meeting at the Royal Aquarium on January 15 next, when it is hoped arrangements so far made will be confirmed, and an executive committee appointed to carry out the exhibition." *Alex. Dean, Hon. Sec.*

The Gardeners' Royal Benevolent Institution.—"At a meeting of my committee held on Friday last," writes the secretary, "their attention was drawn to the letters regarding this institution, which have recently appeared in your columns, viz., that on the 15th inst., and signed 'Enquirer,' and to the three which appeared in your issue of December 22. The committee instructed me to ask you to do them the favour of inserting the following reply to Mr. Clayton's courteous remarks, they declining to notice the two anonymous communications, whilst Mr. Cannell's letter seems to deal with the system of voting in connection with the election of pensioners, which has now been in vogue since the institution was established. If Mr. Clayton will kindly refer to Rule III., sub-section 2, he will there find it stated, that a candidate is eligible for election if he has been a gardener, market-gardener, nurseryman, or seedsman, for a period of not less than twenty years, &c., and Mr. Clayton will kindly notice also that no mention is made as to when the twenty years shall commence, and he, as an old friend and supporter of the institution, would, I am sure, be the first to admit that the Committee are bound to act according to the rules, as to the admission of candidates. With reference to the particular candidate referred to in Mr. Clayton's letter, although no name is mentioned, the Committee have no doubt it is the case of Thomas Bannister. This candidate's original 'Application Form' was duly signed by subscribers to the Institution, and the necessary certificates being all in order the Committee could not do otherwise than accept him as a candidate, and he polled at the last election 873 votes, all of which were given to him in the ordinary way by subscribers, over whose votes the Committee had not the slightest control whatever, the voting papers properly marked having been sent in to the scrutineers on the day of the election in the usual manner. A short time since in accordance with the usual custom, and in anticipation of the election to be held in January next, the cases of old candidates came again before the Committee for review and consideration. When Bannister's case was reached, the question was raised as to his being a proper candidate, various reports having come to the Committee, a sub-committee was at once appointed, consisting of three practical gardeners, to make personal enquiries into the case and report to the general committee. Unfortunately, one of those gentlemen was too ill to attend when the sub-committee met, but the other two, viz, Messrs. J. Hudson of Gunnersbury House, and S. Osborn of East Sheen Lodge, who had made full enquiries, reported to the general committee that they found the candidate eligible according to the rules, and recommended that he be retained on the list. What else, therefore, could the committee do except to allow him to continue to be a candidate? I should like to point out that the committee have no power to at any time depart from the rules, which were revised two years ago, and adopted, as they now stand, after very careful consideration, at a special general meeting, and subsequently confirmed at another

special general meeting, to both of which meetings every subscriber to the Institution was summoned. I may add, too, that the particular rule under which Bannister became a candidate is exactly similar to that in the old rules, and all candidates have for many years past been admitted as such under the same rule as it now stands. If it is thought that this rule, or any other rule, is not satisfactory, it is within the power of any of the subscribers to propose any alterations they think would be advisable, and the committee would heartily welcome any proposed change if it would be likely to benefit the Institution in any way. It is, perhaps, hardly necessary to say that any alterations or amendments could only be made at a special general meeting duly summoned for the purpose in accordance with the terms stated in rule 6. In the meantime the committee trust that all friends of the Institution will give them credit for doing their utmost not only to interpret the rules correctly, but also to carry out their meaning faithfully. *George J. Ingram, Secretary*, 50, *Parliament Street, London, S.W.*

Royal Botanic Garden, Glasnevin.—The annual report of the Director of the Science and Art Museum, Dublin, for 1893-94, includes an account of the condition and progress of the gardens under the direction of Mr. F. W. Moore. Large and valuable collections of Ferns have been presented by E. J. Lowe, Esq. Other donations have been received from Mr. Neil Fraser, W. E. Gumbleton, Esq.; Thos. Acton, Esq.; Baron Schroder, and J. T. Poë, Esq.; besides numerous exchanges with other gardens and with the nursery trade in this country and abroad. Mr. Moore repeats his sense of the absolute necessity for a house for succulent plants and one for tropical Ferns.

Hooker's "Icones Plantarum." — The November number contains lithographic illustrations of numerous plants, mostly of purely botanical interest. They represent plants recently determined in the Kew Herbarium or elsewhere. Some would be valuable additions to our stoves, whilst others are remarkable for their medicinal properties, such as Pilocarpus microphyllus, a "new Jaborandi;" Tabernanthe iboga, an Apocynaceous plant from West Tropical Africa, and which has a large bitter root, to which powerful febrifugal and other properties are attributed; Carpodinus uniflorus, Stapf., an Apocynaceous climber, also from West Tropical Africa, and which yields "very fine india-rubber;" Willughbeia firma also yields a good rubber in Sumatra.



Fig. 103.—Viscum indicum: Indian Misleto. (Pleurothallis sp.) after de L'Obel.

Scottish Meteorology.—The *Journal of the Scottish Meteorological Society*, with tables for the year 1892, has reached us. It contains most valuable records on many subjects of the greatest interest to meteorologists and cultivators, such as the tables and coloured maps showing the amount of rainfall in each month of the year for twenty-five years, 1866 to 1890. In Scotland, the temperature rises from February to July, and falls from August to January. During the six months when the temperature is rising, the proportionate amount of rainfall is 3 per cent. greater in the eastern than at the western stations; but during the six months when the temperature is falling, the amounts are 3 per cent. greater on the western side.

Gas-heating for Greenhouses. — At a meeting of the Manchester District Institution of Gas Engineers held lately, a paper was read on this subject by Mr. Chester. The paper is reported in full in the *Gas World* for December 8. The author thinks that in future if an automatic arrangement can be adopted to supply an amount of gas proportionate to the temperature outside, it will be found that gas is cheaper and better adapted than any other form of fuel for greenhouse purposes where a temperature of not more than 50° to 60° F. is required. Mr. A. D. Mackenzie, in criticising Mr. Chester's paper, says from experience that the cost of gas is quite prohibitive for anything but small conservatories or modest establishments where expense is not a primary consideration.

The next Ghent Quinquennial.—We have scarcely recovered from the excitement caused by the magnificent exhibition of 1893, when we are reminded that a similar exhibition will be held in April, 1898, and intending exhibitors are already invited to prepare and make ready New Plants introduced, or to be introduced, between 1893 and 1898. Palms, Cycads, Ferns, Orchids, Camellias, Rhododendrons, Azaleas, Tulips, Pæonies, Roses, various New Holland plants, and many others are already marked out to form classes for competition. Hybrids of all kinds and double flowers are also to be provided for. From a purely horticultural point of view, it seems like a retrograde step to encourage double flowers, though as botanical curiosities and as interesting morphological specimens, they are important.

Fruit-growing in Ireland.—We are pleased to note that at the late Waterford Chrysanthemum and Fruit Show, Messrs. Saunders of the Friars' Walk Nurseries, Cork, exhibited a fine collection of culinary and dessert Apples to the number of 150 varieties. The High Sheriff of the county also exhibited fruit. No doubt Ireland could export much more fruit than she does, whilst in the culture of flowers for early spring markets there is a great opportunity before her.

The Royal Society of Agriculture and Botany of Ghent.—The schedule for the coming exhibition, April 21 to 23, is before us. Orchids, New Plants, stove plants, Palms, Cycads, Ferns, Azaleas, Rhododendrons, New Holland plants, and miscellaneous flowering and foliage plants are provided for. There are in all 217 classes, and in each class two, and sometimes three, prizes are offered. English exhibitors are at liberty to compete, and should apply to M. E. Fierens, Coupure, 135, Ghent, for further particulars.

"Cottage Gardening."—The fourth volume is before us, edited by Mr. W. Robinson, and published by Cassell & Co. At the price of ½*d.* a week, it is a remarkable production.

New Publications.—*Conspectus Florœ Africæ*, par M. Durand et Hans Schinz (Brussels Botanic Garden).—*Practical Forestry*, by A. D. Webster; second edition (Rider & Son, Bartholomew Close).—S. Mottet, *Guide Elémentaire de Multiplication des Végétaux* (Paris: Octave Doin).—Joulie et Desbordes, *Les Engrais en Horticulture* (Paris: Octave Doin).

MISLETOS OF THE OLDEN TIMES.

The common Misleto, Viscum album, was known by that name in the sixteenth century as at the present time, as reference to the works of the old herbalists will show, since in several of them the plant is so plainly described and so well illustrated that there can be no doubt as to its identity.

But these same old-time authorities admitted as varieties, or rather species, certain plants which certainly have not the least relationship, and hardly any similarity to the true Viscum, save in the circumstance that they grow on trees. For instance, in the old vellum-bound folio entitled *Stirpium Icones et Sciagraphia*, by Dominicus Chabræus, published in 1660, there is an illustration (taken from L'Obel, see fig. 103), which, though described as Viscum indicum, is clearly a drawing of a plant now known as a Pleurothallis, and is one of if not the earliest known records of a tropical epiphytical Orchid.



Fig. 104.—Viscum peruvianum: Peruvian Misleto. (Tillandsia sp.) after de L'Obel, 1605.

This is the description given by Chabræus of this Indian Misleto. As regards the names, he says distinctly that it is known as "Viscus et Viscum; Germ., *Mistel;* Belg., *Marentachen;* Gall., *Guy;* Ital., *Vischio*, Viscum indicum."

Then follow these words, descriptive of its growth on trees, and its inability to grow on the ground:—"Viscum ex eorum genere esse scribit Plinius quæ, cum propriam sedem non habeat, in aliena vivunt ac cum in terra gigni non possint, in arboribus nascuntur. Catillonem dixeris, nutrimenti alieni præreptorem Hyeme virere ex Virgilio habemus, qui ita canit: *Æneid*, vi.

Solet sylvis brumali frigore Viscum
Fronde virere novâ.

Sed de hoc Catillone in Appendice agemus. Hic tantum modo Viscum proponimus quot pingunt, & describunt Pena & Lobelius, ex Indicis plagis allatum asserentes. Admirationem certe movent foliorum veluti scalpro pressorum circuli, utrinque seni." Chabræus' figure, as he admits above, was taken from L'Obel (see *Animadversiones*, p. 452).

Gerarde, in his *Herball* (1597), gives a similar picture of this "Indian Misseltoe," which, he says, is

like the ordinary British variety, in that it "groweth likewise upon the branches of trees, running alongst the same in maner of Polypodie: the strings of the roots are like those of Couch-grasse, from which rise up divers stalkes, smooth and even, set with joints and knees at certaine distances: towarde the top commeth foorth one leafe, ribbed like the Plantaine leafe, whereon are marked certaine round eies, such as are in the haft of a knife; from the bosome whereof commeth foorth a chaffie branch, set with small leaves, which continue greene winter and sommer."

Gerarde copies from L'Obel a picture and description of what is clearly a Tillandsia, though the sixteenth century authority distinctly calls it Viscum peruvianum L'Obelii, or Misseltoe of Peru. The author was quite aware that both the Indian and Peruvian plants were "strangers in Eng'and," and the inclusion of them in the same class with the common Misleto may perhaps be accounted for by the fact that both are also parasitic, or, as we should now say, epiphytic. The illustration of the Peruvian Misleto is reproduced in fig. 104; the following is the description of it as given by Gerarde:

"There is," he says, "founde also another plant growing upon the boughes or branches of trees in maner as our Misseltoe doth, and may very wel be reckoned for a kinde thereof; the plant cleaveth unto the branches, being set thereto, as it were with the pillings of the sea Onion, for the bredth of a man's hand toward the bottome, and somewhat hollow: the tops whereof are very small and rashie, hollow likewise, & of a purple color: among which comes foorth a branch like that of Hastuta regia, or the Speare for a King, resembling the bush of Otes, covered with a white silke, such as is to be founde in Asclepias, of a salt and nitrous taste, and very unpleasant."

Thus it is very evident that in the sixteenth and seventeenth centuries, both Tillandsia and Pleurothallis were occasionally imported, yet but little known or studied. Hence it must be that various plants were included in the same class with Viscum, although quite unlike it, save in the one peculiarity common to all, of an epiphytic mode of growth.

On trying to trace Misleto still further back, we find that its history becomes increasingly obscure, and the identity of the plant known to the Romans as Viscum, is also not a little uncertain.

This fact is commented on by Dr. Daubeny in his *Essay on the Trees and Shrubs of the Ancients*, p. 130, wherein he says that—"We have additional reason for believing the Misleto of the Oak mentioned by Dioscorides to have been the Loranthus europæus, and not Viscum album, with which it has been usually identified, from finding that this plant is now called ὀξῦς, a manifest corruption of ἰξύς, whereas the parasite which grows on the Silver Fir is the true Misleto, and is termed μέλλα."

On looking to see what Pliny has to say on this subject, we find that author, in quoting from Theophrastus, "mixes up a description of the Box and the Cra'ægus, or Holm-oak, making the latter to be a seed of the former; and he then attributes a Misleto to the Box, which Theophrastus speaks of as growing on the Cra'ægus." *Bohn's Translation*, vol. iii., p. 390.

This is the confusing passage of Pliny, thus obscurely commented upon:—

"It is the Box-tree that supplies us with the greatest number of products, not only its seed, but a berry also, known by the name of Cratægum, while on the north side it produces Mistleto, and on the south Hyphear (*sic*). Sometimes, indeed, this tree has all four of these products growing upon it at the same moment." (Book xvi., c. 52) Further on, in chapter 93, Pliny mentions "three varieties of the Mistleto. That which grows upon the Fir and the Larch has the name of Stelis in Eubœa (thought to be Viscum album or Loranthus europæus); and there is the 'Hyphear' (this it is thought may also have been Loranthus europæus) of Arcadia. It grows also upon the Quercus (this, then is probably the Oak or real Misleto), the Robur, the Holm-oak, the wild Plum, and the Terebinth, but upon no other tree. Viscum album, it is well known, grows on several trees other than those mentioned. It is most plentiful of all upon the Quercus, and is then known as 'Adasphear.'"

Pliny mentions one other peculiar feature, and tells us "that which grows upon the trees which lose their leaves, loses its leaves as well; while, on the other hand, that which grows upon Evergreens always retains its leaves."

As to the utility of the Misleto, its principal modern value is as a material for making bird-lime, which, by the way, is prepared nowadays in much the same way as in Roman times.

Old writers attribute many strange medicinal virtues to our plant, and some of these were believed in up to comparatively modern times. One remedy connected with it in the days of Pliny is this:—"The viscus [*sic*] of the Mistletoe has the additional property also of rectifying malformed nails; but to effect this, it must be taken off at the end of seven days, and the nails must be washed with a solution of nitre. Some persons have a sort of superstition that the viscus will be all the more efficacious if the berries are gathered from the Robur at new moon, and without the aid of iron."

In these last words we trace the same notion which attributes to the more or less mythical Druids the use of a golden axe or knife when cutting Misleto for their mysterious ceremonies. *Leirion.*

DYED AND ARTIFICIAL FLOWERS, GRASSES, &c.

It is interesting to notice that the trade in dried, dyed, and artificial flowers, keeps pace with the demand for natural flowers at certain seasons of the year, and as the grower of flowers for market is ever on the look-out for some new subjects available for his special purposes, so the faculty of invention is constantly on the alert to devise and introduce some new feature in design and execution on the artificial side of the business. This thought was uppermost in my mind as I looked through the show-rooms of Messrs. Osman & Co., 132, Commercial Street, E., a few days since. That the trade in dyed and artificial flowers has developed enormously during the last twenty years there can be no doubt, and it has become a great and important industry. Let the times be ever so bad commercially, the festival of Christmas is observed, and to thousands of persons who cannot purchase high-priced forced natural flowers at this season, dried and dyed flowers and grasses come as a great boon, and they are employed to give a touch of festivity to many a home that would otherwise be unadorned. We have indeed advanced enormously upon the dyed Gnaphaliums and Feather-grass of forty years ago, for these were then almost the only subjects then employed, and now the variety is great, and the choice wide.

Is there an absence of the bright-berried Holly, then excellent imitations can be had in sprays—bright, cheery, and lasting, not only with green leaves, but with variegated also. Let the Holly boughs be ever so bare of berries, they can yet be had. It is so with sprays of Misleto, charming imitations are seen, very natural and with singular fidelity to Nature. Seeing that the presence of Misleto is largely confined to the south, it can reach northern parts only at some expense; and, even in the counties where it grows it is rarely cheap.

Naturally dried and dyed flowers are restricted in quantity. The Gnaphalium appears to be as precious as of old; and undyed is a somewhat spectral-looking subject; but when dyed, as it is in many colours—and there is choice of tint for all—they are very gay. It is in the great industrial centres of the Midlands and the North that these dyed Gnaphaliums are so much esteemed, where flowers at Christmas are worth almost a king's ransom. Next, perhaps, comes the Helichrysum, also dyed in many bright hues, the Rhodanthe and the Acroclinium, with the Cape flower, a form of Helichrysum that is used very extensively, and especially as the groundwork of wreaths, crosses, &c.

One of the most delightful of artificial blossoms is that of the Fairy-flower, ingeniously formed of silk, and looking for all the world like a finely-developed quilled German Aster. They are usually in a few soft and delicate tints, and placed on stiff stems are very attractive in large and small bouquets, and they can be employed in various ways; heliotrope, salmon pink, soft scarlet, white, and yellow are delightful Natural flowers dried by certain processes, and thereby rendered somewhat persistent are rare, and probably their duration is uncertain.

But if natural dried flowers are scarce, the void is filled by the many beautiful grasses now used to so large an extent. Foremost is the Vera grass, with its bold and striking tree-like plumes, now very largely imported and dyed in various tints: salmon pink, canary, autumn tints, a combination of red, orange, golden brown, shades of green, pink, and magenta, the newest being heliotrope, as fashionable in artificial flowers and grasses as in those of nature; and next in importance is the Pampas Grass in magnificent plumes, undyed, and dyed in various colours. Some novel Japanese and African grasses are strikingly handsome; the latter are from the Congo, some in rich, dark colours, and some delicately silky; they include the "Elephant" and "Congo" reed grasses. Barley and Oats are seen dyed in very pleasing colours, one being a bright bronze. Eulalia, Bromus, Briza, Erianthus, Lagurus, Panicum, and others, with dyed forms or the Feather grass in abundance.

Grasses and fairy flowers are greatly employed in making up bouquets large and small; they can be seen in many sizes fitted for the baronial hall and the cabin of the peasant. Christmas bouquets are made up in various designs in enormous quantities, so pretty and attractive, and formed of materials our forefathers never dreamed would be employed for the purpose, bouquets that can be sold retail for something like a shilling; sea-weeds dried and dyed are in use for epergnes, and in various ways.

A very striking feature are bouquets of different patterns in which natural foliage, dyed and rendered lasting, is employed; here a vigorous growing Selaginella and other sprays are mingled with Pampas Grass, Bullrush, Bromus, Japanese and African Grasses, with a leaf of Palm at the back; in the foreground being a few pretty fairy flowers. Such bouquets make very handsome Christmas presents, because of their great decorative value.

Then there are baskets formed of various materials, in different shapes and styles, some handsomely gilded, some of chip, and some tiny ones of Raffia and other materials. These are filled with grasses and flowers, some are of great size, and fitted thus for certain bold purposes; others are doll-like because so small, and yet very pretty. Fancy pots, and various designs in porcelain and glass are manufactured for holding flowers, and there are wreaths, crosses, &c., in abundance. Wreaths formed of showy Cape flowers have, in addition, sprays of foliage and blossom, formed of some chaste textile material, being also clever imitations of popular flowers. The material is so varied that there is ample choice, and it must be confessed this particular industry has reached immense proportions, as surprising as interesting. Let us hope the awful coloration of some of these objects may be improved in future. *R. D.*

HOME CORRESPONDENCE.

TROPÆOLUM SPECIOSUM.—This flame-flowered Nasturtium is somewhat peculiar in its likes and dislikes as to situation and soil. It is impossible to grow it well in soil that is light and liable to drought, aggravated by a warm southern exposure. Where the roots are growing in a cool and moist situation, the top-growth may ramble away in the full sunlight, and under such conditions, this showy subject positively revels in growth even in a dripping season like the present. I never saw it more at home than it is at Basing Park, near Alton. Growing amongst hardy Ferns on a rockery facing east, it entwines itself around the fronds, and extends its

clinging growth to Irish Yews and other dark-coloured evergreens growing near. The brilliant red blossoms, freely produced, make a grand contrast to the surroundings. Some fine examples of Athyrium filix-fœmina cristata are being entwined by the coils of this Tropæolum, and the crested part of the fronds just peeping out of the tangle have a fine effect. The soil is heavy, and therefore cool and moist. *E. M.*

GRAPE FOSTER'S SEEDLING.—Generally we see this Grape carrying a heavy crop of fruit. It is undoubtedly the one variety that may be heavily cropped with impunity, for shanking by reason of the heavy strain upon the canes from excessive cropping appears unknown. Upon a five-year-old cane Mr. Smythe, at Basing Park, has twenty-eight bunches, which may be considered an exceptionally heavy crop, many of the bunches weighing 2½ lb. Mr. Smythe speaks highly of this Grape for its free-bearing qualities, and, judging from the appearance of the Vines generally, he has a right to speak of them so. *E. M.*

ATTENDANCE AT FLOWER SHOWS.—When we realise the enormous attendance of the public at the Smithfield Club Cattle Show, it is but natural we should ask why is it so difficult, at either the Agricultural Hall or at the Crystal Palace, to induce the public to attend at great flower and fruit shows? Perhaps a large portion of the cattle-show visitors come for the purpose from the country; but in any case, without bands of music or any other attraction the inhabitants of London visit the Agricultural Hall in tens of thousands during the cattle-show week. Does this diversity arise from the fact that English people seem always to have a natural liking for the animal creation? Horse, dog, poultry, cat, and similar shows always seem to attract largely. But the metropolitan public seems to have a very poor appreciation for things vegetable as found in plants, flowers, fruits, and vegetables, although all are so beautiful and attractive. It is true that the Temple Show in May is now largely attended, but then everyone knows that this attraction has become somewhat a place of fashionable resort, a charming promenade, where the wealthy and the idle may kill time. The November show of the National Chrysanthemum Society is usually largely attended, but then there is at the Royal Aquarium such a wealthy, sensational entertainment [!], that it is no wonder the place is usually full, even when there are no flower shows. Is it possible to do anything to create in the public that same desire to see flower and fruit shows that is seen in the case of animal exhibitions? As a fact, the love for flowers and fruit is happily great; but the difficulty seems to lie in getting the people to patronise them as exhibition elements. I do not find there is in London, for instance, any greater taste for meats than for fruits or flowers. Possibly the reason for the difference in patronage is found in the fact that certain exhibitions have become established facts, and are as such recognised and patronised, whilst others are neither permanent nor even frequently held. That it takes a long time to secure the patronage of the metropolitan public for particular exhibitions is no doubt true; for that reason, flower, fruit, or vegetable shows once started need to be persisted in, and eventually they become successes. That is no doubt one reason why the Temple Show is now so largely attended. Perhaps persistence with a great autumn show would lead to a similar success in London. *A. D.*

PRICE OF FRUIT.—What is the use of long palaver, and strong personalities? However they may ramble, they never meet the point at issue—which is that of price. From the best salesman in Covent Garden I have just received an account of my last despatch for this year: 59 half-bushels of Josephine de Malines (admittedly the best winter Pear) sold for 59*s.*; net amount, £2 10*s.* 6*d.* These were carefully packed in his own baskets, and delivered by van at his place, all sound fruits, but small of course, as that variety always is. Now this is nothing very wondrous, and I have had many sales even worse. I have abused no one—as you will, I think, confess—throughout this long controversy. If people can make fruit-growing pay—*non invideo miror magis.* I speak only of my own experience, and can prove everything I have said, and my only motive has been to save poor credulous folk from heavy loss. A venture in literature costs nothing, except a few pennyworths of pen, ink, and paper; therefore, I would not discourage even Mr. Wells from girding up his loins. But an investment in fruit-growing is a very different thing. Your correspondent, "Market Gardener," in a most impartial letter, sets down all expenses at the lowest figure, and makes no allowance for misfortunes, or even the value of the land; yet at least seven years of loss must elapse before his pupil turns a penny upon current expense. And when he gets his £16 per acre—about a quarter of the profit that Hops used to bring—how much of it will be due as interest on outlay? A vast deal of nonsense is talked about "grading" fruit, boxing it, &c. All that has been tried; it is "as broad as it is long." A good even sample, well packed in half-bushels, is better value than boxed stuff, which savours of importation. Even greater folly is the talk about desiccating, preserving, &c. "I do not want peel or squash, I want fruit," says the ordinary John Bull. *R. D. Blackmore.* [This correspondence must now cease. Ed.]

THE CROPPING OF VARIOUS PEAS IN 1894.—The season of 1894 being the opposite of that of the previous year, it may be of interest to record the behaviour of some varieties sown in our garden. The first sowings were made on a south border, and the varieties sown were Sutton's May Queen, Lightning, and Chelsea Gem, which were sown at the same date, and treated exactly alike. May Queen was ready first, and was followed in about two days by Lightning, and that one by Chelsea Gem. May Queen is a very good Pea, with a Marrowfat flavour, but the pods do not fill well, and although they have a plump appearance, few seeds are found in a pod. Lightning is a well-known variety, which cropped well, but Chelsea Gem gave the best returns, had Peas of excellent quality, and proved to be one of the best earlies for frame culture or out-of-doors. Exonian did remarkably well, but this variety being much like William I., it is not necessary to grow both. This remark also applies to Duke of York and Duke of Albany, there being little difference between these two, except in height. It is, I believe, said to be an earlier and dwarfer form of Duke of Albany; it certainly is a little earlier, but not three weeks. Daisy was disappointing; it cropped fairly well, but the growth was not kindly; but that may have been due to the weather, which was changeable. So few seeds of the variety Satisfaction germinated that I cannot say much about it. Prodigy, a grand Pea generally, was not good, the growth was not satisfactory, consequently the crop was light, and although manurial aids were afforded, the plants did not respond. Telephone was not so good as in some seasons; Duchess of Edinburgh cropped very well indeed, but it grows a little too tall. Two newer main crop varieties are Sutton's Eureka and Veitch's Main Crop Peas, somewhat similar in growth and height, viz, 3 feet. Eureka has large pods with Peas of a deep green colour and good flavour, but if handsome they are not well filled. Maincrop is decidedly the better Pea in that respect, and it carries fine long pods, which are closely packed with large seeds. These two varieties were much appreciated by the cook. Veitch's Perfection I have seldom seen with a heavier crop, or generally doing better than with us last season, showing, I think, that it is still the best of its class. Ne plus Ultra maintained its good reputation. Other late varieties were Autocrat, which cropped well up to the middle of October, as also this year. Sturdy, as a late Pea, this year gave us good pickings, and is a good dwarf variety. With these two last-named varieties the Pea season was prolonged to a very late date. The soil of the kitchen-garden consists of sandy-loam, and with the exception of the earliest crops, the Peas were sown in shallow trenches, and aided during the summer by light sprinklings of superphosphate. The distance between the rows ranged from 8 to 20 feet and upwards, for plenty of room is required if good results are to be obtained. *J. H. Slade.*

CHRYSANTHEMUM BLACK PRINCE.—I find there is already a Chrysanthemum named Black Prince in commerce, consequently I have changed the name of my variety from Black Prince to Owen's Brilliant. This is the variety to which the Royal Horticultural Society's Floral Committee gave an Award of Merit on November 27 last. *R. Owen.*

SCOTLAND.

ROYAL BOTANIC GARDEN, EDINBURGH.

Gordonia anomala.—The plant above-named is well adapted for large structures where an intermediate or stove temperature is maintained, and it will continue in flower for several weeks at this period of the year. A large plant about 10 feet in length is in flower in the Palm-house. The blossoms are single, the petals white, nearly 4 inches in diameter, and show themselves conspicuously against the leaves of dark green. It is a native of tropical and subtropical Asia, and is also known under the name of Polyspora axillaris. A figure under this name may be seen in the *Bot. Mag.*, t. 4019.

Melastoma malabathricum.

Planted out this species attains a shrub-like appearance, a small plant, having since the spring of this year reached an height of about 7 feet; and considering the beauty of the flowers it is certainly deserving of being better known. The flowers, which are produced terminally upon the short branches, are of a dark purple colour, and unlike some plants belonging to the order Melastomaceæ, they last for several days after expanding. The foliage is in colour light green, and possesses the prominent veins common to the order. Although introduced from the East Indies during the latter part of the last century it is still not common in gardens.

Acacias.

Of the earlier flowering Acacias, A. Latrobei and A. imbricata are among the handsomer species. The former is of a graceful free-flowering habit, with short phyllodes; and the solitary flower-heads are produced for a good length up the short branches. The latter species is similar, but it is of a more erect habit and at the same time looser in the branching, the phyllodes being larger. The yellow heads of flower remain a considerable time upon the plant. Another pretty species now flowering is A. discolor, of stiff habit, bipinnate foliage, and large heads of flowers. *R. L. Harrow.*

AMATEURS' COLUMN.

MOUTAN PÆONIE.—A correspondent recently spoke of these as not of such value as the herbaceous varieties. May I be allowed to say that I think them even more grand as border or shrubbery plants, besides the immense and often very brilliant flowers, the varied tints of the foliage, are singularly ornamental—nor are they delicate if kept from the morning sun; also deep trenching and heavy manuring are recommended. I have grown these and the herbaceous sorts for about thirty years, and have never dug in manure with the soil before planting, finding that they grow quite strong enough without it, and flower better. Mr. Lambert says there are 100 varieties of Moutan. Years ago there were as many as that, so I thought it best to refer to the Messrs. Kelway's Catalogue, who fairly revel in producing new and extra-fine deviations from the old sorts, and I find four quite new, five nearly, and three less so; then fifty fairly new, and 150 of various dates of production, thus giving a grand total of over 200 to select from; and I would strongly advise those with garden-room, proper soil, and aspect, to try a few, and they will find, I am sure, their plots of flower-decked ground more pleasurable than ever; and I may add, that I am greatly surprised that they are not more sought for and extensively grown, combining, as they do, so many excellent qualities as flowers or shrubs. *Harrison Weir.*

HARDY FLOWERS FOR AMATEURS AND VILLA GARDENS.—This is a comprehensive subject, one that is capable of much amplification. Flower-gardens, like ladies' fashions, undergo perpetual change. Something like thirty, or thirty-five years ago, when what may be termed the bedding-out mania had reached its culminating point, the grand old herbaceous plants of the past received but very scant attention at the hands of the gardener, and in many places they passed out of existence almost altogether. However, as in the affairs of men, the tide changes; and so it is with plants and flowers, those that are everybody's favourite one season are scarcely seen or heard of the next. Herbaceous plants and hardy flowers generally that were despised and cast away at one time are more popular to-day than they were at any other period in the history of horticulture. Of late, our leading horticulturists have sung loudly the praises of these floral treasures, and endeavoured to show the difference between a natural flower garden, if we may

be allowed to use such a term, and the stiff and formal style of masses of colour obtained from exotics and the carpet-beds that were once so popular. The carpet patterns obtained by massing large numbers of Alternantheras, Mesembryanthemums, and other bits of coloured foliage are passing away, and now we have beds planted largely on the mixed system, yet employing to some extent plants that are tender and susceptible of cold. When this style is properly carried out to any great extent, it entails a considerable amount of time, labour, and money, and we do not think that any bed void of flowers, however artistically arranged, can ever be so interesting as a similar-sized bed of Auriculas, Pinks, Carnations, and other good hardy flowers that are within the reach of all amateur and villa gardeners. We have no wish whatever to condemn the present or past system of massing large quantities of tender plants in what is called the summer flower garden; all the same, we wish to put in a plea for some of the hardy flowers. When very tender subjects are employed to fill the summer flower beds, they cannot be planted before the end of May with safety, or the beginning or middle of June in some localities, and the first nipping frost towards the end of September, or early in October, mars all their beauty. On the other hand, our hardy border plants will have flowers of a thousand hues all rising from mother-earth early in February in ordinary seasons. Not only will there be early spring flowers, but Flora's lovely chain will extend throughout the summer and far into the autumn; and there is another advantage which these hardy flowers have over the formal bed. From the latter the good housewife who desires to adorn her sitting-room with cut flowers cannot go with basket and scissors in hand and cut her treasures for that purpose, but in a properly-arranged hardy border, for eight or nine months in succession, there is something fresh which may be cut every day. Again, in planting flower-beds on the massing system with exotics, a fresh set of plants has to be raised every season at considerable cost and labour; after the first outlay in the hardy border very little expense has to be incurred. With these preliminary remarks, we may ask, how should the villa garden be laid out? and what sort of flowers are the best to grow? We will now deal with the first question. Much depends on the ground at command and the position in which it is placed. We do not advocate a number of small beds about the size of a pincushion, nor do we admire beds containing very sharp points, curves, or angles, but prefer a circle, an oval, or an oblong, with straight edges. In many cases the flower-garden is in front of the house, with the garden-gate opposite the front-door. In such cases the flower-garden may really be a thing of beauty. Suppose the path leads from the entrance-gate to the front-door, there might be a strip from 4 to 6 feet wide on either side of the path for flowers, divided from the other ground by espalier Pear or Apple trees; or there might be a border made round the outside, which would be a good position for hardy flowers; and sometimes the entire space in front of the house may be given up to flowers. Then there is room for a few beds to be laid out in diamonds and half-diamonds, according to the taste of the proprietor, the beds to be edged with Box, and separated by narrow paths made of gravel. There are other living plants that can be used beside Box; such, for instance, as some of the varieties of the Thrift family, Armeria vulgaris, Cephalotes, rubra, these are pretty, dwarf, neat growing plants forming charming cushions of grass-like foliage, from the midst of which rise numerous flower-stems from 9 to 12 inches high. Then we have the Saxifraga umbrosa known as the London Pride, a plant of hardy character, will do well in a smoky atmosphere, and will grow and flourish where many plants will dwindle and die; also S. hypnoides, muscoides, and others. Some of the varieties of Arabis or Wall-cress make excellent edgings, they grow very close and compact, can be kept in nice order with very little trouble, and produce a great profusion of white flowers during February, March, and April. We must not omit the Daisies, which should be grown in quantity in every villa garden. They are amongst our most useful plants for spring gardening, and they are suitable for edgings for flower beds, and in an arrangement of spring flowers they form a most important part. When, however, the plants are allowed to remain without being disturbed, they give the flower-borders a rather withered appearance, and have not that freshness about them after blooming as the Arabis, Thrift, Saxifraga, or London Pride. When living plants are not used for edgings, tiles and other dead materials may be employed. These, when nicely arranged, look neat, and give a garden a very respectable appearance. We now come to our second question: What are the most suitable flowers for the amateur and villa gardener to grow? We may divide the plants into two classes—first, annuals and biennials. The former are such as can be raised from seed and bloomed the same season, and the latter require to be sown one year, that they may bloom the next. The second class we shall mention includes all the hardy perennials that grow and bloom for a number of years. Annuals are so cheap and so simply raised from seed that they are hardly considered by some persons worthy of notice, yet they are amongst our most valuable gems; the little tiny stars of God's earth studded here and there, and shining forth with great brilliancy, and brightening up many a solitary place that would otherwise be dull and dreary. Annuals are within the reach of the most humble, and with a little ingenuity they will bloom early in spring, and by having fresh relays of plants, a succession of bloom may be maintained until the last remnant of summer has passed away. There is no difficulty in growing annuals; the danger is lest their simplicity should cause them to be overlooked. I have seen gorgeous beds of annuals that could not be surpassed for beauty by the showiest of bedding plants. Annuals are not considered worthy of a place in the flower garden on account of their weedy character, and truly they deserve this designation when cast into the ground in that careless manner which too often falls to their lot. A hundred plants are left to struggle for existence where there is only pasturage for a tenth of that number. If any other class of plants were to be treated in the same manner, and no more care bestowed on their culture, they would obtain an equally undeserved bad character. Annuals, when properly treated and cared for, whether they be sown in the autumn and bloomed in the spring, or sown in early spring and bloomed during the summer, will repay the cultivator for his trouble. A very beautiful display of flowers may be obtained in the early spring months by sowing some of our common annuals in August. If there is not room in the flower garden proper at that time, they may be sown in some part of the kitchen garden, and transplanted to the flower-beds during the months of October and November. In a favourable season they will begin to bloom early in the month of April, when they will brighten up with their simple beauty what would otherwise in many cases be bare and baren beds. *R.*

(To be continued.)

Obituary.

Lady Henry Grosvenor.—The death of Lady Henry Grosvenor removes from the horticultural world a lady who was not only a lover of plants but a worker among them. The deceased lady was a member of the Narcissus Committee of the Royal Horticultural Society, and in various ways took a practical interest in horticultural work.

Mr. Allen Harker.—The death, on Dec. 19, of Mr. Allen Harker, Professor at the Royal Agricultural College, Cirencester, is announced. The deceased gentleman was a well-informed and enthusiastic naturalist.

Markets.

COVENT GARDEN, December 24.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

Fruit.—Average Wholesale Prices.

	s. d.	s. d.
Apples, Cooking, p. sieve	3 0	4 0
— Dessert, ½-sieve	2 6	3 0
Grapes, 1st quality, black, English, lb.	1 0	2 0
— English, 2nd quality, per lb.	0 6	1 0
Grapes, Muscat, per lb.	2 6	4 0
— Muscat, 2nd quality, per lb.	0 9	1 0
Cobs, per 100 lb. ...	25 0	27 6
Pine-apples, St. Michael, each ...	2 0	6 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.
Arums, per doz. bl.	6 0	8 0
Azaleas, doz. sprays	0 6	1 3
Bouvardias, p. bun.	0 6	1 0
Carnations, 12 blms.	1 0	2 0
Chrysanthemums, per 12 blooms ...	1 0	4 0
— per 12 bunches	4 0	8 0
Eucharis, per dozen	3 0	4 0
Gardenias, per doz.	3 0	4 0
Pelargoniums, scarlet, per 12 bunches	4 0	6 0
— 12 sprays ...	0 6	0 9
Hyacinths (Roman), doz sprays ...	0 10	1 0
Lapageria, 12 blms.	1 0	2 0
Lilac (French), per bunch	5 0	6 0
Lilies of the Valley, doz. sprays ...	1 6	3 0
Lilium Harrisii, per dozen	4 0	8 0
Maidenhair Fern, per 12 bunches ...	4 0	6 0
Marguerites, 12 bun.	1 0	3 0
Mignonette, 12 bun.	2 0	4 0
Mimosa (French), per bunch ...	0 9	1 0
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 blm.	3 0	6 0
Pyrethrums, 12 bun.	2 0	4 0
Roses, Tea, per doz.	1 0	2 0
— coloured, p. dz.	2 0	4 0
— yellow (Maréchals), per dozen	6 0	9 0
— red, per dozen	1 0	1 6
— (French), red, per dozen... ...	1 6	2 6
— (French), yellow, per dozen ...	1 0	2 0
Stephanotis, dozen sprays	4 0	6 0
Tuberoses, 12 blms.	0 4	0 6
Violets, Parme (French), p. bch.	3 6	4 6
— Czar (French), per bunch ...	1 9	2 0
— doz. bunches	1 0	1 6
— (English), per dozen bunches ...	1 6	2 0

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistra, per doz.	12 0	30 0
— specimen each	5 0	15 0
Chrysanthemums, per dozen ...	6 0	15 0
Cyperus, per dozen	4 0	10 0
Dracæna, each ...	1 0	5 0
Erica hyemalis, doz.	12 0	18 0
— various, doz.	9 0	12 0
Evergreen Shrubs, in var., per dozen	6 0	24 0
Ferns, small, doz....	4 0	12 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
— small, per 100	4 0	6 0
Foliage plants, doz.	9 0	24 0
Marguerites, p. doz.	6 0	12 0
Mignonette, p. doz.	0 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Primulas, per dozen	4 0	6 0
Solanums, per dozen	10 0	12 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.
Beans, per lb. ...	0 9	0 10
Cauliflowers, per dozen	1 0	1 6
Cucumbers, per doz.	6 0	8 0
Mushrooms, per lb. ...	0 6	
Onions, per bush. ...	1 6	2 0
Seakale, p. punnet...	1 3	1 6
Tomatos, per lb. ...	0 3	0 6

Potatos.

There has been, during the week, a general run on first-class Potatos at an advance of 5*s.* to 7*s.* 6*d.* per ton. The best samples off dark soils have also commanded quick sales and better prices than last week. *J. B. Thomas.*

SEEDS.

London: *December* 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report business on to-day's market inactive. Rye-grasses show some improvement, bottom prices having apparently been touched. There is no change this week in either Alsyke, Trefoil, or Red. White Clover seed, with freer offerings from Germany, shows no recovery. Canary seed keeps firm. Hemp seed unaltered. Scarlet and White Runners are strong. Other articles at this holiday season are featureless.

FRUITS AND VEGETABLES.

Farringdon: *December* 27.—Quotations:—Sprouts, 4*s.* per bushel; Celery, 10*d.* per bundle; Horseradish, 1*s.* per bundle; Cauliflower, 1*s.* 6*d.* per dozen; Parsnips, 2*s.* 6*d.* per cwt.; Beetroot, 1*s.* per bushel; Carrots, 1*s* 6*d.* dozen bun.; Turnips, 2*s.* do.; Artichokes, 1*s.* 2*d.* per half-bushel; Kale, 9*d.* per bushel; Apples, dessert, 15*s.* per bushel; cooking do., 6*s.* do.; Chestnuts, 15*s.* per bag; Pears (Californian), 10*s.* per case Onions, case, 5*s.* per cwt.; do., English, 4*s.* per cwt.

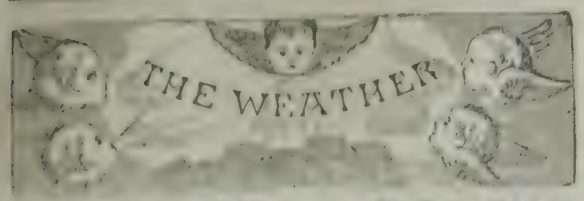
POTATOS.

Farringdon: *December* 27.—Business, as might be expected, was very quiet at the following quotations:—Maincrop, 90*s.* to 100*s.*; Sutton's Abundance, 80*s.* to 90*s.*; Bruces, 70*s.* to 80*s.*; Magnums, 65*s.* to 70*s.*; Imperators, 75*s.* to 80*s.* per ton.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure (qr.), for the week ending December 22, and for the corresponding period last year:—1894: Wheat, 20*s.* 9*d.*; Barley, 21*s.* 3*d.*; Oats, 13*s.* 11*d.* 1893: Wheat, 26*s.* 6*d.*; Barley, 29*s.*; Oats, 18*s.*

The Recent Fire at Tottenham.—Mr. W. Duncan Tucker, having received so many kind letters and telegrams of sympathy from all parts of the country, is unable to answer them individually, and takes this opportunity of sincerely thanking the senders for their kind expressions.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees – a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (—) the Mean for the week ending December 22.	Accumulated. Above 42°, for the Week.	Accumulated. Below 42°, for the Week.	Accumulated. Above 42°, difference from Mean since January 1, 1894.	Accumulated. Below 42°, difference from Mean since January 1, 1894.	Rainfall. More (+) or less (—) than Mean for the Week.	Rainfall. No. of Rainy Days since Jan. 1, 1894.	Rainfall. Total Fall since Jan. 1, 1894.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Jan. 1, 1894.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	10	27	+ 372	— 93	14 +	227	52·0	4	31
1	2 +	5	32	— 59	+ 9	4 +	198	33·8	11	33
2	3 +	10	29	+ 66	— 113	1 —	205	25·4	24	30
3	4 +	18	29	+ 97	— 163	0 aver	200	26·6	14	33
4	5 +	27	15	+ 89	— 180	0 aver	192	27·0	28	30
5	4 +	29	11	+ 166	— 197	1 —	192	31·8	24	34
6	3 +	25	14	+ 115	— 117	7 +	212	49·1	24	31
7	4 +	27	8	+ 253	— 188	6 +	206	35·6	17	31
8	5 +	29	0	+ 155	— 123	2 +	208	44·2	29	36
9	5 +	26	6	+ 82	— 64	5 +	228	37·6	19	29
10	5 +	34	0	+ 103	— 115	4 +	207	42·9	21	31
*	4 +	45	0	+ 344	— 32	2 —	216	33·1	20	41

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

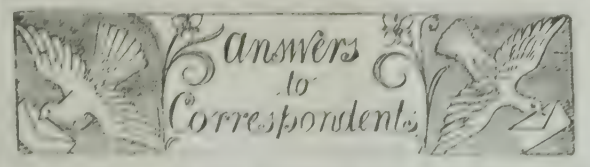
The following summary record of the weather throughout the British Islands for the week ending December 22, is furnished from the Meteorological Office:—

"The *weather* continued very unsettled over the Kingdom generally, with frequent rain—heavy at times in the West and North—and occasional intervals of bright sunshine. Very stormy conditions prevailed over the whole of the Kingdom on Saturday.

"The *temperature* fluctuated very much, but the range was not very great for the time of year. The average daily readings, however, were above the mean, the excess ranging from 2° in 'Scotland N. and E.,' to 5° over the 'Midland Counties,' 'England S.W.,' and 'Ireland.' The highest of the maxima were registered either on the 17th or 21st, and ranged from 56° in the 'Midland Counties,' and 'Ireland S.,' to 52° in our eastern districts and 'England S.' The lowest of the minima occurred on the 17th at most of the northern stations, and on the 21st in the more southern districts; they varied from 23° in 'Scotland E.,' and 25° in 'Scotland N.,' to 33° in 'Ireland N.,' 37° in 'Ireland S.,' and 40° in the 'Channel Islands.'

"The *rainfall* was rather less than the mean in 'England, N.E. and S.,' as well as in the 'Channel Islands,' and just equal to the normal in 'England, E.' and the 'Midland Counties.' Elsewhere there was an excess, especially in the north-west and north.

"The *bright sunshine* was fairly prevalent, and exceeded the mean in most parts of England and Ireland, and also in the west of Scotland. The percentage of the possible duration ranged from 29 in 'England, S.W.,' and 28 in the 'Midland Counties,' to 14 in 'England, E.' 11 in 'Scotland, E.' and 4 in 'Scotland, N.'"



*** *Owing to the large increase in our circulation, we are reluctantly under the necessity of going to press some hours earlier. Our contributors, who well know what this implies, will kindly aid us by sending their communications as early in the week as possible. Communications should reach us not later than Wednesday.*

*** PLANTS, FRUITS, ETC., TO BE NAMED.—*Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be good ones, carefully packed and numbered, and not more than six should be sent at one time. Leaves only, or Florists' varieties cannot, as a rule, be named.*

ANEMONE "WHIRLWIND": Messrs. James Vicks & Sons, who were the original introducers of this plant, are thanked for their communication, but are reminded that the editorial and the advertisement departments are quite separate in the *Gardeners' Chronicle*.

EUCHARIS DISEASED: *Surprise.* The bulbs sent are swarming with the bulb-mite; and you had better put into the fire all similarly diseased bulbs, or, better still, the entire stock of them, making a fresh start with perfectly clean bulbs.

HYACINTH: *C. O.* The roots in some cases are decayed at the tips, and to some distance beyond, which may be due to exposing the plants to heavy rainfall, or the presence of something deleterious to the plants in the materials in which they are plunged, or the soil itself. The bulbs are otherwise sound.

LAWN SWEEPERS AND COLLECTORS: *E. W. P.* If the writer of the enquiry which appeared in our issue for last week will kindly send us his address, we can inform him of the name and address of a dealer in these machines.

NAMES OF PLANTS: *Burbach.* Cryptomeria japonica. —*G. C.* Physalis Alkekengi, the Bladder Cherry. —*Trow.* Lælia autumnalis.

RICHARDIA ÆTHIOPICA: *A. Young.* A very fine spathe.

ROSE-BUDS DAMPING OFF: *Gaucho.* We are not able in the absence of any information in your note concerning the methods adopted to say with certainty what causes the decay of the buds. Early-forced Roses require to be well rooted, and if they have been one year in pots it is a great advantage—plenty of roots, well established plants, and mature wood, being prime essentials. The first stage of the forcing, say in the first week in December, must be very gradual—by night, 45° to 50°, with a slight increase by day, increasing the warmth by very gradual steps. Bottom heat, derived from a bed of fermenting tree-leaves, is a help, but not essential. You do right to use chilled water in syringing the plants, but too much syringing is injurious in dull weather or when sunlight is lacking.

COMMUNICATIONS RECEIVED.—G. B.—F. M.—Lord A.—E. & S.—J. W.—J. H.—G. P.—W. E. G.—W. T.—Th. D., Brussels.—R. D. B.—J. Douglas.—R. D.—W. H. S.—W. H. Holah.—W. G.—E. M.—J. H.—H. C. P.—J. B.—J. O'B.—S. H.—J. T.—A. H.—E. J.—J. D.—N. E. B.—W. King, next week.—G. J. I.—Q. B.

PHOTOGRAPHS, &c., RECEIVED.—E. W. B.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of 80 per cent., and that it is increasing weekly.

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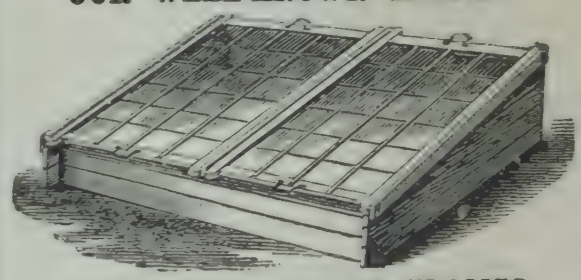
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("THE TIMES OF HORTICULTURE")

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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THOMAS, O., Frogmore.
THOMSON, W., Clovenfords (Vines).
WADDS, B., Birdsall, York.
WALLIS, J., Keele Gardens.
WARD, H. W., Longford Castle Gardens.
WATSON, W., Royal Gardens, Kew.
WEBSTER, J., Gordon Castle Gardens.
WILDSMITH, the late W.
WILSON, D.
WYTHES, G., Sion House Gardens.
And many others.

ROSES:—
BENNETT, H., the late, Shepperton.
D'OMBRAIN, Rev. H. H. Westwell, Kent.
FISH, D. T., late of Hardwicke, Bury St. Edmunds.
FISHER, Rev. O.
GIRDLESTON, T. W., Sunningdale.
MAWLEY, E., Berkhamsted.
PAUL, G., Cheshunt.
PAUL, W., Waltham Cross.
VIVIAN MOREL, Lyons, Piper.

VEGETABLE PHYSIOLOGY, &c.:—
BENNETT, A. W.
BONAVIA, Dr. E.
BOULGER, Prof.
DARWIN, the late Charles.
DE VRIES, Hugo.
FOSTER, Prof. Michael, Cambridge.
GARDINER, W., Cambridge.
GLAISHER, James (Meteorology).
GOEBEL, Prof., Munich.
GOODALE, Dr., Boston, U.S.A.
GRAVIS, Prof., Liège.
HENSLOW, Rev. G., Ealing.
MACLEOD, Prof., Ghent.
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WALLACE, Alfred.
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Show Ground: DEVONSHIRE GROVE (Adjoining).

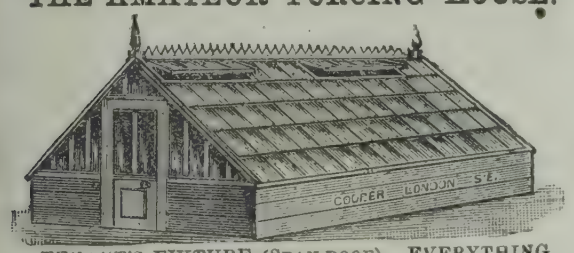
Being the end of the Season, we are again induced to offer our Stock on Hand at ridiculously Low Prices, to make room for our **SPRING STOCK**, for **SIX WEEKS ONLY, COMMENCING DECEMBER 10. LAST DAY of SALE, JANUARY 21, 1895.**

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P.O.O. payable at 794, Old Kent Road; Cheques crossed "L. and S. W. Bank."

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THE AMATEUR FORCING HOUSE.



TENANT'S FIXTURE (SPAN-ROOF). EVERYTHING COMPLETE. Packed and put on rail at following prices:—

LOT	Length.	Width.	Usual Price.	Sale Price.
1 to 3	7ft.	5ft.	£2 10 0	£2 0 0
4 to 6	8ft.	5ft.	3 0 0	2 5 0
7 to 10	9ft.	6ft.	3 10 0	2 10 0
11 to 15	10ft.	7ft.	4 10 0	3 10 0
16 to 22	12ft.	8ft.	5 10 0	3 15 0
23 to 29	15ft.	10ft.	7 15 0	5 10 0
30 to 41	20ft.	10ft.	10 15 0	7 10 0
42 to 48	25ft.	10ft.	15 5 0	10 0 0
49 to 51	50ft.	10ft.	27 0 0	20 0 0
52 to 54	100ft.	10ft.	45 0 0	25 0 0

"AMATEUR" SPAN-ROOF & LEAN-TO GREENHOUSES. TENANT'S FIXTURES.



EVERYTHING COMPLETE.

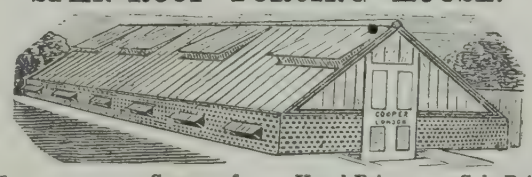
LOT	Span-roof. Long.	Wide.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
55 to 56	7ft.	5ft.	£2 16 0	£2 5 0
57 to 71	8ft.	5ft.	3 10 0	2 15 0
72 to 76	9ft.	6ft.	4 0 0	3 0 0
77 to 108	10ft.	7ft.	5 0 0	4 0 0
09 to 121	12ft.	8ft.	6 0 0	4 10 0
22 to 149	15ft.	10ft.	8 10 0	6 10 0
50 to 170	20ft.	10ft.	12 0 0	9 0 0
71 to 176	25ft.	10ft.	17 0 0	12 0 0
77 to 184	50ft.	10ft.	30 0 0	23 0 0
85 to 189	100ft.	10ft.	50 0 0	30 0 0
90 to 197	30ft.	10 t.	20 0 0	14 0 0
	Lean-to			
98 to 201	7ft.	5ft.	2 8 0	2 0 0
02 to 211	9ft.	6ft.	3 10 0	2 15 0
12 to 221	12ft.	8ft.	5 10 0	4 0 0
22 to 225	15ft.	10ft.	8 0 0	5 15 0
26 to 228	20ft.	10ft.	11 10 0	8 10 0
229	25ft.	10ft.	16 10 0	12 0 0
230	50ft.	10ft.	28 0 0	20 0 0



MELON and CUCUMBER FRAMES.

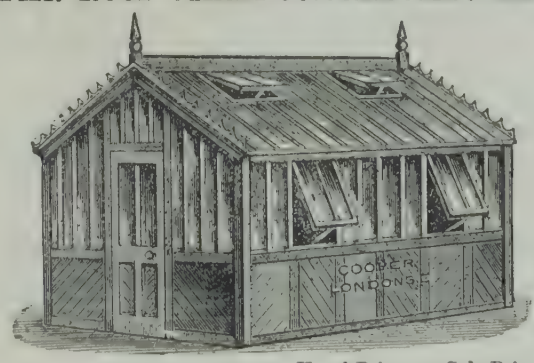
LOT.		Usual Price.	Sale Price.
586—1 Light Frame,	4 ft. by 3 ft.	£0 18 0	£0 14 0
to 597—2 ,, ,,	6 ft. by 4 ft.	1 12 0	1 2 0
3 to 605—1 ,, ,,	6 ft. by 4 ft.	1 10 0	1 0 0
3 to 608—2 ,, ,,	8 ft. by 6 ft.	2 14 0	1 18 0
609—3 ,, ,,	12 ft. by 6 ft.	3 15 0	2 5 0

SPAN-ROOF FORCING HOUSE.



LOT.	Span-roof.	Usual Price.	Sale Price.
231 to 235	20 by 9	£9 0 0	£6 0 0
236 to 242	20 by 12	11 0 0	8 0 0
243 to 246	20 by 14	14 0 0	11 0 0
247 to 250	40 by 9	17 0 0	12 0 0
251 to 255	40 by 12	21 0 0	16 0 0
256 to 257	40 by 14	25 0 0	20 0 0
258 to 260	100 by 9	40 0 0	25 0 0
261 to 300	100 by 12	48 0 0	33 0 0
301 to 342	100 by 14	55 0 0	40 0 0
	Lean-to.		
343 to 347	20 by 9	7 10 0	5 0 0
348 to 349	20 by 12	9 10 0	6 10 0
350	20 by 14	12 10 0	9 10 0
351	40 by 9	14 0 0	11 0 0
352 to 353	40 by 12	18 0 0	13 0 0
354	40 by 14	21 10 0	16 0 0
355	100 by 9	33 0 0	23 0 0
356	100 by 12	40 0 0	26 0 0
357 to 360	100 by 14	47 0 0	32 0 0
361 to 499	Ventilating-Boxes for Side Walls	0 4 9	0 2 3

SPAN-ROOF VILLA CONSERVATORIES.



LOT.	Long.	Wide.	Usual Price. Packed on rail.	Sale Price. Packed on rail.
500 to 505	9ft.	6ft.	£7 10 0	£5 10 0
506 to 514	12ft.	8ft.	10 0 0	7 0 0
515 to 521	15ft.	8ft.	12 0 0	8 10 0
5 2 to 528	20ft.	9 t.	16 16 0	12 0 0
529 to 531	25ft.	9ft.	21 0 0	15 0 0

21-oz. for Roof 5 per cent. extra.

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FOR STOVE AND GREENHOUSE.

LOT 2138.—**Fine, healthy, well-grown stuff, in small pots. 86,000 small Ferns (about 30 varieties), usual price, 12s. per 100; sale price, 6s. 6d. £3 per 1000; £12 10s. per 5000. Out of pots, 5s. per 100; £2 5s. per 1000; £8 10s. per 5000.**

FULL ILLUSTRATED SALE CATALOGUE,

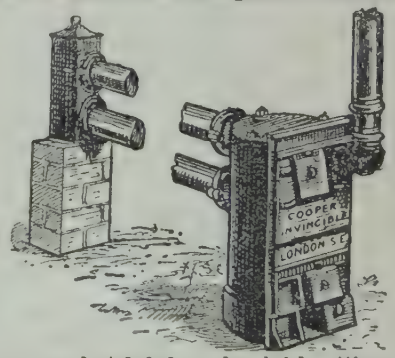
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"INVINCIBLE" HOT-WATER APPARATUS.

Most Efficient and Cheapest in Existence.



Requires no sunk stokehole, and no brick setting. Will last all night without attention. Will burn house-cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

No. 1 Boilers only, capable of heating 75 feet 4-inch piping.

LOT.	Sale Price.	Usual Price.
2070 to 2250	£1 15 0	£2 15 0

SALE PRICES FOR COMPLETE APPARATUS.

Cost of complete apparatus for Greenhouse with 4-in. pipes, flow and return along one side, cut and fitted; so that if the internal measurement of the Greenhouse is given, the apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices:—7 ft. by 5 ft., £2 12*s.* 6*d.*; 9 ft. by 6 ft., £3 17*s.* 6*d.*; 10 ft. by 7 ft., £3; 12 ft. by 8 ft., £3; 15 ft. by 10 ft., £4; 20 ft. by 10 ft., £5; 25 ft. by 10 ft., £6.



THE RAPID PROPAGATOR.

The only perfect Propagator for raising Plants from Seeds, Slips, or Cuttings.

LOT.	Usual Price.	Sale Price.
2299 to 2318—1 ft. 8 in. by 1 ft. 6 in.	£1 5*s.*	16*s.*
2319 to 2337—2 ft. 6 in. by 1 ft. 10 in.	£1 10*s.*	20*s.*
2338 to 2351—4 ft. by 2 ft.	£3 0*s.*	40*s.*

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Burning Parafine or Gas without smoke or smell. These Heaters are constructed as a means of heating by Hot Air without the use of hot water or fires.

LOT	Sale price.	Usual price.
1807 to 1987—No. 0	£0 15	£1 0
1988 to 1999—No. 1	1 0	1 10
2000 to 2021—No. 2	1 10	2 5
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GLASS.

	15-oz., 200 ft.,	21-oz., 200 ft.
4ths	15*s.* 6*d.*	16*s.*
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10,000 Boxes to select from.

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Per Box to clear.

850 Boxes only to offer at these ridiculously low prices.

W. COOPER, Ltd., Horticultural Providers, 755, OLD KENT ROAD, London, S.E.

ORCHID BASKETS, RAFTS,

BOATS, and CYLINDERS,

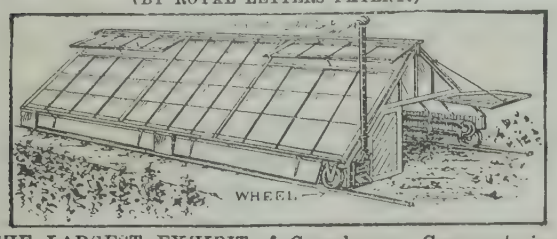
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SUSSEX POTTERY WORKS, UCKFIELD.
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ARE THE BEST.
For Private Gardens.
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GREENHOUSES Heated 24 Hours for about One Penny.
Pamphlets, Drawings, and authenticated Testimonials sent.
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Send Postal Order for Sample Sack. Special terms to the Trade.
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Crushed Bones and all High-class Fertilisers.
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Terms, Cash with Order.
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CROSS'S GARDEN FERTILISER. — For Vines, Pot Plants, Fruit Trees, Vegetables.
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SOLUBLE INSECTICIDE.

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SAVE HALF THE COST.

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Is admitted by the leading Nurserymen to be **the Best Quality** obtainable in the Trade.

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Consumers should **Buy Direct** from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.*

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Flooring, 5/9 per square; Matching, 4/9; 2 × 4, at ½*d.* per foot run. Garden Utensils, Trellis, Ironmongery, Paints, &c.
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7	,,	..	0	4	6	18	,,	..	0	10	0
8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
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Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C. N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden requisites. **Peat Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

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	Per Bundle of 10.
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BEST PLAITED RAFFIA and COCOA FIBRE REFUSE.	
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HORTICULTURAL SUNDRIES OF EVERY KIND.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest, at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

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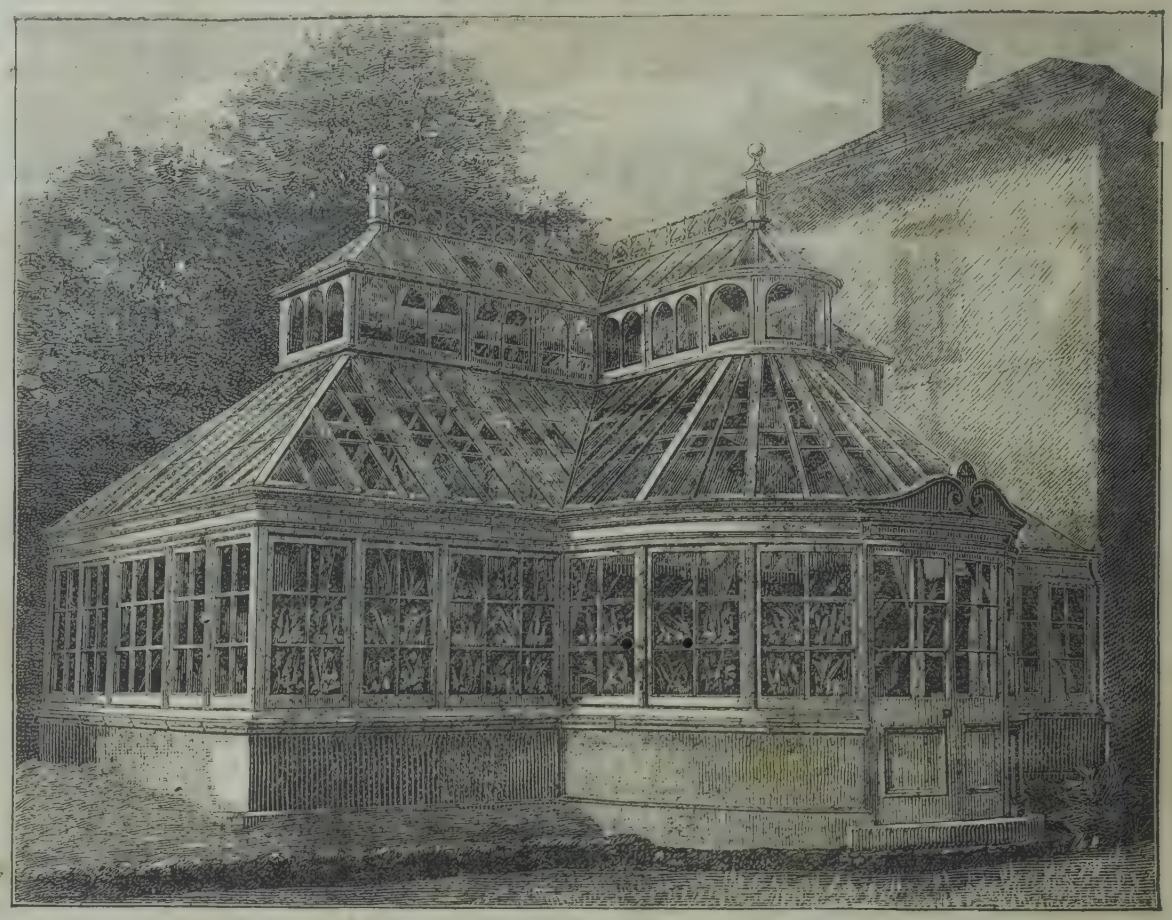
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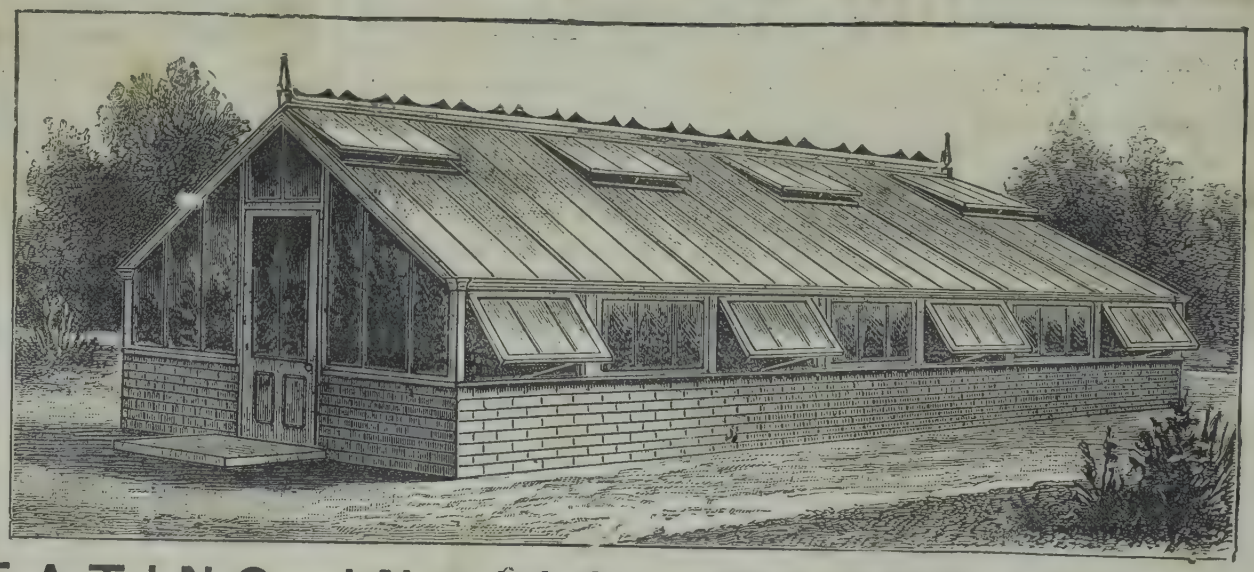
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